

COOPER NUCLEAR STATION

NEAR TERM

INTEGRATED ENHANCEMENT

PROGRAM

MAY 20, 1994

A/21

EXECUTIVE SUMMARY

The purpose of this Integrated Enhancement Program is to provide Senior Management focus on the issues that are important to improving the overall performance of the Nuclear Power Group (NPG) in the near term. For the long term, elements of this program, together with other management improvement initiatives, are being incorporated into the NPG Business Plan.

Embodied within this Program are several inputs from sources such as the Strategic Plan for Performance Improvement, Senior Management identified items, the FPI Common Cause Analysis and the NRC Operational Safety Team Inspection. Individually taken, the items may not indicate a programmatic or organizational weakness; but as a whole there are strong indications that Senior Management has not been effective in directing the operations of Cooper Nuclear Station.

Accordingly, through the successful and timely completion of the program enhancements described within this manual, a marked improvement in the safe operation of Cooper Nuclear Station will be realized.

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INTRODUCTION

A. BACKGROUND

Cooper Nuclear Station (CNS) has traditionally been recognized as a good performer within the Nuclear Power Industry. However, recent events at CNS indicate a declining trend in performance. Even though a solid and safe operating record has been maintained, the Nuclear Power Group (NPG) Management, based on a number of recent indicators, recognizes that the performance of the entire organization is in question. Unfortunately, management was remiss in not recognizing earlier the disproportionate number of negative indicators that have been received over the past eighteen months.

NPG Management is keenly aware that major, expeditious changes in how we conduct business must occur if CNS is to remain economically viable while meeting internal and regulatory expectations. This Integrated Enhancement Program will provide management and staff with the short term vehicle to ensure that these changes occur in a timely and consistent manner, and that these changes will result in a strong, safety conscious, competitive nuclear organization. Also under development, in a parallel path, is the NPG Business Plan which will contain the elements necessary to ensure long term performance continues to improve in all areas important to safe operation.

B. MANAGEMENT CHANGES

Recognizing that the overall performance of CNS was declining, the Vice President - Nuclear made a significant management realignment to provide a strong on-site Senior Management team to focus on the critical issues facing the Nuclear Power Group. These management changes also

included, but are not limited to, relocating the Vice President - Nuclear and the Division Manager of Quality Assurance and his staff to CNS from the corporate office. Additional changes to the NPG organization will also be made where required to further enhance performance.

The new Senior Management team's initial focus is to address significant, recurring issues that have contributed to the declining performance of Cooper Nuclear Station. One of the key issues that will be resolved is the failure to provide prompt and positive resolution to identified problems; and then implementing the appropriate corrective action to prevent recurrence in an aggressive manner.

C. DEFICIENCIES

Various NRC inspections, NPG self assessments, and broad consultant reviews have identified concerns with the management and operation of CNS. Although the focus of these inspections and assessments was different, the conclusions reached and recommendations made were generally consistent. There are six areas where the majority of concerns fall. Consequently, the CNS Integrated Enhancement Program has been developed to address these six areas and has been divided into major categories or sections with assigned Senior Managers. The areas in which concerns have been identified include:

- Management

A common finding was that the overall management of the CNS organization was not effective. Contributing factors include poor communications, an inadequate accountability program, the need for improved management training, undefined or poorly communicated management expectations, and an inadequate prioritization system. It was also identified that the Nuclear Power Group did not have a long term business

plan which defines Management's expectations through vision, mission, and goals and objectives for the entire organization.

- Training

The adequacy of training, as well as the administrative discipline (certification and compliance) within specific areas of the CNS Training Program are deficient. This is evident due to the lack of certain training programs and the fact that some individuals have continued to perform their assigned tasks even though they were no longer "certified/qualified".

- Problem Identification and Resolution

The NPG has not consistently demonstrated the ability to identify, aggressively pursue, and permanently resolve their own problems. And when problems were identified by CNS, the implemented corrective action did not consistently prevent reoccurrence. The inability to resolve reoccurring problems has been attributed to a failure to conduct thorough root cause investigations or implementing the necessary, enduring corrective actions. This has resulted in an overall ineffective Corrective Action Program.

- Engineering Modification and Configuration Control

Outside reviews have indicated the need to improve control over plant configuration and the Design Change process. One clear example of this deficiency is the fact that the Maintenance Work Requests, in some instances, have been used in the place of a Design Change.

- Operations

Findings and recommendations noted a general lack of a questioning attitude, formality, and ownership. There is also a lack of standardization in terms of shift turn-over, crew briefings and how operators communicated in the control room.

- Procedural Adequacy and Adherence

The reviews and audits identified a concern that the necessary balance between reliance upon the "skill of the craft" and the need for procedural detail is not well defined. Another important finding is that CNS employees do not consistently demonstrate a questioning attitude when confronted with a procedure which is not clear and workable.

D. CNS INTEGRATED ENHANCEMENT PROGRAM

The CNS Integrated Enhancement Program is a collection of short-term prioritized corrective actions and performance improvements. To develop this program each issue identified in prior audits, assessments or reviews was evaluated. The issues were then prioritized to ensure the critical issues receive the necessary resources and management attention to ensure prompt resolution. It is these critical (Priority "RED") issues that make up the Integrated Enhancement Program.

1. Program Management

As previously discussed, the critical issues were then divided into specific groups and assigned to a Senior Manager for resolution. The Senior Manager has assigned the specific issue to a Task Manager to develop an action plan for completing the specific Program Enhancement that will resolve the critical issue.

The enclosed Program Enhancement Task Sheets contain the essential information used for developing a course of action and provide the means to track the status of each task to completion. The task sheets that follow indicate the title of the task, a task description, the source documents, the program manager (Senior Manager), the task manager, the planned start date, the planned completion date, references as to where the task originated from (i.e. OSTI, SPPI), and the major milestones for completing the task. It should be noted that the planned completion dates and milestone dates are based on the best information available and that conditions or scope may change resulting in improvements or delays to the schedule. Any changes to the schedule must be adequately justified in writing, to the Vice President - Nuclear and this documentation included in the Integrated Enhancement Program document.

Every two weeks the Task Manager will communicate to their respective Senior Manager the progress to date. The Senior Manager will then formally provide the status update to the Vice President - Nuclear. Monthly management reports will be generated reflecting the overall Integrated Enhancement Program status as well as the status of the individual tasks.

2. Program Layout

The Integrated Enhancement Program has been divided into several sections which reflect the functional areas of the NPG management. The issues are then assigned to the appropriate Senior Manager.

Section I, Nuclear Power Group, discusses the issues that require specific Vice President - Nuclear attention.

Section II, Management, discusses the management concerns and the specific Integrated Enhancement tasks for resolving the management issues. It should be noted that management related activities will be pursued in each of the following sections as well as Section II.

Section III, Operations, provides a discussion regarding the operations, maintenance and site engineering concerns that must be addressed. The tasks developed for resolving the operational aspects are included as part of Section III.

Section IV, Safety Assessment, addresses the concern with CNS's ability to identify and resolve problems. The Integrated Enhancement tasks for improving the Corrective Action process and conducting independent reviews are included in this section.

Section V, Site Support, primarily focuses on the training issues and providing support resources to the Senior Management team such as the NPG Management Development Program.

Section VI, Nuclear Support, includes communication issues and how to improve the regulatory interface. The tasks for dealing with these issues are included within this section.

Section VII, Corporate Engineering, provides the direction for ensuring the concerns with engineering modification and configuration control are resolved. Consequently the tasks for this effort are included as part of this section. It should be noted, site related engineering is part of the Operations Department, therefore Section III will have certain engineering related tasks.

Section VIII, Quality Assurance, addresses the concerns with procedural adequacy and adherence as well as the inability to conduct proper problem identification and resolution.

E. INDEX OF PROGRAM ENHANCEMENTS

SECTION I - NUCLEAR POWER GROUP

<u>Item Number</u>	<u>Description</u>
GRH-94-01	Establish Periodic Communications Meetings
GRH-94-02	"One Over One"
GRH-94-03	Supervisor Meeting with Subordinates
GRH-94-04	Management Mentors in Key Areas
GRH-94-05	Conduct Study for Appropriate Staffing at CNS
GRH-94-06	Additional Personnel to Meet the Needs of the NPG Organization
GRH-94-07	VP Meetings on Reorganization

SECTION II - MANAGEMENT

<u>Item Number</u>	<u>Description</u>
MGMT-94-01	Strengthen the CNS Safety Culture
MGMT-94-02	Develop an NPG Business Plan
MGMT-94-03	Prioritize Outstanding Work

SECTION III - OPERATIONS

<u>Item Number</u>	<u>Description</u>
RLG-94-01	Develop Program to Review Maintenance Procedures/Activities
RLG-94-02	Review Preventative Maintenance Task Assignments for Adequate Instructions
RLG-94-03	Upgrade the System Engineer Program
RLG-94-04	Complete the Maintenance Department Reorganization
RLG-94-05	Evaluate PIV, ISI, IST and LLRT Programs

SECTION III - OPERATIONS (Continued)

<u>Item Number</u>	<u>Description</u>
RLG-94-06	Engineering Backlog
RLG-94-07	Maintenance Backlog
RLG-94-08	Review the Qualifications and Training of Current CNS System Engineers to Determine Training Required
RLG-94-09	Improve Operations Communications

SECTION IV - SAFETY ASSESSMENT

<u>Item Number</u>	<u>Description</u>
JMM-94-01	Upgrade the Corrective Action Program
JMM-94-02	Improve Operating Experience Review Program
JMM-94-03	Enhance the Human Performance Evaluation Program
JMM-94-04	Review/Revise Operability Determination Process
JMM-94-05	Develop the Independent Review Group
JMM-94-06	Develop an NPG-Wide Priority System
JMM-94-07	Implement the Industry Advisory Group

SECTION V - SITE SUPPORT

<u>Item Number</u>	<u>Description</u>
EMM-94-01	NPG Manager and Supervisor Management Skills Training
EMM-94-02	Develop User-Friendly Tracking System for Training and Certification
EMM-94-03	Develop a Comprehensive System Engineering Training Program for CNS System Engineers
EMM-94-04	Root Cause Training

SECTION V - SITE SUPPORT (Continued)

<u>Item Number</u>	<u>Description</u>
EMM-94-05	CAP Training
EMM-94-06	Implement Recommendation of Fire Protection Assessment
EMM-94-07	Conduct a Compliance Review of CNS Training Programs

SECTION VI - NUCLEAR SUPPORT

<u>Item Number</u>	<u>Description</u>
DAW-94-01	Evaluate Licensing Department Organization
DAW-94-02	Issue NPG Directives in Support of the Strategic Plan for Performance Improvement

SECTION VII - CORPORATE ENGINEERING

<u>Item Number</u>	<u>Description</u>
REW-94-01	Engineering Program Responsibility Assignment
REW-94-02	Nuclear Engineering and Construction Division Self-Assessment
REW-94-03	Evaluate the Configuration Control and Design Change Process within the NPG

SECTION VIII - QUALITY ASSURANCE

<u>Item Number</u>	<u>Description</u>
VLW-94-01	Revise the Self-Assessment Program
VLW-94-02	Enhance CAP Audits/QA Trend Report
VLW-94-03	Establishment of QA Assessment\Evaluation Program
VLW-94-04	Upgrade the Internal Audit and Surveillance Program (Frequency and Scope)

SECTION I
NUCLEAR POWER GROUP

SECTION I

NUCLEAR POWER GROUP

The Nuclear Power Group (NPG) has recognized as a result of Self Assessments, performance overview, and NRC and INPO feedback that improvements in management oversight, communication, resources, culture, accountability, and identified programs and procedures are required. This near term plan is the methodology to focus NPG organization attention and resources on those issues requiring immediate attention.

The NPG Business Plan will communicate management expectations and the long term guidance for improving NPG performance and providing a means to constantly monitor this performance in order to ensure Senior Management expectations continue to be maintained.

The status of program enhancement milestones and schedule achievements will be reviewed with the NPG Senior Managers on a two week frequency and the plan updated monthly to ensure the expected focus and accomplishments are being maintained. The effectiveness of the program enhancements will also be monitored and revisions made to the near term Integrated Enhancement Program as deemed necessary.

Program Enhancement

Priority: RED
Item No: GRH-94-01

Title/Description: Establish Periodic Communications Meetings
Date Updated: 5/20/94

External Funding Requirements: None
Internal Resource Requirements: 30 hrs. quarter - Vice President - Nuclear

Program Manager: Guy Horn
Planned Start Date: 1/24/94
Planned Completion Date: 7/94

References (NRC/INPO/NUMARC/NAIT Etc.): CCA

Description: The purpose of the periodic communication meetings is to communicate management expectations to NPG employees.

Objective: Performance levels within the NPG do not currently meet the high standards expected by Senior Management. Establish the desired level of quality in the performance of tasks.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Vice President meetings. (GRH-94-01.1)	10/93	10/1/93
2.	Manager meetings with supervision. (GRH-94-01.2)	3/94	3/31/94
3.	Supervisory meetings with subordinates. (GRH-94-01.3)	3/94	3/31/94
4.	Perform an effectiveness review. (GRH-94-01.4)	7/94	

Update Status: Vice President, Nuclear-Routine meetings with NPG organizations continue to be held, (see attached listing) and are providing valuable input into the NPG health. Manager and Supervisory meetings and supervisory meetings with subordinates have begun in all areas. The CNS Senior Managers have developed a listing of priority issues ie; top ten list, that support the NTIEP as a means of focusing CNS activities in their respective area of responsibility..

Program Enhancement

GRH-94-01 (Continued)

Update Status: Monthly effectiveness reviews of the CNS culture are being conducted by Quality Assurance and the results documented.

MEETINGS WITH DEPARTMENTAL PERSONNEL

To Discuss the Organization

August 24, 1993 - Maintenance
August 26, 1993 - Engineering/Technical Staff
September 2, 1993 - Operations/I&C/Operations Support
September 7, 1993 - Security/Training
September 8, 1993 - Radiological
September 16, 1993 - NED/QA/Nuclear Support
September 23, 1993 - QA/Construction Management

To Discuss Management Expectations and Solicit Feedback:

October 7 and 11, 1993 - CNS (specific) Employee Committee Meetings
October 14, 1993 - Electric Shop
October 18, 1993 - Maintenance
October 19, 1993 - Engineering
October 29, 1993 - Mechanical Maintenance
December 10, 1993 - Electric Shop
January 11, 1994 - I&C and Operations
January 13, 1994 - Engineering
January 17, 1994 - CNS (specific) Employee Committee Meeting
January 29, 1994 - License Dinner
February 17, 1994 - Shift Supervisor Breakfast
February 17, 1994 - Electric Shop
February 22, 1994 - Mechanical Maintenance
February 25, 1994 - Radiological/Outage & Modifications
February 28, 1994 - Site Support/NOD Managers and Supervisors
March 1, 1994 - Training/Site Services/QA/Construction Management
March 16, 1994 - Discussion with Management Development Course Attendees
March 28, 1994 - NPG GO Personnel
April 5, 1994 - CNS/GO Employee Committee Meeting
April 6, 1994 - Discussion with Management Development Course Attendees
April 11, 1994 - CNS (site-specific) Employee Committee Meeting
April 15, 1994 - Discussion with Management Development Course Attendees
April 20, 1994 - Discussion with Management Development Course Attendees
April 25, 1994 - Department Meeting with CNS Engineering

Program Enhancement

Priority: RED
Item No: GRH-94-02

Title/Description: "One Over One"

Date Updated: 5/20/94

External Funding Requirements: None

Internal Resource Requirements: 200 hrs. quarter - NPG Managers/Supervisors

Program Manager: Guy Horn

Planned Start Date: 1/24/94

Planned Completion Date: 7/94

References (NRC/INPO/NUMARC/NAIT Etc.): OSTI

Description: "One over one" meetings will be established on a quarterly basis. A "One over one" meeting involves a manager meeting with his supervisors to discuss issues.

Objective: To communicate management expectations to supervision, enhance communication between workers and management, improve teamwork and morale, and improve quality of worker performance.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Establish guidelines and implement manager meetings with supervision to discuss ongoing issues, enhancements, progress, management expectations and to receive employee feedback. (GRH-94-02.1)	3/94	3/31/94
2.	Improved communication and supervisory feedback, increased overview of worker performance and improved quality of worker performance. (GRH-94-02.2)	7/94	
3.	Perform an effectiveness review. (GRH-94-01.3)	7/94	

Program Enhancement

GRH-94-02 (Continued)

Update Status: Vice President, Nuclear-Routine meetings with NPG organizations continue to be held (see GRH-94-01), and are providing valuable input into the NPG health. Manager and Supervisory meetings and supervisory meetings with subordinates have begun in all areas. The CNS Senior Managers have developed a listing of priority issues ie; top ten list, in each major area that support the NTIEP as a means of focusing CNS activities.

Guidelines for the managers meeting with supervisors and for the supervisory meetings with staff have been provided to the Senior Managers and includes expectations for effectiveness overview.

5/10/94 Senior Managers have begun routine meetings with their subordinates communicating these expectations. In addition , a directive has been issued to Senior Management requiring weekly walkabouts. The purpose of these walkabouts is to overview CNS field activities, provide management expectations, receive feedback, and to maintain first hand knowledge of the NPG culture.

Monthly effectiveness reviews of the CNS culture are being conducted by Quality Assurance and the results documented.

Program Enhancement

Priority: RED
Item No: GRH-94-03

Title/Description: Supervisor Meeting with Subordinates Date Updated: 5/20/94

External Funding Requirements: None

Internal Resource Requirements: 100 hrs. month by NPG Supervisors/1200 hrs. yr.

Program Manager: Guy Horn

Planned Start Date: 1/24/94

Planned Completion Date: 7/94

References (NRC/INPO/NUMARC/NAIT Etc.): OSTI

Description: Supervisor meetings with their subordinates will be established on a monthly basis.

Objective: To establish the desired levels of quality in worker performance, enhance communication between management and workers, enhance employee feedback on issues and improve teamwork and morale throughout the NPG, and eliminate barriers to communication.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Establish guidelines and implement monthly meetings with subordinates to discuss ongoing issues, enhancements, progress, communicate management expectations and receive employee feedback. (GRH-94-03.1)	3/94	3/31/94
2.	Improve communication and worker feedback, improve quality of worker performance. (GRH-94-03.2)	7/94	
3.	Perform an effectiveness review. (GRH-94-03.3)	7/94	

Program Enhancement

GRH-94-03 (Continued)

Update Status: Vice President, Nuclear-Routine meetings with NPG organizations continue to be held (see GRH-94-01), and are providing valuable input into the NPG health. Manager and Supervisory meetings and supervisory meetings with subordinates have begun in all areas. The CNS Senior Managers have developed a listing of priority issues ie; top ten list, area that support the NTIEP as a means of focusing CNS activities in their respective areas of responsibility.

Guidelines for the managers meeting with supervisors and for the supervisory meetings with staff have been provided to the Senior Managers and includes expectations for effectiveness overview.

5/10/94 Senior Managers have begun routine meetings with their subordinates communicating these expectations. In addition , a directive has been issued to Senior Management requiring weekly walkabouts. The purpose of these walkabouts is to overview CNS field activities, provide management expectations, receive feedback, and to maintain first hand knowledge of the NPG culture.

Monthly effectiveness reviews of the CNS culture are being conducted by Quality Assurance and the results documented.

Program Enhancement

Priority: RED
Item No: GRH-94-04

Title/Description: Management Mentors in Key Areas Date Updated: 5/20/94

External Funding Requirements: \$500,000

Internal Resource Requirements: Vice President - Nuclear/Senior Managers - 50 hrs.

Program Manager: Guy Horn
Planned Start Date: 1/24/94

Planned Completion Date: 4/94

References (NRC/INPO/NUMARC/NAIT Etc.): CCA

Description: Evaluate the benefit of using management mentors in specific areas within the NPG to expedite the upgrade of management skills to the desired levels and to support programmatic and culture changes within the organization.

Objective: To expedite the desired levels of performance improvement within the NPG in order to achieve internal and regulatory expectations as rapidly as possible.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Evaluations completed and task agreements submitted for Board approval. (GRH-94-04.1)	4/94	4/30/94

GRH-94-04

Program Enhancement

GRH-94-04 (Continued)

Update Status: The assessment of the need for management mentors within the NPG organization continues. A Senior Management consultant has been obtained to aid in the overall assessment of the effectiveness of the NTEIP and to provide overview and guidance to the CNS Senior Managers. This consultant began onsite work March 14, 1994. The following is a listing of the mentors currently supporting the CNS organization.

- Safety Assessment - three consultants
J. Partlow
E. Erickson
Failure Prevention, Inc
- Senior Managers - one consultant
D. Beckman
- Maintenance - one consultant
B. York
- Quality Assurance - one consultant
R. Bass

The Maintenance mentor has been tasked with performing a overall evaluation of the Maintenance Department effectiveness and to provide recommendations to Management/Supervision to correct identified weaknesses. Past performance history will be used in this evaluation.

The Safety and Assessment mentors are currently supporting the Senior Manager in the establishment of procedures, guidelines and charters to ensure effective oversight of Nuclear Power Group activities. They are also supporting implementation and overview of the enhanced Corrective Action Program.

The Quality Assurance (QA) mentor is providing overall assessment of QA activities including, but not limited to, policy documents, procedures, audit and surveillance programs and organization adequacy and providing enhancement recommendations to the Division Manager of Quality Assurance. This enhancement item is completed.

GRH-94-04 (Continued)

Program Enhancement

Priority: RED
Item No: GRH-94-05

Title/Description: Conduct Study for Appropriate Staffing at CNS Date Updated: 5/20/94

External Funding Requirements: \$50,000 (for study)
Internal Resource Requirements: Vice President - Nuclear - 30 hrs.

Program Manager: Guy Horn
Planned Start Date: 1/24/94 Planned Completion Date: 2/94

References (NRC/INPO/NUMARC/NAIT Etc.): OSTI

Description: Conduct a study as to what would be the appropriate staffing level for CNS. This study should consider current staffing compared to industry leaders for a similar unit.

Objective: To determine if current staffing levels are sufficient to achieve and maintain current industry standards and continuing normal workload within the NPG.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Complete staffing study. (GRH-94-05.1)	1/94	1/94
2.	Develop a staffing upgrade plan for Senior NPPD Management review and approval. (GRH-94-05.2)	2/94	2/94
3.	Receive NPPD Board of Directors approval of the staffing upgrade plan. (GRH-94-05.3)	2/94	2/94

Update Status: A staffing study by T. Martin and Associates has been completed. The interim staffing plan has also been developed and submitted to Senior NPPD Management. The NPPD Board of Directors provided their full support of the interim staffing plan at the February Board Meeting.

This enhancement item is completed.

Program Enhancement

Priority: RED
Item No: GRH-94-06

Title/Description: Additional Personnel to Meet the Needs of the NPG Organization Date Updated: 5/20/94

External Funding Requirements: \$2,000,000 (estimated)
Internal Resource Requirements: Vice President - Nuclear - 30 hrs.

Program Manager: Guy Horn
Planned Start Date: 1/24/94 Planned Completion Date: 2/94

References (NRC/INPO/NUMARC/NAIT Etc.): OSTI

Description: Based on the results of the staffing study, develop a plan of action to redistribute or hire additional personnel to meet the needs of the NPG organization.

Objective: To achieve and maintain Nuclear industry standards and improve INPO/NRC rating of NPG activities.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Develop an interim staffing upgrade plan for Senior Management review and approval. (GRH-94-06.1)	2/94	2/94
2.	Receive NPPD Board of Director approval of the interim staffing upgrade plan. (GRH-94-06.2)	2/94	2/94

Update Status: Interim permanent staffing plans have been developed and approved by NPPD Senior Management. This plan was submitted to the NPPD Board of Directors at the February Board Meeting and received their full support.

5/10/94: In addition, approval was received from the NPPD Board of Directors to hire 20 consultants, 15 in engineering and five in maintenance, to provide immediate support to these areas. These personnel are on-site and working in support of program enhancements/upgrades and routine station activities. This enhancement item is completed.

GRH-94-06

Program Enhancement

Priority: RED
Item No: GRH-94-07

Title/Description: VP Meetings on Staffing Study

Date Updated: 5/20/94

External Funding Requirements: None

Internal Resource Requirements: Vice President - Nuclear/Senior Management - 20 hrs.

Program Manager: Guy Horn

Planned Start Date: 1/24/94

Planned Completion Date: 6/94

References (NRC/INPO/NUMARC/NAIT Etc.): 070 SPPI

Description: Communicate results of staffing study to NPG employees and plan of action to redistribute or hire additional personnel.

Objective: To make CNS employees aware of planned staffing upgrades for long term planning and budgeting purposes and to acquire staff support and ownership of the staffing study.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	NPG staff aware of organizational upgrades and assign appropriate NPG departments action to complete any necessary redistribution studies. (GRH-94-07.1)	4/94	4/30/94

Program Enhancement

GRH-94-07 (Continued)

Update Status: A staffing study by T. Martin and Associates has been completed. The interim staffing plan has also been developed and approved by to Senior NPPD Management. This plan was submitted to the NPPD Board of Directors at the February meeting and it received their full support. The results of the staffing study is being discussed at the frequent Communication Meetings by the Vice President - Nuclear. Assignment of action to perform a redistribution study in the areas of security and training has been made to the Senior Management of Site Support and contains a completions date of 6/1/94.

GRH-94-07 (Cont.)

SECTION II
MANAGEMENT

SECTION II

MANAGEMENT

These management issues are an indication of the present Nuclear Power Group culture. The lack of a questioning attitude, accountability and ownership; poor communication, inappropriate delegation; and poorly communicated management expectations are examples of the type of management concerns identified. In order for management to become more effective in instilling the improved culture throughout the NPG, a long term business plan that includes the organization's visions, goals and objectives is being developed. Previously, many of the plans and programs that had been established focused on the short term corrective actions without considering the long term impact.

The CNS Integrated Enhancement Program tasks, as part of the Management section, will address many of these cultural issues, as well as bring about other improvements within the NPG. For the long term, the NPG Business Plan will be used to maintain the expected improvements.

To address these issues, the following Integrated Enhancement Program tasks have been developed and are being implemented. The tasks included in this section are Program Enhancements which provide a description of the task, the responsible manager, and the expected completion date.

Program Enhancement

Priority: RED
Item No: MGMT-94-01

Title/Description: Strengthen the CNS Safety Culture Date Updated: 5/20/94

External Funding Requirements: NONE
Internal Resource Requirements: 100 Hours/Senior Manager; 600 Hours Total

Program Manager: All
Planned Start Date: 1/24/94 Planned Completion Date: 10/94

References (NRC/INPO/NUMARC/NAIT Etc.): CCA, OSTI

Description: The purpose of this enhancement is to instill in management/supervision and the workforce the culture and values to make the changes necessary to become a more healthy organization; ever improving the quality of the work we do.

Objective: To improve the management effectiveness of the NPG organization, continue to provide safe and reliable power, to maintain a cost competitive operation, and to meet or exceed industry standards in all aspects of our operation.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Convey to employees their right as well as their responsibility to have a questioning attitude. (MGMT-94-01.1)	6/94	
2.	Create an atmosphere where employees feel comfortable having a questioning attitude. (MGMT-94-01.2)	6/94	

MGMT-94-01

Program Enhancement

Major Milestones: (MGMT-94-01 Continued)

	Accomplishment	Plan Date	Actual Date
3.	Emphasize the importance of and encourage employees to use the corrective action program. (MGMT-94-01.3)	6/94	
4.	Encourage employee feedback to management on emerging issues, concerns and suggested corrective actions. (MGMT-94-01.4)	6/94	
5.	Conduct an effectiveness review of the Corrective Action Program. (MGMT-94-01.5)	10/94	

Update Status: A number of specific actions are underway, including divisional and departmental meetings, specific newsletter articles and management walkarounds.

A Level I CAP Training course has also been developed and delivered to the majority of the NPG. This Level I course provides employees with an understanding of the CAP. This training will encourage the use of the CAP and also stress its importance and effectiveness.

To provide additional feedback to Senior Management (beyond meetings and walkarounds) the QA Assessment Department has developed and implemented a monthly employee, one on one, interview questionnaire. The results will be used to measure success and failure at the departmental level and adjust accordingly.

The new Corrective Action Program has been implemented and contains the attributes of successful programs at other leading nuclear facilities. This program allows for autonomy in generating condition reports to ensure total employee independence for expressing concerns.

One very important aspect of this specific enhancement item is leadership by example. To ensure management/supervision and the workforce fully understand Senior Managements support of a constantly improving safety culture continued reinforcement is being provided by the Condition Report Overview Group, Nuclear Overview Publications, management meetings, management walkabouts and memorandums. In addition the Business Plan, Vision, Mission and Values have been finalized and sent to all NPG employees.

MGMT-94-01 (Cont.)

Program Enhancement

Priority: RED
Item No: MGMT-94-02

Title/Description: Develop an NPG Business Plan Date Updated: 5/20/94

External Funding Requirements: \$100,000

Internal Resource Requirements: 80 Hours/Senior Manager; 480 Hours Total

Program Manager: All (M. Sparr)

Planned Start Date: 1/24/94

Planned Completion Date: 7/94

References (NRC/INPO/NUMARC/NAIT Etc.): OSTI, CCA

Description: Develop an NPG Business Plan that establishes the goals and objectives to be attained over the next four years. Provide a means for issuing a monthly performance monitoring report which provides status and progress on business plan goals, objectives, and performance indicators. Develop Branch Business Plans for each NPG Senior Manager/Division.

Objective: The Business Plan will improve overall performance by providing the NPG with a master management plan.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Contact Senior Management level personnel at the best performing plant and discuss their development and use of a Business Plan. (MGMT-94-02.1)	1/94	1/94
2.	Conduct workshops, etc., to develop vision, mission and value statements of the Business Plan. (MGMT-94-02.2)	1/94	1/94

MGMT-94-02

Program Enhancement

Major Milestones: (MGMT-94-02 Continued)

	Accomplishment	Plan Date	Actual Date
3.	Conduct workshops to develop supportive missions, goals, objectives, and performance indicators. (MGMT-94-02.3)	3/94	3/31/94
4.	Hold departmental meetings to communicate the vision, mission and value statements of the Business Plan. (MGMT-94-02.4)	5/94	
5.	Develop targets for performance indicators, actions plan summaries for objectives, and performance measures. (MGMT-94-02.5)	5/94	5/19/94
6.	Complete the 1994 - 1997 Business Plan. (MGMT-94-02.6)	5/94	
7.	Develop transition plan for IEP to Business Plan and revise NPG Directive 1.3. (MGMT-94-02.7)	6/94	
8.	Develop 1994 - 1997 Branch Business Plan for each NPG Senior Manager/Division. (MGMT-94-02.8)	7/94	
9.	Issue first monthly performance monitoring report. (MGMT-94-02.9)	7/94	

Update Status:

5/20/94: Milestones number 1 through 5 are completed. Milestones number 6 and 7 are in progress. Preliminary work has begun for Milestones 8 and 9.

Program Enhancement

Priority: RED
Item No: MGMT-94-03

Title/Description: Prioritize Outstanding Work Date Updated: 5/20/94

External Funding Requirements: \$10,000
Internal Resource Requirements: 5 Department Personnel for 2 Months; Total 1200 Hours
(Engineering, Maintenance, Tech. Staff)

Program Manager: All
Planned Start Date: 1/24/94 Planned Completion Date: 4/94

References (NRC/INPO/NUMARC/NAIT Etc.): OSTI

Description: Develop a priority system to prioritize outstanding work to ensure the critical items are being worked first.

Objective: To focus management and personnel resources in the most effective means possible.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Develop an interim prioritization scheme in noted areas. (MGMT-94-03.1)	4/94	4/30/94
2.	Assemble items to be prioritized. (MGMT-94-03.2)	3/94	3/7/94

Program Enhancement

Major Milestones: (MGMT-94-03 Continued)

	Accomplishment	Plan Date	Actual Date
3.	Establish departmental team to conduct the initial prioritization. (MGMT-94-03.3)	3/94	3/7/94
4.	Complete the prioritization of existing items. (MGMT-94-03.4)	4/94	4/30/94

Update Status: Within the Engineering organization the significant work items which include NCRs, DRs, as well as external commitments, are being prioritized via the interim Prioritization Program. The prioritization of the MWRs, TWRs, and PCNs is being validated/established. (See Action Item JMM-94-06)

Our existing priority schemes (for EWR, MWR, TWR, and PCN) are being revalidated to ensure their adequacy and correctness of application.

Items #2 and #3 were completed for the Engineering Department on 2/9/94; The prioritization of outstanding engineering work (Item #4) was completed on 3/10/94. Items #2 and #3 were completed for the Maintenance Department the week of 3/7/94; The prioritization of outstanding maintenance work (Item #4) is in progress with an expected completion of 4/30/94. (Forced shutdown maintenance activities in the month of March precluded completion of this activity on schedule.)

This item is completed; the specific, outstanding work items are being tracked by RLG-94-06 and RLG-94-07.

SECTION III
OPERATIONS

SECTION III

OPERATIONS

The issues covered in this section focus on operations, procedural adequacy and adherence, engineering program adequacy, and certain management issues. The concerns regarding operations include the communication of management expectations and the lack of standardization with how operating shifts communicate. There is also a lack of a questioning attitude, accountability and a lack of ownership within the operations organization.

The procedural adequacy and adherence concern included three issues. The first issue is that the work force is changing and, therefore, the content of the procedures have to be revised. The second issue involves the proper balance between the "Skill of the Craft" and the necessary amount of detail in each procedure. Finally, the employees who use the procedures do not display a questioning attitude when confronted with a situation that does not appear to be correct.

To address these issues, the following Integrated Enhancement Program tasks have been developed and are being implemented. The tasks included in this section are Program Enhancements which provide a description of the task, the responsible manager, and the expected completion date.

Program Enhancement

Priority: RED

Item No: RLG-94-01

Title Description: Develop Program to Review Maintenance Procedures **Date Updated:** 5/20/94

External Funding Requirements: \$275,000

Internal Resource Requirements: Support to research, revise and develop Maintenance Procedures during the course of 1994.

Program Manager: Rick Gardner (Mike Unruh)

Planned Start Date: 1/24/94

Planned Completion Date: 12/94

References (NRC/INPO/NUMARC/NAIT Etc.): SPPI 340, OSTI, SMM

Description: The actions that will be addressed under this action include the following:

- Review selected Maintenance Procedures to verify the incorporation of accurate and sufficient information (including vendor information).
- Determine that sufficient technical detail is incorporated into Maintenance Procedures to allow the Craft to perform the activity.
- Establish and communicate a definition of "Skill of the Craft".
- Determine that adequate training is provided to support the performance of the Maintenance Procedures, as written.

Objective: To provide the appropriate level of detail for the craftsmen and to address performance deficiencies.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Determine manpower requirements, prepare and approve position authorizations, conduct interviews and hire temporary employees. (RLG-94-01.1)	2/94	2/94

RLG-94-01

Program Enhancement

Major Milestones: (RLG-94-01 Continued)

	Accomplishment	Plan Date	Actual Date
2.	Provide facilities, equipment and supplies to procedure upgrade team. (RLG-94-01.2)	2/94	2/28/94
3.	Conduct scope meeting, outline goals, expectations, and schedule. (RLG-94-01.3)	2/94	2/28/94
4.	Define "Skill of the Craft". (RLG-94-01.4)	4/94	4/29/94
5.	Vendor Manual Validation and Verification (V&V) complete. (RLG-94-01.5)	6/94	
6.	Revise current, safety related and important to safety maintenance procedures as necessary to ensure skill of the craft is addressed and the necessary technical details are provided. (RLG-94-01.6)	12/94	
7.	Interface with the Training Department to ensure the incorporation of maintenance procedure changes into training. (RLG-94-01.7)	12/94	

- Update Status:**
- 1) Temporary employees have been hired, completed training and these employees have been incorporated into the workforce.
 - 2) Facilities and equipment have been identified. Currently sufficient facilities and equipment have been provided to support the procedures upgrade effort.
 - 3) Initial "Scope Meeting" was conducted on 2/28/94. Additional meetings will be conducted on a bi-weekly basis as necessary to support this project. This meeting was not held as scheduled due to the plant scram on March 2, 1994, the shutdown for RHR-27A, and work on the HPCI stop valve. Next meeting to be held April 29, 1994.
 - 4) Defining "Skill of the Craft" effort is complete. Definition is included in procedure 7.0.4.

Program Enhancement

RLG-94-01 (Continued)

Update Status: 5) The Validation and Verification of Vendor Manuals is presently performed in accordance with our response to GL 90-03, see CNSS907416 dated September 17, 1990.

The intent of item #6 in this Enhancement was to review a selected number of vendor manuals to verify that the manual and the applicable procedure were in agreement. Further actions will be contingent upon outcome of this item.

6) A scoping and assessment methodology is being established to address improvement of maintenance procedures. Six craft personnel have been brought out of the Electrical and Mechanical Maintenance Shops, and have been reviewing and revising Maintenance Procedures as of May 1, 1994.

RLG-94-01 (Cont.)

Program Enhancement

Priority: RED
Item No: RLG-94-02

Title/Description: Review Preventive Maintenance Task Assignments for Adequate Instructions
Date Updated: 5/20/94

External Funding Requirements: \$150,000 (Estimated)
Internal Resource Requirements: 350 hours

Program Manager: Rick Gardner (Mike Unruh)
Planned Start Date: 1/24/94
Planned Completion Date: 12/94

References (NRC/INPO/ETC.): OSTI

Description: Review Preventive Maintenance (PM) tasks under the responsibility of the Maintenance Department to systemically document the adequacy of the work instruction, and revise those PMs that do not contain adequate work instructions.

Objective: To provide the appropriate level of detail for the craftsmen and to address performance deficiencies.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Establish a Task Group to establish/develop criteria (i.e. checklist) for documents which set forth acceptable practices and/or provide information regarding activities that are considered within the Skill of the Craft (Maintenance Work Practices) (RLG-94-02.1)	2/94	2/28/94
2.	Collect requirements that define what constitutes SORC procedures. (RLG-94-02.2)	2/94	2/28/94
3.	Based on items 1 and 2, establish/develop criteria to identify the level of detail required for work instruction documents. (RLG-94-02.3)	3/94	3/31/94

RLG-94-02

Program Enhancement

Major Milestones: (RLG-94-02 Continued)

	Accomplishment	Plan Date	Actual Date
4.	Submit criteria to the appropriate organizations for review and acceptance. (RLG-94-02.4)	3/94	3/31/94
5.	Procure services as necessary to review the existing PMs using the criteria established in items 3 and 4. (RLG-94-02.5)	3/94	3/7/94
6.	Perform the review of approximately 5540 PMs (Planning - 1500, I-Shop - 2270, E-Shop - 900, M-Shop - 800, UT-Shop - 55, and W-Shop - 15), and revise PMs, maintenance procedures and Maintenance Work Practices to insure adequate work instructions exist. (RLG-94-02.6)	12/94	

Update Status: A chairman has been named for the Task Group to establish/develop a criterial document. Four additional Maintenance Department individuals have been identified to serve in the Task Group. One additional task force member will be added.

The February Board meeting should approve Tasks with various companies to obtain the manpower to perform the PM review.

Major Milestone 1

Establish a Task Group to establish/develop criteria (i.e. checklist) for documents which set forth acceptable practices and/or provide information regarding activities that are considered within the "Skill of the Craft".

Status 3/7/94

A Task Group has been formed and met to discuss the objective of milestone 3. Reference 1 provides more details regarding the Task Group, and it identifies the personnel in the Task Group. The Task Group has developed a draft definition for "Skill of the Craft".

Program Enhancement

Update Status: (RLG-94-02 Continued)

Major Milestone 2

Collect requirements that define what constitutes SORC procedures.

Status 3/7/94

This milestone is completed. Reference 3 provides the discussion of what constitutes SORC procedures.

Major Milestone 3

Based on items 1 and 2, establish/develop criteria to identify the level of detail required for work instruction documents.

Status 3/7/94

The Task Group identified in milestone 1 has met to discuss the objective of the milestone.

Status 3/24/94

A document that provides guidance on procedural detail is currently being written. The initial draft may be ready for review by the first of April.

Status 3/31/94

The initial draft has been developed and issued for comments. This milestone is completed.

Status 5/10/94

Guidance documents have been developed to establish required content and level of detail of procedures and instructions.

Major Milestone 4

Submit criteria to the appropriate organizations for review and acceptance.

Status 3/7/94

No Action

Program Enhancement

Update Status: (RLG-94-02 Continued)

Status 3/31/94

A draft document that provides guidance on procedural detail has been submitted for review and acceptance. this milestone is completed.

Major Milestone 5

Procure services as necessary to review the existing PMs using the criteria established in items 3 and 4.

Status 3/7/94

Three people from General Physics Corporation has been procured under General Services Agreement No. 86A-C1, Task 42, to perform the review. This milestone is completed.

Major Milestone 6

Perform the PM review, and revise PMs, procedures and MWP's to insure adequate work instructions exist.

Status 3/7/94

Reference 2 discusses and includes a checklist for the items being addressed in the PM review. The checklist has been revised to review the "P" Shop PMs that were originally excluded from the PM review. A copy of the revised checklist is attached. The three people from General Physics will be starting the PM review this week.

Status 3/24/94

An initial review of all PMs should be completed before the first of April. This review will identify the PMs that need revision and which PMs that are currently adequate based on the review criteria.

Status 5/10/94

Review of all PMs is 57% complete. This review is identifying PMs that require revision to meet current expectations.

Program Enhancement

Update Status: (RLG-94-02 Continued)

Status 5/20/94

Approximately 63% (3800) of the PMs have been reviewed and found acceptable and/or PM changes submitted. About 21% (1780) of the remaining PMs will require minor changes, and about 16% (970 PMs) of the remaining PMs will require procedures/instructions to be developed.

Program Enhancement

Priority: RED
Item No: RLG-94-03

Title/Description: Upgrade the System Engineer Program Date Updated: 5/20/94

External Funding Requirements: \$25,000

Internal Resource Requirements: The entire Engineering Department will be involved over an approximate two-year period.

Program Manager: Rick Gardner (Jim Lynch)

Planned Start Date: 10/18/93

Planned Completion Date: 12/94

References (NRC/INPO/NUMARC/NAIT Etc.): SMM

Description: Upgrade of the System Engineer Program consists of the following activities:

- A. Implementation of the Engineering Plan for performance improvement, the elements of which are described below under major milestones.
- B. Improvements to System Engineer training, described in Program Enhancement Item RLG-94-08.
- C. Engineering backlog reduction, described in Program Enhancement Item RLG-94-06.

Objective: Improve the effectiveness of the Engineering Department. Improvements will focus on work management system and program reporting, and definition of roles in the Engineering Department.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Perform assessment of Engineering Department effectiveness and organization. (RLG-94-03.1)	1/94	1/22/94
2.	Develop an integrated plan to address various assessments of engineering at CNS. Submit to Region IV. (RLG-94-03.2)	1/94	1/21/94

RLG-94-03

Program Enhancement

Major Milestones: (RLG-94-03 Continued)

	Accomplishment	Plan Date	Actual Date
3.	Work management improvements:		
-	Develop criteria for prioritization of engineering NAIT and ACT items. (RLG-94-03.3)	1/94	2/9/94
-	Prioritize and schedule NAIT and ACT items. (RLG-94-03.4)	2/94	3/10/94
-	Develop a set of engineering department performance indicators. Produce appropriate charts and graphs for department and senior management review. (RLG-94-03.5)	2/94	3/15/94
-	Produce final set of department performance indicators, publish monthly. Determine performance goals and incentives for achieving goals. (RLG-94-03.6)	4/94	5/20/94
4.	Establish system and program report cards:		
-	Produce first draft system report card for one system. (RLG-94-03.7)	2/94	3/4/94
-	Produce final system report card. (RLG-94-03.8)	2/94	4/15/94
-	Produce first draft program report card for one program. (RLG-94-03.9)	2/94	3/4/94
-	Produce final program report card. (RLG-94-03.10)	6/94	
-	Produce report cards for all assigned systems monthly. (RLG-94-03.11)	6/94	
-	Issue approved EDIs for both report cards. (RLG-94-03.12)	7/94	
-	Produce program report card for all assigned programs monthly. (RLG-94-03.13)	7/94	

RLG-94-03 (Cont.)

Program Enhancement

Major Milestones: (RLG-94-03 Continued)

Accomplishment	Plan Date	Actual Date
5. Evaluate Engineering Department functions for efficiency improvements. Examples include the way NPRDS reports are prepared and procurement activities. Complete evaluation and plan for implementation. (RLG-94-03.14)	6/94	
6. Define roles, management expectations, functions, and accountability for system and program engineers, lead engineers, senior engineers, supervisors, and managers. (RLG-94-03.15)	6/94	
7. Develop succession plan for manager, assistant manager, supervisor and lead positions. Succession plan will include appropriate developmental assignments and training. (RLG-94-03.16)	6/94	
8. Perform an assessment and develop a plan to identify candidate processes for re-engineering. The plan should identify and prioritize candidate processes and develop a schedule for completion of the re-engineering analyses. Candidate processes include procurement and engineering work request. (RLG-94-03.17)	8/94	
9. Self assess the CNS Engineering Department upgrades for effectiveness. (RLG-94-03.18)	12/94	

Update Status: 2/10/94 Item #1 is complete. Item #2 is complete and was transmitted to Region IV on 1/21/94 (CNSS941043). Item #3 a memo (CNSS943517) was issued on 2/8/94 to engineering supervisors to describe the process and criteria to be used to prioritize the workload. Prioritization is expected to be complete by 2/18/94. A set of 10 draft engineering performance indicators has been completed. Draft indicators are currently under review. Item #4 system report cards used at SONGS, Crystal River 3, and Fermi have been gathered as examples.

Program Enhancement

Update Status: (RLG-94-03 Continued)

- 3/10/94 Item #5, a draft set has been produced and is being reviewed by management. Item #8 will be completed during 3/94. Item #14, procurement, change process, design and NPRDS reporting are currently being evaluated. No results to report to date.
- 3/31/94 Item #5, Draft performance indicators have been produced 3/10/94. On schedule for final set by 4/94. Items #8 and #10 has been completed. Item #11, System Report Cards will be produced in April. Item #14, changes are currently being made to the way purchase requisitions and NPRDS reports are handled within Engineering. Comprehensive evaluation will be performed in April.
- 5/10/94 Item #1 Complete
- Item #2 Complete
- Item #3 Draft performance indicators are being routed for management review and comment. Anticipate final set of indicators developed by 5/15/94.
- Item #4 Draft program and system report cards are complete and being distributed for comment. Report cards for all programs and systems anticipated to be finalized by 7/31/94.
- Item #5 Program is being made at present time. NPRDS and purchase requisitions efficiency are being addressed.

RLG-94-03 (Cont.)

Program Enhancement

Update Status: (RLG-94-03 Continued)

5/20/94 Item #3 The final set of Engineering Department performance indicators were issued on 5/20/94. The full set of performance indicators will be issued to selected CNS Managers and the Engineering Department monthly. This completes Item #3.

Item #4 Draft System Report Cards were reissued to solicit additional System Engineer feedback. The feedback was requested by 5/18/94. The final Report Cards should be in place by June 3, 1994. System Report Cards should be produced by June 24, 1994. Program Report Cards should be produced by July 1994. Report Card EDI's should be completed by July 1994 also.

Program Enhancement

Priority: RED
Item No: RLG-94-04

Title/Description: Complete the Maintenance Department Reorganization Date Updated: 5/20/94

External Funding Requirements: \$50,000 Consultant to identify structure and positions.
Internal Resource Requirements: 100 hours

Program Manager: Rick Gardner (Mike Unruh)
Planned Start Date: 1/24/94 Planned Completion Date: 9/94

References (NRC/ENPO/NUMARC/NAIT Etc.): SMM

Description: Develop and implement a reorganization of the Maintenance Department.

Objective: To reduce the number of reporting layers in order to improve communications within the department and to create a Maintenance Support group.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Develop organization structure. (RLG-94-04.1)	1/94	1/94
2.	Obtain approval of structure and manpower increases. (RLG-94-04.2)	2/94	2/94
3.	Acquire approval to combine Lead Person and Crew Leader jobs. (RLG-94-04.3)	2/94	2/15/94
4.	Determine space requirements and provide same. (RLG-94-04.4)	4/94	4/29/94
5.	Re-assign personnel to positions as necessary, and finalize the new position descriptions and postings. (RLG-94-04.5)	6/94	
6.	Self assess the reorganized department for effectiveness. (RLG-94-04.6)	9/94	

RLG-94-04

Program Enhancement

Update Status: (RLG-94-04 Continued)

- 1) Organization structure development complete.
- 2) Organization structure approved and manpower increases for initial stages of restructure approved.
- 3) Reclassification of Lead Person positions to Crew Leader is complete. Reclassifications took affect 3/1/94.
- 4) Space requirements for initial stages of restructure have been determined and a Purchase Requisition for same has been submitted. Received approval of PR for trailer on 3/12/94 P.O. 379174 issued for trailer on 3/23/94.

5/10/94	Item #1	Complete
	Item #2	Complete
	Item #3	Complete
	Item #4	Space requirement for initial stages of restructure have been determined. Trailer is scheduled to arrive end of May.
	Item #5	Met with Human Resources personnel on 3/7 and 3/8 to begin development of new position descriptions to support reorganization. One position description remains to be developed.
5/20/94	Item #4	Trailer for Maintenance Support group should be set up and ready for occupying by June 20, 1994.
	Item #5	Request for Position Authorizations for new positions were approved by G.R. Horn on May 17, 1994.

Program Enhancement

Priority: RED
Item No: RLG-94-05

Title/Description: Evaluate PIV, ISI, IST and LLRT Programs Date Updated: 5/20/94

External Funding Requirements: \$800,000 (Estimate)

Internal Resource Requirements:

Licensing Manager/Supervisor - 40 hours/year,
Configuration Management Manager/Supervisor - 30 hours/year,
CNS Engineers - 240 hours/cycle,
NED Engineer - 1040 hours/year,
Operations/Maintenance support - 640 hours/cycle

Program Manager: Rick Gardner (Jim Lynch)

Planned Start Date: 9/1/93

Planned Completion Date: 4/95

References (NRC/INPO/NUMARC/NAIT Etc.): SPPI 350

Description: Develop and implement programs and program changes to resolve SALP MS-1 concerns for Pressure Isolation Valve testing, Local Leak Rate Testing, and Inservice Inspection/Testing including:

- Develop and implement a Pressure Isolation Valve test program.
- Identify safety related manual valves required to be operated in emergency conditions and implement PM requirements.
- Identify and implement ISI requirements for safety related non-code class 1,2, or 3 systems containing piping, pressure vessels, pumps, or valves.
- Implement modification, testing, and program development to resolve SALP MS-1 LLRT concerns.

Objective: Evaluate and improve PIV, ISI, IST and LLRT programs to ensure regulatory compliance and sound program bases.

Program Enhancement

Major Milestones: (RLG-94-05 Continued)

	Accomplishment	Plan Date	Actual Date
1.	Initiate/approve PMs for manual valves used in EOPs. (RLG-94-05.1)	12/93	11/17/93
2.	Develop an Engineering Department Instruction which provides guidance for action to be taken when components are placed on increased test frequency. (RLG-94-05.2)	4/94	4/29/94
3.	Evaluate safety related non-code class 1, 2, and 3 systems for ISI program inclusion. (RLG-94-05.3)	6/94	
4.	Determine ISI boundaries and inspection scope for SW and REC systems. (RLG-94-05.4)	7/94	
5.	Determine ISI boundaries and inspection scope for safety related non-code class 1, 2, and 3 systems. (RLG-94-05.5)	7/94	
6.	Complete design basis reconstitution for primary containment (Cost not included in funding requirements). (RLG-94-05.6)	6/94	
7.	Submit relief requests for SW and REC inspection program addenda. (RLG-94-05.7)	8/94	
8.	Submit 10CFR50.55a exemption requests for safety related non-code class 1, 2, and 3 systems not to be added to ISI program. (RLG-94-05.8)	8/94	
9.	Submit relief requests for safety related non-code class 1, 2, and 3 systems inspection program addenda. (RLG-94-05.9)	8/94	
10.	Develop procedures for PIV testing. (RLG-94-05.10)	8/94	
11.	Review safety related manual valves for inclusion in IST or augmented testing programs. (RLG-94-05.11)	8/94	

RLG-94-05 (Cont.)

Program Enhancement

Major Milestones: (RLG-94-05 Continued)

	Accomplishment	Plan Date	Actual Date
12.	Initiate/approve PMs for stroking identified manual valves. (RLG-94-05.12)	10/94	
13.	Complete design basis reconstitution walkdown (cost not included in funding requirements). (RLG-94-05.13)	11/94	
14.	Submit ISI program addenda for SW and REC systems. (RLG-94-05.14)	12/94	
15.	Submit ISI program addenda for safety related non-code class 1, 2, and 3 systems. (RLG-94-05.15)	12/94	
16.	Approve procedures for PIV testing. (RLG-94-05.16)	12/94	
17.	Conduct a third party review of IST program manual valves. (RLG-94-05.17)	12/94	
18.	Develop an Appendix J program document. (RLG-94-05.18)	12/94	
19.	Complete installation of test connections and isolation valves for LLRT accident direction testing (cost not included in funding requirements). (RLG-94-05.19)	4/95	
20.	Perform LLRT accident direction testing for modified penetrations. (RLG-94-05.20)	4/95	

RLG-94-05 (Cont.)

Program Enhancement

RLG-94-05 (Continued)

Update Status: Contractor selected for staff augmentation to complete Item # 4. Funding expenditure request to go to the February Board of Directors for approval.

PIV testing methods selected and verified to be effective during 1993 outage.

5/10/94 Item #1 Complete

Item #2 Instructions are contained in Engineering Procedure 3.9. The need for additional instructions is being evaluated by the IST Engineer and is on schedule.

5/20/94 Approximately 55% of the safety related manual valves have been initially reviewed. The effort is approximately 35% complete overall.

A project plan has been developed which will complete items #3, #4, #5, #7, #8, #9, #14, #15, and #16. A contractor (VECTRA) is on site and project work is proceeding on schedule.

Recent changes to Procedure 3.9 appear to provide adequate guidance for action to be taken when components are placed on increased test frequency (item #2). The need for an Engineering Department Instruction is currently being evaluated. All action is anticipated to be completed by 6/94.

RLG-94-05 (Cont.)

Program Enhancement

Priority: RED

Item No: RLG-94-06

Title/Description: Engineering Backlog

Date Updated: 5/20/94

External Funding Requirements: \$1,200,000 (estimate). Estimate is based on 15 contractors for six to nine months to help reduce engineering backlog and to upgrade programs.

Internal Resource Requirements: Estimate 25% paid overtime per engineer for the next six to nine months.

Program Manager: Rick Gardner (Jim Lynch)

Planned Start Date: 1/10/94

Planned Completion Date: 4/94

References (NRC/INPO/NUMARC/NAIT Etc.): OSTI, INPO

Description: Reduction of the Engineering Department backlog will result in an Engineering Department workload that is prioritized, manageable in size, delivers products on time, and has measurable results and goals and allow CNS engineering time to establish a enhanced system engineer program and establish healthy reports of assigned systems.

Objective: Reduce engineering backlog and improve the effectiveness of managing the workload. This will allow System and Program Engineers to more effectively manage their systems and programs.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Develop criteria for prioritization of engineering NAIT and ACT items. (RLG-94-06.1)	1/94	2/8/94
2.	Prioritize and schedule NAIT and ACT items. (RLG-94-06.2)	2/94	2/28/94
3.	Prepare point papers for contractor assistance. (RLG-94-06.3)	1/94	1/94

RLG-94-06

Program Enhancement

Major Milestones: (RLG-94-06 Continued)

	Accomplishment	Plan Date	Actual Date
4.	Plan for contractor site arrival training, badging, office space. (RLG-94-06.4)	2/94	2/28/94
5.	Identify specific work packages for contractors. Assign contractors for specific engineers. (RLG-94-06.5)	2/94	2/28/94
6.	Develop a set of Engineering Department performance indicators. Produce appropriate charts and graphs for department and senior management review. (RLG-94-06.6)	2/94	3/10/94
7.	Produce final set of department performance indicators, publish monthly. Determine goals and incentives for achieving goals. (RLG-94-06.7)	4/94	5/20/94

Update Status:	2/10/94	Item #1 is complete, memo (CNSS943517) was issued on 2/8/94. Item #2 is in progress with completion expected by 2/18/94. Item #3, Point Papers have been prepared and discussed with the ERC. Board Of Directors discussion planned for 2/11/94. Item 4, trailer space identified, PO for computer purchase written, Computer Applications setting up a computer trunk line to the trailer. Item #6, draft indicators have been produced.
	3/10/94	Item #2 and #4 are complete. Item #5, contractors began arriving on 2/14. All contractors are on-site and have been assigned to specific supervisors. Item #6, a draft set has been produced and are being reviewed by management.
	5/10/94	Item #7 Engineering department performance indicators are expected to be completed by 5/15/94.
	5/20/94	The final set of Engineering Department performance indicators were issued on 5/20/94. The full set of performance indicators will be issued to selected CNS Managers and the Engineering Department monthly meeting. RLG-94-06 is considered to be complete.

Program Enhancement

Priority: RED
Item No: RLG-94-07

Title/Description: Maintenance Backlog

Date Updated: 5/20/94

External Funding Requirements: \$200,000
Internal Resource Requirements: 6,000 hours

Program Manager: Rick Gardner (Mike Unruh)

Planned Start Date: 1/24/94

Planned Completion Date: 9/94

References (NRC/INPO/NUMARC/NAIT Etc.): OSTI

Description: Provide Maintenance Department review of all commitments (MWRs/NCRs/DRs) in order to ensure control of same. Additionally, provide interim resources to address incoming items until the maintenance support group is functional.

Objective: Reduce maintenance backlog and improve the effective management of the workload.

Major Milestone:

	Accomplishment	Plan Date	Actual Date
1.	Define Backlog. (RLG-94-07.1)	2/94	2/23/94
2.	Determine additional resource requirements and obtain. (RLG-94-07.2)	2/94	2/28/94
3.	Review all commitments to determine depth of problem (this will be a group review). (RLG-94-07.3)	4/94	4/28/94
4.	Set Priorities from review. (RLG-94-07.4)	4/94	4/28/94
5.	Identify and plan for resolution of the problem areas. The major points are spare parts, resources and enhanced scheduling. (RLG-94-07.5)	6/94	

RLG-94-07

Program Enhancement

Major Milestones: (RLG-94-07 Continued)

Accomplishment	Plan Date	Actual Date
6. Provide permanent resources to maintain a periodic review of all open items. (RLG-94-07.6)	6/94	
7. Provide a means for continuous monitoring of Maintenance Group/Shop Backlog. (RLG-94-07.7)	9/94	

Update Status:	2/10/94	Item #1, define backlog, is in progress. Item #2, additional resource requirements have been identified and the resources should be approved at the February board meeting.
	3/10/94	Item #1, definition for backlog has been established and is being included in M.P. 7.0.4 <u>Conduct of Maintenance</u> . Additionally a method for prioritizing backlog items has been established. Procedure revision is ready to be submitted for SORC routing. Item #6, resources to maintain periodic review of all open items has been provided on a temporary basis through use of a consultant engineer.
	3/31/94	The prioritization of outstanding maintenance work is in progress with an expected completion of 4/30/94. (Forced shutdown maintenance activities in the month of March precluded completion of this activity on schedule.)
	5/20/94	Item #3 A contractor with maintenance management background reviewed the non-craft Maintenance Department backlog to determine the depth of the problem. A meeting was held on 4/28/94 which discussed the findings of the contractor with Maintenance Department management. A letter was issued on 4/28/94 which summarized the items discussed during the meeting.
	Item #4	The new Corrective Action Program that went into effect the first of April has set priorities of all new issues. Plant wide policies have been set to priorities pre-existing issues. The priorities of the Corrective Action backlog issues have been established. This milestone is completed.

Program Enhancement

Priority: RED
Item No: RLG-94-08

Title/Description: Review the Qualifications and Training of Current CNS System Engineers to Determine Training Required

Date Updated: 5/20/94

External Funding Requirements: None

Internal Resource Requirements: Approximately 20 system engineers each attending two newly revised system training courses per year; 30 system engineers attending courses required by revised Training Program Descriptions (TPDs) for one year (qualification to revised TPDs must be completed within one year) training resources to develop and deliver the newly revised system training courses.

Program Manager: Rick Gardner (Jim Lynch)

Planned Start Date: 11/3/93

Planned Completion Date: 7/94

References (NRC/INPO/NUMARC/NAIT Etc.): OSTI, SPPI

Description: Upgrade the training provided to system engineers to include system task oriented objectives. Provide appropriate system training for all engineers assigned systems.

Objective: Organize, enhance, and communicate improvements in engineering training. This includes enhanced systems training and improvements to positional requirements for engineers.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Review and revise TPD 502 - Technical Staff, TPD 509 - Station Engineer, TPD 526 - Station Nuclear Engineer, TPD 527 - ISI Engineer (RLG-94-08.1)	12/93	12/30/93
2.	Identify system engineers assigned systems who have not completed system training. (RLG-94-08.2)	1/94	1/24/94
3.	System engineers complete system training as identified in Item 2 (above). (RLG-94-08.3)	2/94	2/28/94

RLG-94-08

Program Enhancement

Major Milestones: (RLG-94-08 Continued)

	Accomplishment	Plan Date	Actual Date
4.	Develop a plan and schedule for system lesson plans to be upgraded for system engineers (i.e., begin with SRO level training lesson plans and revise objectives as appropriate for system engineer). (RLG-94-08.4)	2/94	3/3/94
5.	Complete revision to system engineer lesson plans and begin delivering new system training lessons. (RLG-94-08.5)	7/94	
6.	Develop individualized training plans appropriate for Engineering Department personnel. (RLG-94-08.6)	7/94	
7.	System Engineer Certification (RLG-94-08.7)	7/94	

Update Status:	2/10/94	Item #1 is complete. TPDs have been reviewed and changes were made regarding position and task required lessons, and optional lessons. Item #2 is complete. Engineers assigned systems who have not completed training on their assigned systems have been identified. Item #3 is in progress.
	3/10/94	Item #3, all System Engineers have completed the appropriate systems training. Item #4, discussions with training have begun and three meeting have been held. Schedules have not been produced but are scheduled to be completed during 3/94.
	3/31/94	Item #4, lesson objectives for System Engineer Training have been completed 3/9/94. Schedule for lesson plan upgrades to be developed in April.
	5/10/94	Training records are being reviewed and serve as documentation utilized in items #1, #2, and #3.
		Item #4 Lesson Plan upgrades are continuing.
	5/20/94	Item #4 Lesson Plan upgrades are ongoing and will be completed to support July training.

RLG-94-08 (Cont.)

Program Enhancement

Priority: RED
Item No: RLG-94-09

Title/Description: Improve Operations Communications

Date Updated: 5/20/94

External Funding Requirements: None
Internal Resource Requirements: 60 hours per year

Program Manager: Rick Gardner (Bob Brungardt)

Planned Start Date: 12/1/93

Planned Completion Date: 6/94

References (NRC/INPO/NUMARC/NAIT Etc.): OSTI

Description: The actions that will be addressed under this action include the following:

- Evaluate the conduct of crew briefings including frequency and adequacy of information exchange.
- Standardize the shift turnover process such that operational information/plant station information is communicated between shifts in a consistent manner.
- Establish a mechanism to ensure long term issues/problems are communicated to all shifts.
- Evaluate operator verbal communications against the CNS Directive on communications.

Objective: Ensure complete, accurate and consistent transfer of information through improved operator communications.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Implement a Control Room Operator Turnover Checklist to support consistent turnovers. (RLG-94-09.1)	3/94	3/10/94
2.	Obtain approval of Procedure 2.0.2 which incorporates Long Term Concerns into the Shift Supervisor's turnover. (RLG-94-09.2)	4/94	3/30/94
3.	Observe shift crews and document communications effectiveness. (RLG-94-09.3)	6/94	

RLG-94-09

Program Enhancement

RLG-94-09 (Continued)

Update Status:	2/10/94	Shift crews were previously observed in September - October 1993, and communications observations documented. Milestone #3 will measure the effectiveness of communication improvements previously implemented.
		Procedure 2.0.2 has been revised and a draft of the Long Term Concerns is already in use.
	3/10/94	(RLG-94-09.1) A Control Room Operator Turnover Checksheet is in use by the CRS, RO, and BOP.
		(RLG-94-09.2) Procedure 2.0.2 is in technical review routing.
	5/10/94	Item #1 Complete
		Item #2 Procedure 2.0.2 incorporated revision to turnover requirements. This revision was approved 3/30/94. This completes this item.
		Item #3 Observation of turnover and communication effectiveness is scheduled to begin third week of May.
	5/20/94	Item #3 A Control Room Observation Checklist has been developed and observations commenced today.

SECTION IV
SAFETY ASSESSMENT

SECTION IV

SAFETY ASSESSMENT

Within this section the issues regarding problem identification, corrective action, procedural adequacy and adherence will be addressed. The procedural adequacy and adherence concern focused on whether the procedures, as they are currently written, provide the necessary guidance and detail. Part of the oversight function at CNS is to determine if appropriate solutions to existing problems is being provided. A new Corrective Action Program is being developed to accomplish this.

Part of the culture change that must happen before CNS can significantly improve performance is that the employees need to develop a more questioning attitude. To support this change in attitude a mechanism to solicit and implement employee concerns will be developed as a task within this section.

To address these issues, the following Integrated Enhancement Program tasks have been developed and are being implemented. The tasks included in this section are Program Enhancements which provide a description of the task, the responsible manager, and the expected completion date.

Program Enhancement

Priority: RED
Item No: JMM-94-01

Title/Description: Upgrade the Corrective Action Program Date Updated: 5/20/94

External Funding Requirements: \$400,000
Internal Resource Requirements: 2500 hours

Program Manager: John Meacham (Chris Moeller)
Planned Start Date: 9/17/93 Planned Completion Date: 10/94

References (NRC/INPO/NUMARC/NAIT Etc.): CCA, SPPI, SMM, OSTI

Description: Various internal and regulatory assessments of the existing Corrective Action Program have identified several weaknesses. These weaknesses are being resolved through this action item.

Objective: In support of the culture change to a more questioning attitude, provide a completely new Corrective Action Program, which facilitates:

1. Easy problem identification.
2. Defined problem ownership and accountability.
3. More in-depth root cause analysis.
4. Improved human performance evaluation.
5. Enhanced trending capability.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Establish Steering Committee. (JMM-94-01.1)	9/93	9/24/93
2.	Develop project goals. (JMM-94-01.2)	10/93	9/30/93
3.	Approve conceptual design. (JMM-94-01.3)	10/93	10/11/93
4.	Conduct plant visits. (JMM-94-01.4)	10/93	10/29/93
5.	Conduct manager/supervisor workshops. (JMM-94-01.5)	12/93	12/1/93

JMM-94-01

Program Enhancement

Major Milestones: (JMM-94-01 Continued)

	Accomplishment	Plan Date	Actual Date
6.	SORC review of draft procedures. (JMM-94-01.6)	12/93	12/23/93
6a.	Implementation of interim changes. (JMM-94-01.6a)	1/94	1/27/94
7.	Preliminary approval of CAP implementation procedures. (JMM-94-01.7)	2/94	2/28/94
8.	Provide CAP training. (JMM-94-01.8)	3/94	3/31/94
9.	Preliminary approval of Root Cause Guideline. (JMM-94-01.9)	3/94	3/31/94
10.	Provide root cause training. (JMM-94-01.10)	3/94	3/31/94
11.	Implement program and supporting procedure changes. (JMM-94-01.11)	3/94	3/31/94
12.	Convert existing trending records to new database. (JMM-94-01.12)	6/94	
13.	Assess program effectiveness. (JMM-94-01.13)	10/94	

Update Status: All CAP procedures have been completed and SORC approval received. The Root Cause Guideline has been completed, reviewed and approved for general use. Root Cause Training began on March 28, 1994 for the first group of trainees. During April and May Root Cause Training continued. Advanced Root Cause Training is now being provided to selected individuals and managers. FPI personnel are on site and providing mentoring in root cause evaluations. The trending database is under development and presently on schedule. Program implementation has been affected and full implementation achieved.

Program Enhancement

JMM-94-02 (Continued)

- Status Update:** Assessment of the existing CNS OER program has been completed. The review of past OER dispositions, as well as the evaluation by an independent consultant has shown a need to revise the current program. Efforts have begun to revise the program procedures in areas where weakness has been identified. The previous plan date for JMM-94-02.4 of 3/31/94 was in error. It was always anticipated that the OER Program would be reviewed after the assessments were complete.
- 5/10/94: A revision to CNS Procedure 0.10.1, Operating Experience Review, has been submitted. This revision accommodates the assessments which were previously performed. Additionally, the need to assess the improvement efforts after six months was recognized.
- 5/20/94: No Change in status.

Program Enhancement

Priority: RED

Item No: JMM-94-03

Title/Description: Enhance the Human Performance Evaluation Program **Date Updated:** 5/20/94

External Funding Requirements: \$50,000

Internal Resource Requirements: 4500 hours

Program Manager: John Meacham (IRG Manager)

Planned Start Date: 1/24/94

Planned Completion Date: 3/94

References (NRC/INPO/NUMARC/NAIT Etc.): CCA, SMM

Description: The existing Human Performance Evaluation Program is somewhat rudimentary and is used within the existing Corrective Action Program only when consequential human errors arise. Enhancements to this program, embodied in the aforementioned elements of this action item, will be described in a Nuclear Power Group Directive and will be applicable to all personnel in the NPG. The thresholds for human error and the actions necessary to correct their causes will be decided and implemented at the departmental level. The new Corrective Action Program will serve as the vehicle to implement this program. An Independent Review Group (IRG) will be formed to assess human performance through investigate assessments by Senior Management. The development activities associated with this program will be performed as item No. JMM-94-05. Develop the Independent Review Group.

Objective: Reduce human errors through a programmatic approach to human performance evaluation.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Establish the IRG Manager as the Program Manager. (JMM-94-03.1)	2/94	2/24/94
2.	Perform assessment of recent human errors by outside experts. (JMM-94-03.2)	2/94	3/18/94
3.	Provide input to CAP final procedures. (JMM-94-03.3)	3/94	3/18/94

Program Enhancement

JMM-94-03 (Continued)

Update Status: The INPO assessment report on human performance problems was received during the first week in March. Recommendations from this report were reviewed. CAP procedures were reviewed to insure that the issues identified by INPO has been addressed by the CAP program. The evaluation determined that the new CAP program encompassed the INPO concern. This completes the activities associated with this program.

JMM-94-03 (Cont.)

Program Enhancement

Priority: RED
Item No: JMM-94-02

Title/Description: Improve Operating Experience Review Program
Date Updated: 5/20/94

External Funding Requirements: \$35,000
Internal Resource Requirements: 700 hours

Program Manager: John Meacham (C.R. Moeller)
Planned Start Date: 1/24/94
Planned Completion Date: 12/94

References (NRC/INPO/NUMARC/NAIT Etc.): CCA

Description: The NPPD CNS OER Program has come under scrutiny by CNS Senior Management and the NRC because of several recent incidents. Consequently, an effort is underway to improve the effectiveness of the program.

Objective: Improve the CNS OER Program through:

1. Lessons learned from a critical review of past document dispositions.
2. Assessing the current program and correcting weaknesses.
3. Enhanced training of involved personnel.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Assess current OER program. (JMM-94-02.1)	2/94	2/25/94
2.	Assess 20% of OER dispositioned in the last two years. (JMM-94-02.2)	3/94	3/31/94
3.	Assess certain OER dispositioned within the last ten years. (JMM-94-02.3)	3/94	3/31/94
4.	Based on the results of assessments, revise the CNS OER Program. (JMM-94-02.4)	4/94	4/29/94
5.	Develop training module and train personnel on revised program. (JMM-94-02.5)	6/94	
6.	Assess program effectiveness. (JMM-94-02.6)	12/94	

JMM-94-02

Program Enhancement

Priority: RED
Item No: JMM-94-04

Title/Description: Review/Revise Operability Determination Process Date Updated: 5/20/94

External Funding Requirements: \$30,000
Internal Resource Requirements: 1000 hours

Program Manager: John Meacham/(R.L. Sanchez/E.A. Erickson)
Planned Start Date: 1/24/94 Planned Completion Date: 12/94

References (NRC/INPO/NUMARC/NAIT Etc.): SPPI

Description: Over the past two years, several lessons have been learned regarding the use of the operability determination/operability evaluation process. In view of the changes being made to the Corrective Action Program, management has determined that it would be timely to also enhance this process.

Objective: Revise the OD/OE procedures to allow for termination when no longer applicable, to assure inputs are properly reviewed and prepared in accordance with other CNS Procedures, to describe needed threshold, and to allow searching on past OEs/ODs. In addition, provide training to involved personnel.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Assess existing procedural weakness. (JMM-94-04.1)	3/94	3/31/94
2.	Based on assessment, revise procedure. (JMM-94-04.2)	5/94	
3.	Establish process "owners" for OD and OE process. (JMM-94-04.3)	5/94	

Program Enhancement

Major Milestones: JMM-94-04 (Continued)

	Accomplishment	Plan Date	Actual Date
4.	Develop training module and train appropriate personnel on revised procedure. (JMM-94-04.4)	6/94	
5.	Evaluate effectiveness of new process. (JMM-94-04.5)	12/94	

Update Status: The assessment of existing OD/OE procedures is completed and the procedure is currently undergoing revision. Due to the extensive nature of the changes involved (a format similar to the new Corrective Action Program is being put into place), approximately a one month delay has been experienced. The OD/OE procedure revisions are currently being reviewed. Process ownership is being evaluated.

Program Enhancement

Priority: RED
Item No: JMM-94-05

Title/Description: Develop the Independent Review Group Date Updated: 5/20/94

External Funding Requirements: \$30,000
Internal Resource Requirements: 200 hours

Program Manager: John Meacham

Planned Start Date: 1/24/94

Planned Completion Date: 12/94

References (NRC/INPO/NUMARC/NAIT Etc.): N/A

Description: The Independent Review Group (IRG) will perform selected reviews of NPG activities, without constraints or limitations of any kind and has unlimited access to existing trending information and other pertinent data. The outcome of these reviews will be reported to Senior NPG Management and will identify the cause, or causes, which keep the desired results from being obtained. Areas with severe shortcomings will undergo increased overview by the IRG until a positive trend is achieved.

Objective: To ensure that the Nuclear Power Group is achieving results which meet management expectations and, if not, to provide feedback to NPG Senior Management.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Internal review of related programs. (JMM-94-05.1)	2/94	2/10/94
2.	Evaluate how other utilities perform IRG functions. (JMM-94-05.2)	2/94	2/24/94
3.	Develop IRG Charter. (JMM-94-05.3)	2/94	2/28/94
4.	Develop IRG staffing plan and job descriptions. (JMM-94-05.4)	3/94	3/31/94
5.	Develop IRG procedures and guidance documents. (JMM-94-05.5)	6/94	

Program Enhancement

Major Milestones: (JMM-94-05 Continued)

	Accomplishment	Plan Date	Actual Date
6.	Develop assessment schedule for IRG. (JMM-94-05.6)	6/94	
7.	Provide overview report on IRG implementation. (JMM-94-05.7)	7/94	
8.	Assess program effectiveness. (JMM-94-05.8)	12/94	

Update Status: The IRG Charter has been developed in the form of an NPG Directive which is now undergoing review. Job Descriptions have been defined, the jobs posted, and staffing for the group is underway.

5/10/94: The developmental activities for the IRG have been delayed for approximately one month. Recent efforts have been directed towards filling the IRG Manager position. Additionally, the need was recognized to assess the effectiveness six months after program implementation.

5/20/94: An additional one month delay is being incurred. This is due to the process of identifying a qualified candidate to fill the IRG Manager position.

Program Enhancement

Priority: RED
Item No: JMM-94-06

Title/Description: Develop an NPG-Wide Priority System Date Update: 5/20/94

External Funding Requirements: \$15,000
Internal Resource Requirements: 1600 hours

Program Manager: John Meacham (E. Erickson)
Planned Start Date: 1/24/94 Planned Completion Date: 11/94

References (NRC/INPO/NUMARC/NAIT Etc.): CCA, OSTI (Observation 93-202-05)

Description: At the present time, the various organizational entities in the Nuclear Power Group are using different methods to prioritize their work. Simple priority schemes are needed to ensure that everyone understands what the highest priority work is.

Objective:

1. To ensure critical work is completed first.
2. To ensure backlog work is being processed in an efficient manner.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Conduct survey to determine how other plants prioritize work. (JMM-94-06.1)	2/94	2/24/94
2.	Evaluate work areas needing prioritization. (JMM-94-06.2)	2/94	2/24/94
3.	Develop formal conceptual description for priority program. (JMM-94-06.3)	2/94	2/24/94
4.	Revalidate existing priority schedules for EWR, MWR, TWR, PCN. (JMM-94-06.4)	4/94	4/29/94
5.	Implement any upgrades stemming from revalidation effort. (JMM-94-06.5)	5/94	
6.	Assess program effectiveness. (JMM-94-06.6)	11/94	

Program Enhancement

JMM-94-06 (Continued)

Update Status: The industry survey of other utility prioritization programs has been completed. Work areas at CNS which require prioritization are being evaluated.

5/10/94: Review of existing priority schemes (for EWR, MWR, TWR, and PCN) has been conducted to ensure their adequacy and correctness of application. It was found that while the existing prioritization schemes are valid, they are not consistent, program-to-program. Therefore, the remaining action is to develop a generalized set of priority criteria which accommodates the existing ones. This effort will be completed in May, as scheduled. The need to assess the effectiveness of this process after six months was also recognized.

5/20/94: A generalized set of priority criteria are under development. These will be set forth in a policy directive and implemented through procedure revision to existing priority schemes.

Program Enhancement

Priority: RED
Item No: JMM-94-07

Title/Description: Implement the Industry Advisory Group Date Updated: 5/20/94

External Funding Requirements: \$50,000
Internal Resource Requirements: 150 hours

Program Manager: John Meacham
Planned Start Date: 1/24/94 Planned Completion Date: 11/94

References (NRC/INPO/NUMARC/NAIT ETC.): N/A

Description: One of the causes of the recent declining performance of the Nuclear Power Group has been a failure to keep abreast of emerging issues and take action accordingly. An Industry Advisory Group (IAG) will be comprised of several nuclear industry executive level personnel and be chaired by the Senior Nuclear Division Manager of Safety Assessment. The Group will meet periodically to discuss emerging issues, compare CNS performance to industry standards, and provide feedback to Senior Management.

Objective: Ensure that the Nuclear Power Group remains abreast of emerging industry issues and proactively responds to those affecting Cooper Nuclear Station.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Develop IAG Charter. (JMM-94-07.1)	2/94	2/28/94
2.	Develop "Rules of Practice". (JMM-94-07.2)	3/94	3/31/94
3.	Obtain industry experts for IAG. (JMM-94-07.3)	4/94	5/6/94
4.	Develop meeting schedule and hold first meeting. (JMM-94-07.4)	5/94	
5.	Assess IAG effectiveness. (JMM-94-07.5)	11/94	

JMM-94-07

Program Enhancement

JMM-94-07 (Continued)

Update Status: The IAG "Rules of Practice" have been developed and are undergoing review. Resumes have been obtained for potential candidates to serve on the IAG. Activity remains on schedule.

5/10/94: The industry experts for the IAG have been obtained. The first meeting of the IAG has been tentatively scheduled for the week of May 30, 1994. Additionally, the need to assess the effectiveness of the IAG after six months was recognized.

5/20/94: No other changes.

SECTION V
SITE SUPPORT

SECTION V

SITE SUPPORT

The primary purpose of the Site Support Division enhancements is to resolve the training issues identified by previous audits and assessments and to support the training requirements of several other Program Enhancements. The training deficiencies were centered around the certification process, the adequacy of training, and the apparent inability to maintain the training compliance and qualification requirements for NPG employees.

The Site Support enhancement items address seven areas for improvement. These areas were developed as a result of several inputs and are scheduled and prioritized to provide the required management and staff focus to ensure reasonable and timely progress is achieved and the end product fully addresses the issue.

It is recognized that to improve station performance, increased management attention is needed to increase emphasis on leadership, teamwork, communications and accountability among management, supervision and the workforce. This portion of the Integrated Enhancement Program will support the actions required for these needed improvements.

To address these issues, the following Integrated Enhancement Program tasks have been developed and are being implemented. The tasks included in this section are Program Enhancements which provide a description of the task, the responsible manager, and the expected completion date.

Program Enhancement

Priority: RED
Item No: EMM-94-01

Title/Description: NPG Manager and Supervisor Management Skills Training **Date Updated:** 5/20/94

External Funding Requirements: \$225,000/YR (Estimate)
Internal Resource Requirements: Approximately 75 people, 4 24-hour workshops/year, 2-3 years. Senior management participation. Nuclear Training Manager - 200 hours/year, Corporate Training Manager/Supervisor - 50 hours/year.

Program Manager: E.M. Mace (J.W. Dutton)
Planned Start Date: 11/22/93 **Planned Completion Date:** 2/95

References (NRC/INPO/NUMARC/NAIT Etc.): OSTI, SPPI 270 (Enercon Report), SMM, CCA

Description: Develop long term Management Training Program for NPG Supervisors and Managers including:

- Assess each NPG Supervisor and Manager to determine what level of training or support they may require
- Develop Training schedule for NPG Supervisors and Managers
- Develop Management/Supervisor Training Program
- Train Management/Supervision in Basic Management Skills
- Establish Positive Feedback and Improvement areas to Managers and Supervisors

Objective: To provide a strong, focused management development within the NPG.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Establish overview, basic approach and treatment. (EMM-94-01.1)	11/93	11/22/93
2.	Establish Advisory Committee. (EMM-94-01.2)	12/93	12/22/93

Program Enhancement

Major Milestones: (EMM-94-01 Continued)

	Accomplishment	Plan Date	Actual Date
3.	Initial design of Workshop #1 (W1). (EMM-94-01.3)	12/93	12/22/93
4.	Administer Diagnostic Instruments. (EMM-94-01.4)	2/94	2/4/94
5.	Finalize design of W1, Initial design of W2. (EMM-94-01.5)	2/94	02/12/94
6.	Finalize design of W2, Initial design of W3. (EMM-94-01.6)	4/94	4/29/94
7.	Delivery of W1 completed to all Management teams. (EMM-94-01.7)	5/94	5/13/94
8.	Finalize design of W3, Initial design of W4. (EMM-94-01.8)	5/94	
9.	Delivery of W2 completed to all Management teams. (EMM-94-01.9)	6/94	
10.	Survey to determine effectiveness of W1. (EMM-94-01.10)	7/94	
11.	Finalize design of W4, Initial design of W5. (EMM-94-01.11)	7/94	
12.	Survey to determine effectiveness of W2. (EMM-94-01.12)	8/94	
13.	Delivery of W3 completed to all Management teams. (EMM-94-01.13)	9/94	
14.	Finalize design of W5, Initial design of W6. (EMM-94-01.14)	10/94	
15.	Survey to determine effectiveness of W3. (EMM-94-01.15)	11/94	
16.	Delivery of W4 completed to all Management teams. (EMM-94-01.16)	12/94	
17.	Survey of CNS to determine effectiveness of W4. (EMM-94-01.17)	2/95	

EMM-94-01 (Cont.)

Program Enhancement

Update Status: (EMM-94-01 Continued)

On schedule

Plan is established for one year of a 2-3 year program. Plan will be updated for second year in the third quarter.

Diagnostic instruments delivered, and evaluation in-progress. Final design of Workshop #1 will be set on Saturday, February 12, 1994 and schedule for Workshops 1-4 will be determined.

Workshop #1 is scheduled, design finalized and in development. Agreement with Lied Conference in progress. GSA with BCAL and JP & Associates completed. Teams identified.

Team #1 has completed workshop #1, with good acceptance. Delivery of workshop #1 to teams 2-6 is in-progress.

5/10/94 Teams #1-5 have completed Workshop #1. The "Dialogue" Technique is being used in the plant, with good success. Workshop #2 has been designed.

5/20/94 Workshop one has been completed for all teams. Workshop two started 5/18/94.

Program Enhancement

Priority: RED
Item No: EMM-94-02

Title/Description: Develop User-Friendly Tracking System for Training and Certification
Date Updated: 5/20/94

External Funding Requirements: \$350,000 (Estimate)
Internal Resource Requirements: Information Systems assistance, clerical support for testing, Management/Supervision time for design

Program Manager: E. M. Mace (J. W. Dutton)
Planned Start Date: 1/24/94
Planned Completion Date: 1/95

References (NRC/INPO/NUMARC/NAIT Etc.): OSTI

Description: Develop user-friendly computerized database for tracking when various certifications or requalifications are required and who the affected personnel are. Ensure NPG managers/supervisors are involved in the development of this program - OSTI.

Objective: To develop a user-friendly system to identify certification status of employees prior to work assignment.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Establish interim Program to ensure maintenance of certification. (EMM-94-02.1)	1/94	1/94
2.	Scoping session with ISD, Training, Steve Woerth, and CS. (EMM-94-02.2)	1/94	1/11/94
3.	Conduct Business Area Analysis at CNS and GO. (EMM-94-02.3)	2/94	2/9/94
4.	Define and refine requirements. (EMM-94-02.4)	3/94	3/9/94
5.	Determine alternatives, select best approach, develop Functional Specification. (EMM-94-02.5)	3/94	3/15/94

Program Enhancement

Major Milestones: (EMM-94-02 Continued)

Accomplishment	Plan Date	Actual Date
6. Request for Bids. (EMM-94-02.6)	4/94	4/18/94
7. Award contract. (EMM-94-02.7)	6/94	4/18/94
8. Install/Test system. (EMM-94-02.8)	9/94	
9. Acceptance Testing Complete. (EMM-94-02.9)	10/94	
10. The tangible deliverable will be the final testing of the new TTS software and hardware platform. Three months following final testing an effectiveness review will be conducted consisting of a questionnaire completed by a random sample of users; followed by targeted interviews and appropriate software changes. (EMM-94-02.10)	1/95	

Update Status:

1/11/94	Meeting was held at CNS with Information System and Training Department to develop scope of project.
2/8&9/94	Meetings were held at CNS with Information Systems to identify the problems with the current TTS system and gain input for the new system requirements.
2/8/94	Nuclear Network is being used to explore what other plants are using for software.
3/3/94	Meeting scheduled for 3/9/94 at the G.O. with Information Systems to define and refine requirements.
3/9/94	Meeting was held on 3/9/94 with IS to define and refine requirements.
3/28/94	ISSC (NPPD VP committee) approved expenditure for upgrade (\$350,000 Work Order). Will be submitted for Board approval 4/7/94.
5/10/94	Task Authorization No. 94A-MS29 with Mincom USA, Inc. was issued April 18, 1994. This authorization directs Mincom to provide NPPD with a functional design of the new CTS system. In accordance with said authorization, Mincom was on-site the week of 4/18/94.

EMM-94-02 (Cont.)

Program Enhancement

Priority: RED
Item No: EMM-94-03

Title/Description: Develop a Comprehensive System Engineering Training Program for CNS System Engineers
Date Updated: 5/20/94

External Funding Requirements:
Internal Resource Requirements: 860 hours

Program Manager: E. M. Mace (J. W. Dutton)
Planned Start Date: 1/24/94
Planned Completion Date: 2/95

References (NRC/INPO/NUMARC/NAIT Etc.): OSTI

Description: Develop a comprehensive System Engineering Training Program for CNS System Engineers - OSTI.

Objective: To provide well qualified system engineers to support safe station operation.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Establish Task Group. (EMM-94-03.1)	1/94	1/7/94
2.	Establish Objectives. (EMM-94-03.2)	5/94	
3.	Develop Training Material. (EMM-94-03.3)	6/94	
4.	Develop Evaluation Method. (EMM-94-03.4)	7/94	
5.	Conduct Training. (EMM-94-03.5)	8/94	
6.	Conduct effectiveness review. (EMM-94-03.6)	2/95	

EMM-94-03

Program Enhancement

EMM-94-03 (Continued)

- Update Status: (1) Upgrade Meeting held January 27, 1994
- S. Winn to provide first cut on "Systems" objectives to R. Sanchez and T. Black, this includes objectives from "Tech Spec" material.
 - B. Toline to provide updated Engineering Task List.
 - M. Bohling to provide overview of current TPDs.
 - M. Bohling gave trip report of Monticello Trip.
- (2) February 3, 1994
- EMR met with Sanchez and Black to review efforts on making "Qual Card" for engineering. They will provide feedback at February 17, 1994, Task Group meeting from Engineering Supervisors.
- (3) March 3, 1994 Meeting:
- A) S. Winn has completed review of all COR002 Systems objectives. Forward to Sanchez and Black.
 - B) R. Sanchez presented a cross matrix of integrated systems for engineers. Will select five systems for review and "buy in" by engineer supervision.
 - C) M. Bohling developed a flow chart of current TPDs. This should aid in an overall understanding of the training program.
 - D) "Expert Level" Qual Card developed by B. Toline. Presently under review for comments by T.B., R.S., J.B., W.M.
 - E) Review of the "under development" Manager/Supervisor Systems training course may be suited for 2 week course by new engineers.
 - F) Next task group meeting March 17, 1994.

EMM-94-03 (Cont.)

Program Enhancement

EMM-94-03 (Continued)

- Update Status: 3/31/93
- 1) Due to unplanned outage, task group meetings scheduled for 3-17 and 3-23 were cancelled at Engineering's request.
 - 2) A TWR was written by EMR for Program Development to produce a Task to Training matrix. This will justify the current approved Engineering Task list and identify areas needing training development.
 - 3) B. Toline will produce a "Generic" workbook for Engineering review; to be included with "System Specific" qual cards.
 - 4) Task group meeting for 4-7-94 will pick up where 3-17-94 agenda left off. This resulted in a one month schedule slippage.
- 5/10/94
- 1) Terminal objectives have been written.
 - 2) Enabling objectives have been selected.
 - 3) Task to Training Matrix has been produced. Items not identified to be completed by May 13.
 - 4) An effectiveness review will be scheduled and conducted by CNS Engineering with training support as required.

Program Enhancement

Priority: RED
Item No: EMM-94-04

Title/Description: Root Cause Training

Date Updated: 5/20/94

External Funding Requirements: \$19,250
Internal Resource Requirements: 255 hours

Program Manager: E. M. Mace (J. W. Dutton)

Planned Start Date: 1/24/94

Planned Completion Date: 12/94

References (NRC/INPO/NUMARC/NAIT Etc.): 190 SPPI, 200 SPPI

Description: Provide Root Cause Training for the NPG. Root Cause evaluation training needs to be made a part of Engineering and Tech Staff training, and reinforced by continuing training.

Objective: To develop an engineering staff that is well qualified in Root Cause Analysis.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Revise GOT Training. (EMM-94-04.1)	3/94	3/31/94
2.	Develop K-T ATS Training Schedule. (EMM-94-04.2)	3/94	3/29/94
3.	Final Root Cause - 101 approach. (EMM-94-04.3)	6/94	
4.	Complete classes. (EMM-94-04.4)	11/94	
5.	Revise TPDs 0509 - Station Engineer, 0526 - Station Nuclear Engineer, 0527 - ISI Engineer, and 0516 - Design Engineer to include K-T (ATS) Root Cause as Position Required. (EMM-94-04.5)	12/94	

Program Enhancement

EMM-94-04 (Continued)

Update Status: Discussion with Engineering Manager on 2/8/94 indicates that the Kepner Tregoe (ATS) Root Cause classes should be placed as Position specific on Engineering TPDs versus TPD 0502, Tech Staff. This would focus the sessions more towards personnel who perform Root Cause Analysis.

The K-T classes will be offered five (5) times over the next year to accommodate personnel. Once the classes are completed, the TPDs will be revised to reflect the requirement. Providing the classes, then adding the lesson to the TPD as per NTP: 02, Training Program Descriptions.

The three ATS Instructors completed upgrade by Kepner Tregoe on March 23 and 24, 1994. The first three ATS classes have been scheduled for April 11, 12, 13, May 17, 18, 19, and June 27, 28, 29, 1994.

The CAP material has been developed as a "Stand Alone" lesson in GOT. All personnel who have completed the "Level One" CAP training will be "Alternately Completed" to the GOT lesson. The "Stand Alone" lesson has been incorporated on a TPD.

5/10/94 A meeting was held to discuss providing K-T to station personnel. A second meeting was completed the week of 5/2/94.

5/20/94 Root Cause 101 class is being presented to station personnel 5/18&19/94. Based on feedback further Root Cause Training will be determined.

Program Enhancement

Priority: RED
Item No: EMM-94-05

Title/Description: CAP Training

Date Updated: 5/20/94

External Funding Requirements: \$0

Internal Resource Requirements: 100 Professional hours, 20 Clerical hours

Program Manager: E. M. Mace (J. W. Dutton)

Planned Start Date: 1/24/94

Planned Completion Date: 4/94

References (NRC/INPO/NUMARC/NAIT Etc.): 180 SPPI

Description: Develop and present training on the new CAP, upon finalization of CAP procedures.

Objective: To provide training to plant personnel on the new CAP program.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Develop Lesson on CAP. (EMM-94-05.1)	3/94	3/23/94
2.	Present Lesson on CAP. (EMM-94-05.2)	3/94	3/31/94
3.	Generate report to Training Manager outlining the results of the initial training. (EMM-94-05.3)	4/94	5/2/94

Update Status: Level I training has been developed and submitted to C. Moeller for review/approval. Awaiting information on objectives from C. Moeller to begin development of Level II training.

Received objectives for Level II Training. Development of Level II lesson in progress, completion is dependent upon approval of Corrective Action Program.

EMM-94-05

Program Enhancement

EMM-94-05 (Continued)

Update Status: Lesson Plans for Level I and II submitted for review/approval. During the week of 3/28/94, 20 classes for Level I and 10 for Level II training have been scheduled on site. In addition, seven classes for Level I and Level II have been scheduled in Columbus. It is the intent to train majority of NPG personnel by 3/31/94.

5/10/94 Conducted numerous sessions of CAP Level I and II on-site and at the General Office, 637 individuals completed Level I Training, and the total completing Level II was 335. Initial implementation is considered to be complete and CAP Training has been turned over to the Technical Training Group. A report of these results has been submitted to the Nuclear Training Manager. An effectiveness review will be scheduled and conducted by the Safety Assessment division with training support as required. This item is complete.

EMM-94-05 (Cont.)

Program Enhancement

Priority: RED
Item No: EMM-94-06

Title/Description: Implement Recommendations of
Fire Protection Assessment

Date Updated: 5/20/94

External Funding Requirements: \$500,000
Internal Resource Requirements: 600 hours

Program Manager: E. M. Mace (H. T. Hitch)

Planned Start Date: 1/24/94

Planned Completion Date: 12/94

References (NRC/INPO/ETC.): CCA, OSTI

Description: The Purpose of the F/P Assessment is to determine the overall adequacy of the NPG Fire Protection Program.

Objective: To evaluate the adequacy of the existing F/P Program and make the necessary enhancements to improve the overall Fire Protection Program.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Complete the F/P Assessment. (EMM-94-06.1)	2/94	2/10/94
2.	Deliver the results of the F/P Assessment to NRC Region IV. (EMM-94-06.2)	2/94	3/2/94
3.	Complete the implementation of the appropriate recommendations of the F/P Assessment. (EMM-94-06.3)	12/94	

Update Status: The Fire Protection Assessment inspection was completed on January 14, 1994. As of February 8, 1994, the second draft of the report comments are being incorporated. Within the next 2 weeks the final Fire Assessment report will be issued, with an advanced copy being sent to the Senior Resident Inspector. A drop in visit of to Region IV is planned during February to present the Fire Assessment report to the NRC.

Item #2 NRC rescheduled meeting from February 28, 1994 to March 2, 1994.

EMM-94-06

Program Enhancement

EMM-94-06 (Continued)

Update Status: The Fire Protection Assessment results have been entered into Action Tracking with Senior Management responsibility assigned. The contract project engineer assigned to the Senior Manager Site Support was badged the week of 3/21/94. Expect to have a draft responsibility matrix & project schedule by 3/31/94. Meeting scheduled with responsible site managers the week of 4/4/94.

5/10/94 With the exception of the one item, all priority items are being addressed and are progressing. The development of the DCD has been slow due to the workload of NED personnel restricting initial data collection activities. However, actions are being taken to supply the contractor with the required information to start the DCD development and this item should be back on track shortly.

This item will not have an effectiveness review, as this item is an effectiveness review in and of itself. Additionally, techniques that will identify an adverse trend regarding ineffective implementation of this IEP item.

EMM-94-06 (Cont.)

Program Enhancement

Priority: RED
Item No: EMM-94-07

Title/Description: Conduct a Compliance Review of CNS Training Program
Date Updated: 5/20/94

External Funding Requirements: \$100,000
Internal Resource Requirements: 1000 hours of project management and analysis

Program Manager: E. M. Mace (Dutton)
Planned Start Date: 1/24/94
Planned Completion Date: 2/95

References (NRC/INPO/NUMARC/NAIT Etc.): OSTI

Description: This plan serves as the basis for implementation of a concerted self-inspection program which will precisely focus upon all of the regulatory requirements which impact training. This self-inspection will identify all internal and external training requirements and insure that they are being met, thus taking a strong proactive approach toward ensuring that key training programs are in full compliance. Any identified deficiencies will be factored into training and there will be assurance that the training is meeting/exceeding requirements in a cost-effective manner.

This Program Plan is intended to cover/describe the planning and resources required to: obtain and research documentation, develop requisite checklists, and determine how the requirements are being satisfied. It also covers the development of action plans to correct any deficiencies.

Objective: To ensure that all internal and external training requirements are being met. This will assist in assuring the training programs truly support the safe and efficient operation of the plant. It will minimize regulatory agency findings and resultant corrective actions. Finally, it will provide a mechanism for determining commitments/requirements to ensure they are not erroneously deleted or changed by later revisions to training.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Submit requests for quotations for man-power. (EMM-94-07.1)	1/94	1/27/94
2.	Select vendor and let contract for man-power. (EMM-94-07.2)	3/94	3/3/94

EMM-94-07

Program Enhancement

Major Milestones: (EMM-94-07 Continued)

	Accomplishment	Plan Date	Actual Date
3.	Gather references for checklist construction for NRC requirements and licensing commitments. (EMM-94-07.3)	3/94	3/30/94
4.	Research references, validate commitments and build checklists for NRC requirements and licensing commitments. (EMM-94-07.4)	4/94	4/29/94
5.	Inspect training programs to determine how/if commitments and requirements are being met. (EMM-94-07.5)	6/94	
6.	Resolve discrepancies with management, develop actions necessary for resolution, submit final product. (EMM-94-07.6)	6/94	
7.	Gather references for checklist construction for INPO requirements. (EMM-94-07.7)	7/94	
8.	Build checklists for INPO requirements and past three years operating experience commitments. (EMM-94-07.8)	8/84	
9.	Inspect training programs to determine how/if requirements are being met. (EMM-94-07.9)	10/94	
10.	Resolve discrepancies with management, develop actions necessary for resolution, submit final product. (EMM-94-07.10)	10/94	
11.	Complete modification of programs and lessons as identified in action plan. (EMM-94-07.11)	12/94	
12.	This IEP will not have an effectiveness review as such, since the end product is a design basis document for the Training Program. However, 3 months following completion, a random spot check of the finished product will be conducted to ensure requirements were captured. (EMM-94-07.12)	2/95	

Program Enhancement

Update Status: (EMM-94-07 Continued)

- 2/2/94 - Request for quotations sent to prospective vendors with replies requested by 2/7/94. Point paper will need to be completed immediately to allow review by the various boards/committees prior to Board of Directors meeting on 3/4/94.
- 2/8/94 - Quotations have been received from approximately 8 vendors. Currently developing a spreadsheet to compare costs and qualifications. A point paper should be developed and forwarded for review by the various committees and boards so it can be ready for the next (March) Board of Directors meeting.
- 3/3/94 - A point paper was developed and has gone through both the ERB and ERC. It was to be presented to the Board today or tomorrow. (3/3 or 3/4)
- 3/23/94 - Board approval was obtained on 3/3/94. Both contractors are on-site and have completed required training. The gathering of references and checklist construction has been completed. A trail run of requirements for 10CFR20 will be made to ensure that the process developed for this review is satisfactory. This is being done to ensure the process is satisfactory before proceeding too far into the project.
- 5/10/94 The project schedule with the process of compiling requirements is essentially complete. The next phase of the process, the inspection of training programs to ensure requirements are being met, is beginning. During the phase of the project just completed, over 36 regulatory documents, 20 years of correspondence, LER's, and inspection reports were reviewed to identify the nearly 2000 training requirements located to date. As the project continues, it is expected that a few additional requirements will be identified.

SECTION VI
NUCLEAR SUPPORT

SECTION VI

NUCLEAR SUPPORT

Nuclear Support is conducting an evaluation of the Licensing Department to improve the Regulatory Support for CNS. Nuclear Support will also develop directives which will provide policy guidance and management expectations to the organization. It is expected that enhanced organization communications, more effective management oversight, and improved performance will result.

To address these issues, the following Integrated Enhancement Program tasks have been developed and are being implemented. The tasks included in this section are Program Enhancements which provide a description of the task, the responsible manager, and the expected completion date.

Program Enhancement

Priority: RED
Item No: DAW-94-01

Title/Description: Evaluate Licensing Department
Organization

Date Updated: 5/20/94

External Funding Requirements: O&M Budget

Internal Resource Requirements: 1 Licensing Manager 40 hours;
Division Manager of Nuclear Support 20 hours

Program Manager: G. R. Smith

Planned Start Date: 12/2/94

Planned Completion Date: 1/95

References (NRC/INPO/NUMARC/NAIT Etc.): SMM

Description: This effort involves a study to compare the NPG Licensing function with the Licensing functions of several other utilities operating single unit nuclear plants. The staffing, functions performed, work location, personnel qualifications, and other factors will be compared. This study is intended to support management decision-making relative to the Licensing Department.

Objective: This effort is being undertaken in order to provide information to support decisions regarding the Licensing Department in order to improve the Licensing support for CNS.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Interview OPPD (DAW-94-01.1)	12/93	12/10/93
2.	Interview Wolf Creek (DAW-94-01.2)	1/94	1/6/94
3.	Interview Crystal River (DAW-94-01.3)	1/94	1/7/94
4.	Interview Northern States (DAW-94-01.4)	1/94	2/4/94
5.	Interview Duane Arnold (DAW-94-01.5)	1/94	2/4/94
6.	Issue report containing findings to Vice President - Nuclear. (DAW-94-01.6)	2/94	2/9/94
7.	Prepare Licensing Department Reorganization Plan for Vice President - Nuclear approval. (DAW-94-01.7)	3/94	3/4/94

DAW-94-01

Program Enhancement

Major Milestones: DAW-94-01 (Continued)

	Accomplishment	Plan Date	Actual Date
8.	Implement Licensing Department Reorganization Plan. (DAW-94-01.8)	6/94	
9.	Assess Reorganization Effectiveness. (DAW-94-01.9)	1/95	

Update Status: All interviews were completed on 2/4/94. A report containing the results has been completed and provided to the Vice President - Nuclear. Milestone DAW-94-01.7 has been added to this item to develop a plan for reorganizing Licensing. The Licensing Department Reorganization Plan was completed and submitted to the Vice President - Nuclear on 3/4/94. The contents of the plan have been approved by the Vice President - Nuclear and are being implemented. Major milestones DAW-94-01.8 and DAW-94-01.9 have been added to reflect the implementation of the reorganization plan and to assess the effectiveness of the reorganization after six months.

Program Enhancement

Priority: RED
Item No: DAW-94-02

Title/Description: Issue NPG Directives in Support of the Strategic Plan for Performance Improvement
Date Updated: 5/20/94

External Funding Requirements: O&M Budget
Internal Resource Requirements: 96 hours (exclusive of management review and approval time)

Program Manager: A. L. Dostal
Planned Start Date: 10/22/93
Planned Completion Date: 5/94

References (NRC/INPO/NUMARC/NAIT Etc.): SPPI Activity 030, 40, 220

Description: Issue NPG Directive on Teamwork/Communications
Issue NPG Directive on Management/Staff Interface
Issue NPG Directive on Business Plan Preparation

Objective: The development and issuance of these directives are specified as actions contained in the SPPI. The intent of these documents is to provide policy guidance and management expectations to the organization. It is expected that enhanced organizational communications, more effective management oversight, and improved performance will result.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Issue NPG Directive on Teamwork/Communications for comment. (DAW-94-02.1)	12/93	12/23/93
2.	Issue NPG Directive on Management/Staff Interface for comment. (DAW-94-02.2)	1/94	1/28/94
3.	Develop NPG Directive on Business Plan Preparation with assistance from Senior Management consultant. (DAW-94-02.3)	5/94	

DAW-94-02

Program Enhancement

Major Milestones: (DAW-94-02 Continued)

	Accomplishment	Plan Date	Actual Date
4.	Approve NPG Directive on Teamwork/Communications. (DAW-94-02.4)	2/94	1/24/94
5.	Approve NPG Directive on Management/Staff Interface. (DAW-94-02.5)	3/94	4/12/94
6.	Approve NPG Directive on Business Plan Preparation. (DAW-94-02.6)	6/94	

Update Status: The NPG Directive on Teamwork/Communications was approved on 1/24/94. The directive on management/staff interface was approved on April 12, 1994. The title of the NPG Directive on Goals and Objectives has been changed to "Business Plan Preparation" to reflect the planning process being pursued. A draft directive on NPG Business Plan Preparations has been developed with the assistance of a senior management consultant. Approval of the directive is expected in June, 1994.

SECTION VII
CORPORATE ENGINEERING

SECTION VII

CORPORATE ENGINEERING

The primary focus of the Corporate Engineering effort is on the concern regarding engineering programs assigned to the corporate engineering staff. In addition, assessments will be made of the engineering modification and configuration control process. The tasks developed for this section will better define the plant change process and upgrade the Configuration Management Program at CNS.

To address these issues, the following Integrated Enhancement Program tasks have been developed and are being implemented. The tasks included in this section are Program Enhancements which provide a description of the task, the responsible manager, and the expected completion date.

Program Enhancement

Priority: RED
Item No: REW-94-01

Title/Description: Engineering Program Responsibility Assignment Date Updated: 5/20/94

External Funding Requirements: Engineering Program Review - NED O&M Budget \$2,500

Design Criteria Document - W.O. 24700 \$375,000

Internal Resource Requirements: Design Basis Project - 10,000 man-hours
NED - 100 hours

Program Manager: Robert Wilbur (Steve McClure, Kim Walden)

Planned Start Date: 1/24/94 Planned Completion Date: 11/94

References (NRC/INPO/NUMARC/NAIT Etc.): Self-Identified

- 1) Letter CNSS937311 R. L. Gardner to R. E. Wilbur dated 11/2/93: Program Turnover
- 2) INPO assist visit December 6-10, 1993.
- 3) Letter CNSS940106 G. R. Horn to NPG Senior Managers dated 1/5/94: INPO Assist Visit - CNS Engineering
- 4) Letter R. E. Wilbur to G. R. Horn dated 1/18/94: INPO Assist Visit - CNS Engineering
- 5) Letter G. R. Horn to J. E. Gagliardo dated 1/21/94: Cooper Nuclear Station (CNS) Engineering Plan for Performance Improvement
- 6) Letter CNSS941089 G. R. Horn to R. E. Wilbur dated 3/1/94: Engineering Programs
- 7) Letter A. G. Boesch to G. S. McClure dated 4/7/94: Meter Banding Procedure Review
- 8) Letter M. J. Siedlik to R. E. Wilbur dated 4/25/94: CNS Procedure 3.6.4 - Core Drill Procedure
- 9) Letter K. C. Walden to Those Listed dated 5/16/94: Primary Containment (PC) System Design Criteria Document (DCD-9)

Program Enhancement

(REW-94-01 Continued)

Description: In order to provide more time for the System Engineer to address specific issues related to his assigned plant systems, a review of work assignments and a reassignment of engineering work was required. A portion of the engineering programs were to be transferred to the Corporate Engineering Group. The transferred procedures/programs will be reviewed and upgraded as appropriate to meet industry standards. The Design Basis Project will produce the Primary Containment Design Criteria Document to support the program review and upgrade of the Appendix J Program.

Objective: To shift some of the assigned program engineer workload to allow the system engineers to focus on their plant system responsibilities.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Review of site engineering functions. (REW-94-01.1)	5/94	1/18/94
2.	Reassignment of specific work functions to other groups. (REW-94-01.2) (S. McClure)	5/94	1/18/94
3.	Review and upgrade the five programs transferred from CNS to NED.		
	a. Core Drill Procedure	5/94	4/25/94
	b. Meter Green Band Procedure	5/94	4/7/94
	c. Temporary Shielding Procedure	9/94	
	d. Freeze Seal Procedure	11/94	
	e. Relief Valve Setpoint Program	6/94	
4.	Generate the Design Specification Document for Primary Containment to support the Appendix J Program. (REW-94-01.3) (K. Walden)	6/94	

Update Status: 1. The site engineering function has been reviewed and resulted in the generation of the Cooper Nuclear Station (CNS) Engineering Plan for Performance Improvement.

Performance Indicator: None required.

Program Enhancement

(REW-94-01 Continued)

Update Status (Cont.):

2. A preliminary plan to address 15 engineering programs at CNS was generated. It was agreed that Temporary Shielding, Core Drill, Meter Banding, Freeze Seals and Relief Valve Setpoint programs would transfer to NED. NED has accepted responsibility for these programs.

Discussions related to the Check Valve Program, Inservice Testing Program, Repairs and Replacement Program, Appendix J Program and the Inservice Inspection Program were waiting for J. Lynch to finalize his plans as to how the site proposes to handle these programs. Discussions with J. Lynch on 1/17/94 indicated that the five engineering programs in questions would stay at the site.

Performance Indicator: None required.

3. NED will review and upgrade, as appropriate, the programs and procedures controlling the five programs turned over to NED by the dates indicated.
 - a) Freeze Seal Procedure (M. Siedlik) - 5% Complete
 - b) Core Drill Procedure (M. Siedlik) - Completed 4/25/94
 - c) Temporary Shielding Procedure (M. Siedlik) - 40% Complete
 - d) Meter Banding Procedure (A. Boesch) - Completed 4/7/94
 - e) Relief Valve Setpoint Program (M. Hillstrom) - 60% Complete

The Meter Banding Procedure review and upgrade was completed April 7, 1994 (see Reference 7).

The Core Drill Procedure review was completed on April 25, 1994 (see Reference 8).

The Relief Valve Setpoint Program development slipped two weeks due to an over optimistic schedule. However, completion by June 15 will still support the need to be ready for the E&TS Inspection in June. This will include programs and procedures. Data bases for essential relief valves will be completed. Non-essential data bases will follow.

Performance Indicator: The Relief Valve Setpoint Program will be inspected by the NRC as part of the Engineering & Technical Support Inspection in June 1994. Due to the very limited use of the other four procedures except during an outage, these will be evaluated following the 1995 outage.

REW-94-01 (Cont.)

Program Enhancement

(REW-94-01 Continued)

Update Status (Cont.):

4. The Design Basis Group has scheduled the development of the Primary Containment Design Criteria Document to commence in January 1994. A consultant has been identified and is available on an as-needed basis. In addition, the consultant the site used to generate the original Appendix J Program has been made available for support of this work.

The draft Primary Containment Design Criteria Document was completed on schedule on May 15th. The final DCD is scheduled to be approved by June 30th. As part of the validation process, a walkdown of all Primary Containment penetrations that are accessible from the outside was planned to begin the week of May 16th. Special Procedure 94-202, "Primary Containment Walkdown," was approved on May 17, 1994. The Primary Containment walkdown started on May 18th. A walkdown of inside of the Primary Containment and those inaccessible exterior penetrations is presently scheduled for the fall maintenance outage. Upon completion of the exterior walkdown, scheduled for June 10th, and approval of the PC DCD, scheduled for June 30th, a complete validation of the Primary Containment System is planned. The validation will include an evaluation of the as-built configuration of each penetration against the design, testing, functional and operational requirements and commitments. This activity is planned to be complete by November 30th, to include the results of the walkdown of the inside of containment. Any discrepancies will be entered into the Corrective Action Program and resolved accordingly. The two week loss of time was due to extensive activities at the site.

Performance Indicator: The Primary Containment Design Criteria Document will be reviewed and upgraded annually in accordance with the Design Basis Project Procedure NECDP-03, "Design Criteria Document Production."

Program Enhancement

Priority: RED
Item No: REW-94-02

Title/Description: Nuclear Engineering and Construction Division Self-Assessment
Date Updated: 5/20/94

External Funding Requirements: NED O&M Budget, Configuration Management O&M Budget \$100,000

Internal Resource Requirements: OSC Self-Assessment - 500 hours
MOV Self-Assessment - 1000 man-hours
Design Change Closeout Self-Assessment - 1000 hours
NED Self-Assessment - 1000 hours

Program Manager: Robert Wilbur (Steve McClure, Ken Almquist)

Planned Start Date: 1/24/94
Planned Completion Date: 12/94

References (NRC/INPO/NUMARC/NAIT Etc.):

- NRC Inspection Report 93-01, Inspection of Engineering & Technical Support, Page 19.
- G. Horn from V. Wolstenholm memo dated April 26, 1994: Design Change Closeout Process, Evaluation QE9418.

Description: The Licensee was encouraged by the NRC to consider conducting a self-assessment of design engineering.

Objective: For the Nuclear Engineering and Construction Division to self-assess its activities and assure that the functions of NED are adequate, appropriate, and consistent with industry standards.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	OSC Self-Assessment (REW-94-02.1)	1/94	1/27/94
2.	NED Self-Assessment Activities (REW-94-02.2) (S. McClure)		
	a) MOV Program Project	4/94	4/6/94
	b) Design Change Closeout Process	4/94	4/26/94
	c) NED Self-Assessment	12/94	

Program Enhancement

(REW-94-02 Continued)

- Update Status: 1. The OSC Self-Assessment team has been established. A contractor to lead the self-assessment and provide technical training and guidance to the team arrived on site January 17, 1994. The assessment was conducted the week of January 17 & 24, 1994. The draft report was received the week of January 31 and was reviewed by the assessment team. Comments were incorporated and the report issued by February 11, 1994. There were no safety issues identified and a list of improvements was generated. NED has generated an action plan to address the findings. Action assignments were made on March 22, 1994.

Performance Indicator: An evaluation of the use of OSCs will be conducted following the 1995 outage since the major portion of OSCs are generated during and following an outage.

2. a) The MOV Program Project conducted a self-assessment of the project. The assessment started on March 10 and was complete on March 18. A draft report was issued for review April 1. The final report was distributed on April 6, 1994. (K. Almquist)

Performance Indicator: The major portion of the assessment items resulted in specific actions which were logged into the Project action item data base. The monitoring of the data base in addition to the CNS QA audit function and the planned NRC MOV Project inspections will assure progress is made/monitored.

- b) NED organized a self-assessment of the design change closeout process. A team was organized to collect required information. It was then decided to have QA use this task as their first assignment for their new Assessment Group. The NED data was turned over to QA which started the evaluation on March 22. The evaluation is now complete, and a report was transmitted to NED on April 26, 1994. (S. McClure)

Performance Indicator: Design Change closeout status is tracked on a monthly basis.

- c) A complete self-assessment of NED has been scheduled for the fourth quarter of 1994. (S. McClure)

Performance Indicator: To be determined.

Program Enhancement

Priority: RED
Item No: REW-94-03

Title/Description: Evaluate the Configuration Control and Design Change Process within the NPG

Date Updated: 5/20/94

External Funding Requirements: \$250,000
Internal Resource Requirements: 1100 hours

Program Manager: Robert Wilbur (Kim Walden, Steve McClure)

Planned Start Date: 1/24/94

Planned Completion Date: 9/94

References (NRC/INPO/NUMARC/NAIT Etc.): OSTI

- Letter R. E. Wilbur to Senior Managers dated February 3, 1994: Engineering Assessment
- G. Horn from V. Wolstenholm memo dated April 26, 1994: Design Change Closeout Process, Evaluation QE9418.

Description: Conduct a reengineering study of the configuration control and design change process within the NPG. This will include, the design change process, as well as the technical issues/programs associated with the Design Change Procedure and the Maintenance Work Request Procedure. Also evaluate the design change closeout process for timeliness of the processes.

Objective: To enhance the configuration control process and the design change methodology. The present system is not logically consistent and not all modifications are handled the same. NPG resources are not optimized during the design change generation and review processes. In addition, the DC close out process is not timely. Insulation materials configuration management needs to be upgraded.

Major Milestones:

	Accomplishment	Plan Date	Actual Date
1.	Conduct an assessment of the modification control process related to the methods used to make changes to CNS. (REW-94-03.1) (K. Walden)	4/94	2/25/94
2.	Evaluate the effectiveness of the configuration management control. (REW-94-03.2)	6/94	

REW-94-03

Program Enhancement

(REW-94-03 Continued)

Major Milestones (Cont.):

	Accomplishment	Plan Date	Actual Date
2.	Conduct an evaluation of the design change closure process. (REW-94-03.2) (S. McClure)	4/94	4/26/94
3.	Generate system insulation cross-reference document.	5/94	
4.	Based on the results of item 1 above, develop the necessary improvement program to generate the enhancements to ensure plant configuration is protected and the design change process is optimized. (REW-94-03.3) (K. Walden)	6/94	
5.	Based on the results of item 2 above, develop the necessary improvement program to ensure a more responsive design change closure process. (REW-94-03.4) (S. McClure)	6/94	
6.	Communicate procedural and management expectations to NPG personnel. (REW-94-03.5)	9/94	

Updated Status:

1. The reengineering process for the CNS configuration control of the design has progressed thru the preliminary study stage. Industry input has also been obtained from the following utility programs.
 - a) Florida Power & Light
 - b) Baltimore Gas & Electric
 - c) Kansas Gas & Electric
 - d) Toledo Edison
 - e) Iowa Electric
 - f) Failure Prevention Inc.

Program Enhancement

(REW-94-03 Continued)

Update Status (Cont.):

1. (Cont.)

In addition, the EPRI Engineering Change Optimization Study has been reviewed and the industry workshop was attended. This input is being combined with the information produced by the General Physics' study "Reengineering Assessment of the Cooper Nuclear Station Modification Control Program.

Discussions with utilities have indicated to us that additional time needs to be spent in the area of "is-mapping" and "should mapping" to further optimize resource utilization as previously recommended by our consultant. This needs to be done by District personnel with consultants as facilitators. However, success is highly dependent upon the quality and dedication of District resources.

2. On January 31, 1994, S. McClure was directed to generate a plan to evaluate the closure process for the Design Change Procedure by February 18, 1994.

NED organized a self-assessment of the design change closeout process. A team was organized to collect required information. It was then decided to have QA use this task as their first assignment for their new Assessment Group. The NED data was turned over to QA which started the evaluation on March 22. The evaluation is now complete, and a report was transmitted to NED on April 26, 1994.

Performance Indicator: The action plan generated in Milestone 5 will address this requirement.

3. Although not a direct result of the study of Item 1 above, work was directed to start on the generation of a reference document for insulation. The Configuration Management Department has generated a draft document that will provide a ready cross-reference of the system insulation requirements at CNS as well as reference any walkdown data that will be generated. This document will be referenced in the appropriate Design Change and maintenance procedures to provide craft and engineers a ready reference to insulation requirements. A completion date of May 30, 1994, has been set for the document.

Performance Indicator: This document will be reviewed and upgraded as necessary in accordance with the Design Basis Project Procedure NECDP-03, "Design Criteria Document Production."

Program Enhancement

(REW-94-03 Continued)

Update Status (Cont.):

4. Presently, a Modification Control Program Engineering Project Plan is being developed. The following preliminary project schedule has been developed.

	<u>Start</u>	<u>Complete</u>
1) Objectives/Team Assignments		5/23/94
2) "Is" Mapping		7/15/94
3) Develop Concept Map		9/2/94
4) Concept Map Approval		9/16/94
5) "Should" Mapping		10/14/94
6) Program Description Approval		10/28/94
7) Procedure Approval		1/6/95
8) Complete Training		1/20/95
9) Implement New Process		1/20/95

This schedule will be modified based upon the results of the Configuration Management Control Study in progress per 1a) above and the availability of the critical District personnel required to carry out this program.

5. The evaluation of the Design Change Closeout Process has been completed. NED has received the report from QA and is developing an action plan to address the issues identified.

SECTION VIII
QUALITY ASSURANCE

SECTION VIII

QUALITY ASSURANCE

Realizing CNS has not consistently identified or resolved recurring problems, the Quality Assurance Department (QA) is revising their self-assessment and auditing programs. QA is also enhancing the trending program to more effectively support their assessment activities and keep NPG management aware of possible negative trends.

To address these issues, the following Integrated Enhancement Program tasks have been developed and are being implemented. The tasks included in this section are Program Enhancements which provide a description of the task, the responsible manager, and the expected completion date.

Program Enhancement

Priority: RED
Item No: VLW-94-01

Title/Description: Revise the Self-Assessment Program **Date Updated:** 5/20/94

External Funding Requirements: Account #948-2007 \$2400.00 (FPI Consultant)
Internal Resource Requirements: 3 weeks

Program Manager: Verne Wolstenholm (D. R. Robinson)
Planned Start Date: 1/24/94 **Planned Completion Date:** 6/94

References (NRC/INPO/NUMARC/NAIT Etc.): SMM

Inter-District Memo (CNSS931273), G. R. Horn to V. L. Wolstenholm

Description: SRAB recommended that the NPG Self-Assessment Program be converted to an NPG Directive.

The Vice-President, Nuclear requested that the Self-Assessment Program also address NRC Administrative Letter 94-03 "Announcing an NRC Inspection Procedure on Licensee Self-Assessment Programs for NRC Area-of-Emphasis Inspections."

Objective: This task was established by the Vice President - Nuclear to address the concern that "self assessment activities were not always acceptable and will require additional management attention to assure that these activities provide management insight into the performance of the plant and the operating staff."

Major Milestones:

1. Survey recognized industry leaders for informational input to the revised program.
2. Obtain the services of a consultant to provide review, evaluation, and recommendations for the program revision.
3. Provide the draft revision of the program to NPG Senior Management for review and comment.
4. Approval of the revised program.
5. Convert the NPG Self-Assessment Program to an NPG Directive.
6. Address NRC Administrative Letter 94-03 within the new NPG Directive.

VLW-94-01

Program Enhancement

Major Milestones (VLW-94-01 Continued)

7. Submit the new NPG Directive to the Program Control Department for approval and issuance.
8. New NPG Directive approved and issued.

	Accomplishment	Plan Date	Actual Date
1.	Complete industry survey (VLW-94-01.1)	1/94	1/21/94
2.	Consultant services (VLW-94-01.2)	2/94	2/17/94
3.	Issue draft revision (VLW-94-01.3)	2/94	1/31/94
4.	Program approval (VLW-94-01.4)	3/94	2/26/94
5.	Completed conversion of the Self-Assessment Program to an NPG Directive and address NRC AL 94-03. (VLW-94-01.5)	4/94	4/30/94
6.	Submit the NPG Directive to the Program Control Department. (VLW-94-01.6)	4/94	4/30/94
7.	NPG Directive approval and issuance. (VLW-94-01.7)	6/94	

Update Status:

- Item 1): completed plant visits to Waterford (1/20-21/94) and Clinton (1/18-19/94). Also obtained information from Yankee Atomic.
- Item 2): Consultant services to review and comment on the revised Self Assessment Program has been acquired. Consultant review completed 2/17/94, comments were reviewed with consultant and applicable comments were incorporated.
- Item 3): A DRAFT revision of the Self Assessment Program was issued to the Vice President - Nuclear, NPG Senior Management, and the Consultant for review and comment.
- Item 4): Comments from Senior Management were reviewed, discussed, and incorporated where appropriate. Revision 2 of the NPG Self-Assessment Program was approved by the Vice-President - Nuclear on 2/26/94.

Program Enhancement

Update Status: VLW-94-01 (Continued)

5/10/94

NOTE:

1. This item includes the OSTI item which stated self-assessments, root cause analysis etc. should be properly documented.

Program Enhancement

Priority: RED
Item No: VLW-94-02

Title/Description: Enhance the CAP Audits/QA Trend Report **Date Updated:** 5/20/94

External Funding Requirements: N/A
Internal Resource Requirements: 2 years for development

Program Manager: Verne Wolstenholm/S. L. Bray (CAP)/P. K. Adelung (Trend)

Planned Start Date: 1/24/94 **Planned Completion Date:** 8/94

References (NRC/INPO/NUMARC/NAIT Etc.): 210 SPPI

Description: Revise the semi-annual audit of the Corrective Action Program to ensure that it provides management with a clear insight as to the effectiveness of the Program.

Upgrade the QA Trend Report program to provide a simplified format which provides a thorough analysis of trend information.

Objective: This task was established to address concerns raised in various internal and external evaluation and inspection reports regarding the effectiveness of the Corrective Action Effectiveness Audit and the effectiveness of the analysis provided by the Quarterly Trend Report.

Major Milestones:

1. Provide additional information and parameters needed to support the Trend Program for inclusion in the new CAP.
2. Survey/visit recognized industry leaders for input to the revised CAP Audit and obtain associated CAP Audits from those utilities.
3. Establish a "Functional/Program Area" and "System" Performance Panel display format within the Trend Report.
4. Develop and revise associated NQPs, QAIs, and QA Guidelines for the Trend Report after implementation of the new CAP.
5. Provide the DRAFT revision of the CAP Audit Plan and checklist to QA management for review.
6. Approve the revised CAP Audit Plan and checklist.

VLW-94-02

Program Enhancement

Major Milestones: (VLW-94-02 Continued)

7. Modify the QA Trend Report format by Issuance of the Second Quarter 1994 QA Trend.

	Accomplishment	Plan Date	Actual Date
1.	Provide additional information and parameters for new CAP. (Trend report) (VLW-94-02.1)	2/94	11/93
2.	Survey/visit other utilities CAP audits. (VLW-94-02.2)	3/94	3/31/94
3.	Establish panel display for Trend Report. (VLW-94-02.3)	4/94	4/30/94
4.	Develop/revise NQPs, QAIs & QA Guidelines for trend reporting with new CAP. (VLW-94-02.4)	6/94	
5.	Draft CAP QA Audit Plan and checklist. (VLW-94-02.5)	5/94	4/30/94
6.	Approve CAP QA Audit Plan and checklist. (VLW-94-02.6)	5/94	
7.	Incorporate format modifications in 2nd Quarter 1994 Trend Report. (VLW-94-02.7)	8/94	

Update Status:	Item #1:	Proposed trend parameters and data base for the new CAP was submitted to the Technical Staff Manager on 11/03/93.
	Item #2:	Selected and scheduled visits to three 3 utilities, Comanche Peak, Fort Calhoun, and Calloway in March, 1994. Completed 3/18/94.
5/10/94	Item #3:	Identified in NQP 2.4
	Item #4:	NQP 2.4 approved - QA Guideline 1.1 revision will be completed 6/94.

Program Enhancement

Priority: RED
Item No: VLW-94-03

Title/Description: Establishment of QA Assessment/Evaluation Program
Date Updated: 5/20/94

External Funding Requirements: N/A
Internal Resource Requirements: 1 year for development

Program Manager: Verne Wolstenholm (D. R. Robinson)

Planned Start Date: 1/24/94
Planned Completion Date: 1/95

References (NRC/INPO/NUMARC/NAIT Etc.): Self Imposed

Description: Establish a Quality Assessment Group which will enhance the Division's ability to provide effective proactive oversight of Nuclear Power Group activities and provide timely and effective feedback to senior NPG management on applicability of emerging industry issues and regulatory concerns, in addition to feedback on NPG activities.

Objective: This Task was established as a result of concerns raised in several NRC inspection reports issued in 1993 as well as the QA Division's recognition that some of the Division's resources were not being utilized effectively.

Major Milestones:

1. Reorganize the Quality Assurance Division to provide the resources necessary to establish the assessment group.
2. Relocate personnel assigned to the assessment group to CNS.
3. Develop a Nuclear Quality Procedure which defines the Assessment Group's functions and responsibilities.
4. Identify training needs for the Assessment Group and submit training work request.
5. Complete training for all members of the Assessment Group.
6. Identify and develop supporting instructions/guidelines needed to support the activities of the Assessment Group.
7. Arrange for an independent assessment of the Assessment Group's effectiveness.

Program Enhancement

(VLW-94-03 Continued)

	Accomplishment	Plan Date	Actual Date
1.	Reorganize QA Division. (VLW-94-03.1)	10/93	10/16/93
2.	Relocate QA Assessment Group to CNS. (VLW-94-03.2)	2/94	12/31/93
3.	Develop Nuclear Quality Procedure. (VLW-94-03.3)	2/94	11/30/93
4.	Identify training needs & submit TWRs. (VLW-94-03.4)	2/94	10/93
5.	Complete Assessment Group training. (VLW-94-03.5)	9/94	
6.	Identify & develop instructions/guidelines. (VLW-94-03.6)	6/94	<u>4/30/94</u>
7.	Arrange for independent assessment. (VLW-94-03.7)	1/95	

Update Status:

Item 1): A proposed QA Division reorganization plan was submitted to the Vice President - Nuclear and approved.

Item 2): The Quality Assurance Assessment Group completed relocation from the G.O. to CNS.

Item 3): Nuclear Quality Procedure 2.3, "Quality Assessments/Evaluations", has been approved and issued.

Item 4): Training Work Requests have been initiated for the following training: Technical Staff; Root Cause Analysis (from INPO); Human Performance Evaluation (from INPO); and Problem Solving and Decision Making (TWRs 93-1000, 93-1001, and 93-1002).

Item 5): The Assessment Group training is not complete, however they have sufficient training to be functional. Root Cause Analysis Training completed 4/94. KT Training scheduled for 6/94. Advanced Audit Technique Training is scheduled for June 1-2, 1994.

VLW-94-03 (Cont.)

Program Enhancement

VLW-94-03 (Continued)

- Item 6): One guideline is currently under development to describe generally how assessments and evaluations are to be conducted (Completed 2/94). Another is being initiated to describe how externally generated documents will be screened for their applicability to Assessment Group activities. Additional reviews are being conducted to determine if other guidelines are needed. Guidelines completed 4/94.

VLW-94-03 (Cont.)

Program Enhancement

Priority: RED
Item No: VLW-94-04

Title/Description: Upgrade the Internal Audit and Surveillance Program (Frequency & Scope) **Date Updated:** 5/20/94

External Funding Requirements: N/A
Internal Resource Requirements: 2 years for development

Program Manager: Verne Wolstenholm (G. E. Smith)

Planned Start Date: 1/24/94 **Planned Completion Date:** 12/95

References (NRC/INPO/NUMARC/NAIT Etc.): Self Imposed

Description: The existing internal audit program requires restructuring in light of QA's recent clarification of QA Program Audit Frequency Requirements as described in the CNS QA Program for Operation Policy Document and CNS Technical Specifications. (Reference G. E. Smith to SRAB Chairman memo and attached 10CFR50.59 Reportability Review, dated September 8, 1993.)

Revision of the QA surveillance Program to coincide with the objectives of the audit program.

Objective: The purpose of this project is to upgrade the QA audit and surveillance programs to provide scoping of audits and surveillance which focus on specific technical programs or activities of concern/declining performance.

Major Milestones:

1. Identify activities that are to be subject to QA audit/surveillance.
2. Generate a Position Paper which describes the District's position on conducting internal audits.
3. Revise QAI-5 to reflect the new audit process.
4. Generate a grouping of activities for audit scoping.
5. Revise QAI-4 to reflect the new surveillance program.
NOTE: QAI-4 is being converted to NQP.
6. Revise the QA Guidelines to describe the new approach to conducting audits.

Program Enhancement

Major Milestones: (VLW-94-04 Continued)

7. Develop new QA Audit Plans.
8. Train auditors on the new approach to auditing.
9. Train auditors on the objectives and performance expectations of the new surveillance program.
10. Complete revision/development of surveillance checklist.
11. Complete development of Audit Scoping Plans.

	Accomplishment	Plan Date	Actual Date
1.	Activities subject to QA audits/surveillance. (VLW-94-04.1)	11/93	11/23/93
2.	Generate internal audit Position Paper. (VLW-94-04.2)	12/93	12/22/93
3.	Revise QAI to reflect the new audit process. (VLW-94-04.3)	1/94	1/14/94
4.	Grouping of activities. (VLW-94-04.4)	11/93	11/23/93
5.	Revise QAI to reflect the surveillance process. (VLW-94-04.5) NOTE: This QAI is being converted to NQP.	5/94	<u>5/19/94</u>
6.	Revise the QA Guidelines for auditing. (VLW-94-04.6)	5/94	<u>5/19/94</u>
7.	Develop new QAPs. (VLW-94-04.7)	5/94	<u>5/19/94</u>
8.	Train Auditors (audits). (VLW-94-04.8)	6/94	
9.	Train Auditors (surveillance). (VLW-94-04.9)	6/94	
10.	Complete surveillance checklist. (VLW-94-04.10)	12/95	
11.	Complete audit scoping plans. (VLW-94-04.11)	12/95	

VLW-94-04 (Cont.)

Program Enhancement

VLW-94-04 (Continued)

- Update Status:**
- Item 1): Activities subject to QA audits/surveillance have been identified and the 1994 audit schedule has been issued.
 - Item 2): Audit Requirements/Frequencies position paper has been developed and distributed.
 - Item 3): QAI-5 has been revised to reflect the new audit process. QAI-5 being converted to NQP 2.0 which is out for revision. Completed 5/94.
 - Item 4): Activities have been grouped for audit scoping.
 - Item 5): QAI-4 is being converted to NQP. Change to 5/94 completion NQP 2.6 out for comment. Completed 5/94.
 - Item 6): Audit guidelines drafted and out of review. Completed 5/94.
 - Item 7): A total of five QAPs are being developed. As of 2/8/94 two of the QAPs have been completed and approved. A third is ready for review, one is in writing and the fifth one has not been initiated. 4/94 four QAP's approved and the fifth one is in review.
 - Item 8 & 9): Scheduling training for June 1-2, 1994.

VLW-94-04 (Cont.)



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION IV

611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

ATTACHMENT A
REGION IV
INSPECTION SCHEDULE

FACILITY: CNS

REPORT NUMBER: 94-14 START DATE: 6/13/94

LEAD

INSPECTOR: Chuck Paulk

ORG CODE: 4610

ACCOMPANYING

INSPECTORS: P. Goldberg, W. McNeill, George Cha (Consultant)

MODULES TO BE PERFORMED 37550

MODULE	IPE CODE (CO/RI/RR AF/OA/RT ST/HT/SI)	CURRENT STATUS (N/M/P R/C)	APPROVED IN MIP (Y/N)	PLANNED HOURS ON MIP	ESTIMATED HOURS TO COMPLETE
37550	RR	N	N	0	35
37550	CO	N	Y	180	180

OPEN ITEMS TO BE REVIEWED:

RESIDENT INSPECTOR NOTIFIED: Y X N

LEAD INSPECTOR: Chuck Paulk

DATE: 6/10/94

INSPECTOR'S BRANCH CHIEF: T.F. Westerman

DATE: 6/09/94

DRP BRANCH CHIEF: Phil Harrell

DATE:

INSPECTION ANNOUNCED: Y X N WHEN 6/9/94 BY WHOM T. Westerman

A/22

INSPECTION PLAN

INSPECTION PROCEDURE 37550

CNS ENGINEERING

Using the guidance provided in IP 37550, select the following:

- FIVE SIGNIFICANT SAFETY-RELATED DESIGN CHANGES/MODIFICATIONS DURING LAST RFO OR NEXT RFO
- FIVE SAFETY-SIGNIFICANT TEMPORARY MODIFICATIONS
- NONCONFORMANCES OR DEFICIENCIES (E.G. CRs, DRs, MATERIAL NCRs) DURING PAST YEAR
- AUDITS AND SELF-ASSESSMENTS PERFORMED ON THE EDG SYSTEM

Evaluate the effectiveness of the licensee's engineering staff to support plant operations based on the above items.

Perform a sampling of the following to evaluate the licensee's engineering capabilities:

CRs WRITTEN AGAINST DESIGN/SYSTEM ENGINEERING PRODUCTS FOR LAST 2 YRS

DOCUMENTS THAT HAVE HAD DESIGN/SYSTEM ENGINEERING INPUTS (I.E. CRs, DRs, NCRs, WRs) FOR LAST 2 YRS

DATA ASSOCIATED W/ PRIMARY SRVs, MSSRVs

PROCEDURES FOR TESTING SAFETY/RELIEF VLVS

SYSTEM REPORT CARDS

Inspector Assignments:

Paula Goldberg: Select one safety-related design change/plant modification. Evaluate in accordance with Section 03.01a. through o.

Select one safety-related temporary modification. Evaluate in accordance with Section 03.02a. through j.

Evaluate the SRVs and MSSVs using Section 03.04a. through c. as guidance.

Evaluate containment penetration designs and testing, old designs, etc.

Review licensee actions related to penetration issues.

Bill McNeill: Select one safety-related design change/plant modification. Evaluate in accordance with Section 03.01a. through o.

Select one safety-related temporary modification. Evaluate in accordance with Section 03.02a. through j.

Evaluate audits/assessments of EDG system.

Evaluate system engineering.

Chuck Paulk: Select one safety-related design change/plant modification. Evaluate in accordance with Section 03.01a. through o.

Select one safety-related temporary modification. Evaluate in accordance with Section 03.02a. through j.

Evaluate the electrical and I&C portion of the EDG DBD.

Verify design basis requirements have been adequately translated into procedures.

George Cha: Review design basis documents.

Review containment penetration design and testing, review old modifications.

All: Review selected corrective action documents for engineering capabilities.

NEBRASKA PUBLIC POWER DISTRICT

AQD940117
 Date June 24, 1994
 To V. L. Wolst 101m
 From D. R. Robinson/S. L. Bray
 Subject Culture Index Evaluation

FOR INTER-DISTRICT
 BUSINESS ONLY

As part of the Corrective Action Program Audit, the Quality Assessment Department conducted a survey of a limited sample of Nuclear Power Group (NPG) personnel utilizing the Culture Index concept developed by Failure Prevention, Inc (FPI). The purpose of this survey was to determine how the Nuclear Power Group performance culture compares to the industry and to utilize the information gained as an indicator of improving or declining performance.

Based on the results of this activity, it appears that the Nuclear Power Group culture is relatively healthy. This conclusion is based on a comparison of data obtained in our survey, which established the Nuclear Power Group average Culture Indicator (CI) at 10.4 to data compiled by FPI which established the average CI for United States Nuclear Power Plants at 9.5 (1991 data). As a point of reference, the 1991 CI for top performers was 14-16, while the CI for problem plants was 6.7.

It must be recognized that the NPPD data must be qualified by two factors. First, the sample size for this survey was forty-five individuals selected from six departments in the Nuclear Power Group. Secondly, this is only the second data point obtained utilizing this survey tool. The results do compare favorably with results obtained by FPI personnel during a Root Cause Training class conducted in March of this year. That group, composed of approximately thirty individuals from all areas of the Nuclear Power Group, established an average indicator of 11.3. It should also be noted that the accuracy of these average indicators is assumed to be ± 1.0 .

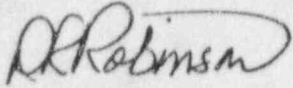
In analyzing the responses received from this survey, two areas appear to be of concern to NPG personnel. The overall averages show that Work Process and Self Improvement activities fell below the 2.0 rating, which has been selected as the indicator point for areas that may need attention.

The scope of this survey was limited to the collection and analysis of data. Future surveys will involve follow-up interviews that will attempt to develop additional information regarding specific concerns of the personnel responding to the survey. This will be accomplished by combining the use of the CI Worksheet with the culture interviews we have been conducting. Please note that we feel that the effectiveness of these tools could be diluted if performed too frequently. It is our opinion that the schedule for these activities be established at once per quarter.

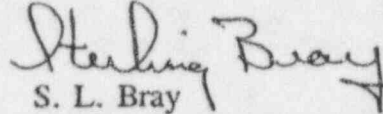
A/23

V. L. Wolstenholm
June 24, 1994
Page 2 of 2

Should you have any questions or comments regarding this matter, please advise us.



D. R. Robinson
Quality Assessment Manager
Cooper Nuclear Station



S. L. Bray
Quality Assessment Supervisor
Cooper Nuclear Station

DRR:SLB:mrc

Attachments

CULTURE INDEX WORKSHEET

INSTRUCTION:

Please rate each of the following areas by circling the number beside the description which you feel best describes the Nuclear Power Group.

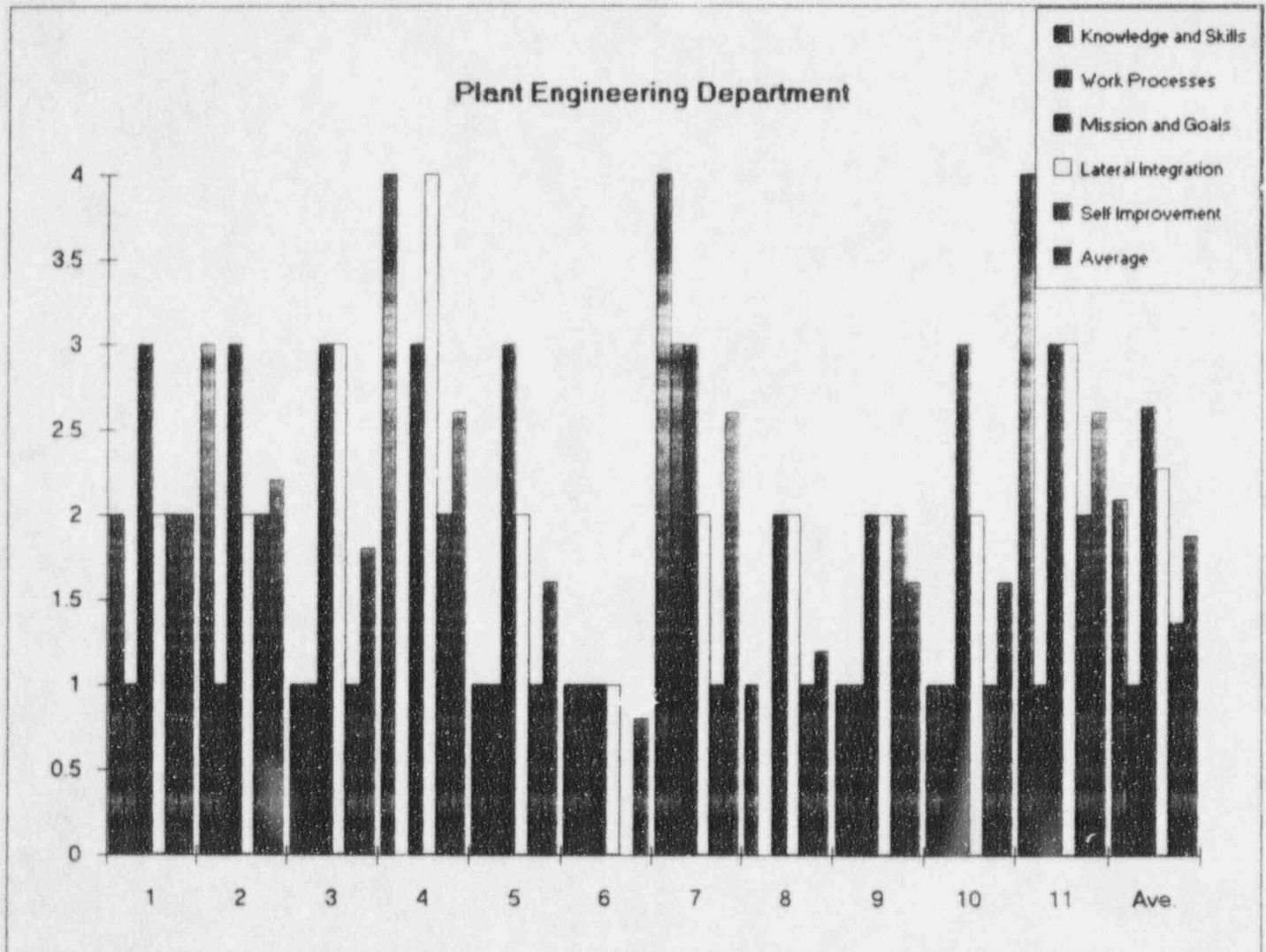
YOUR DEPARTMENT _____

AREA	RATING
<u>KNOWLEDGE AND SKILLS</u>	
All personnel involved know the work process, have the skills to perform the work, and are experienced in the assigned work.	4
All personnel involved have the skills to perform the work and are experienced in the assigned work.	3
All personnel involved have the skills to perform the work.	2
Some of the involved personnel have the skills to perform the work.	1
None of the people involved have the skills to perform the work.	0
<u>WORK PROCESSES</u>	
The work processes are streamlined with strong interorganizational interfaces. The resources are more than enough to support the work processes.	4
The work processes contain many unnecessary steps and reviews. The number of organizational interfaces is low. The level of complexity matches the existing resources.	3
The work processes are complex. The level of complexity matches the existing resources.	2
The level of complexity of all major work processes exceeds what can be supported by the existing resources.	1
The complexity of the processes makes them unworkable.	0
<u>MISSION AND GOALS</u>	
Mission statements are used to prioritize work and goals are set to achieve incremental improvements at all levels of management.	4
Short term goals are used for all groups. Mission statements are used to prioritize work for some groups.	3
Short term goals are specified for some groups. No mission statements are used to prioritize the work.	2
No corporate, plant, division, or department Mission and Goals exist.	1

<u>LATERAL INTEGRATION</u>	
Permanent work processes and program managers are assigned. Task forces and team coordinators are routinely used to deal with multi-department special issues and tasks.	4
Permanent program managers are assigned. Task forces and team coordinators are used for special issues.	3
Some program managers are assigned. Some task forces and team coordinators are used for special programs and tasks.	2
Few work process and program managers are assigned. Few task forces and team coordinators are used.	1
No work process and program managers are assigned. No task forces and team coordinators are used.	0
<u>SELF IMPROVEMENT</u>	
Strong equipment, human error, and Organizational/Programmatic root cause programs exist which are supported with adequate resources and training.	4
Strong equipment and human error root cause programs exist which are supported with adequate resources and training.	3
An equipment root cause program exists without adequate resources. An adequate human performance root cause program exists.	2
No equipment root cause program exists. The human performance root cause program is sketchy.	1
No human performance root cause program exists.	0

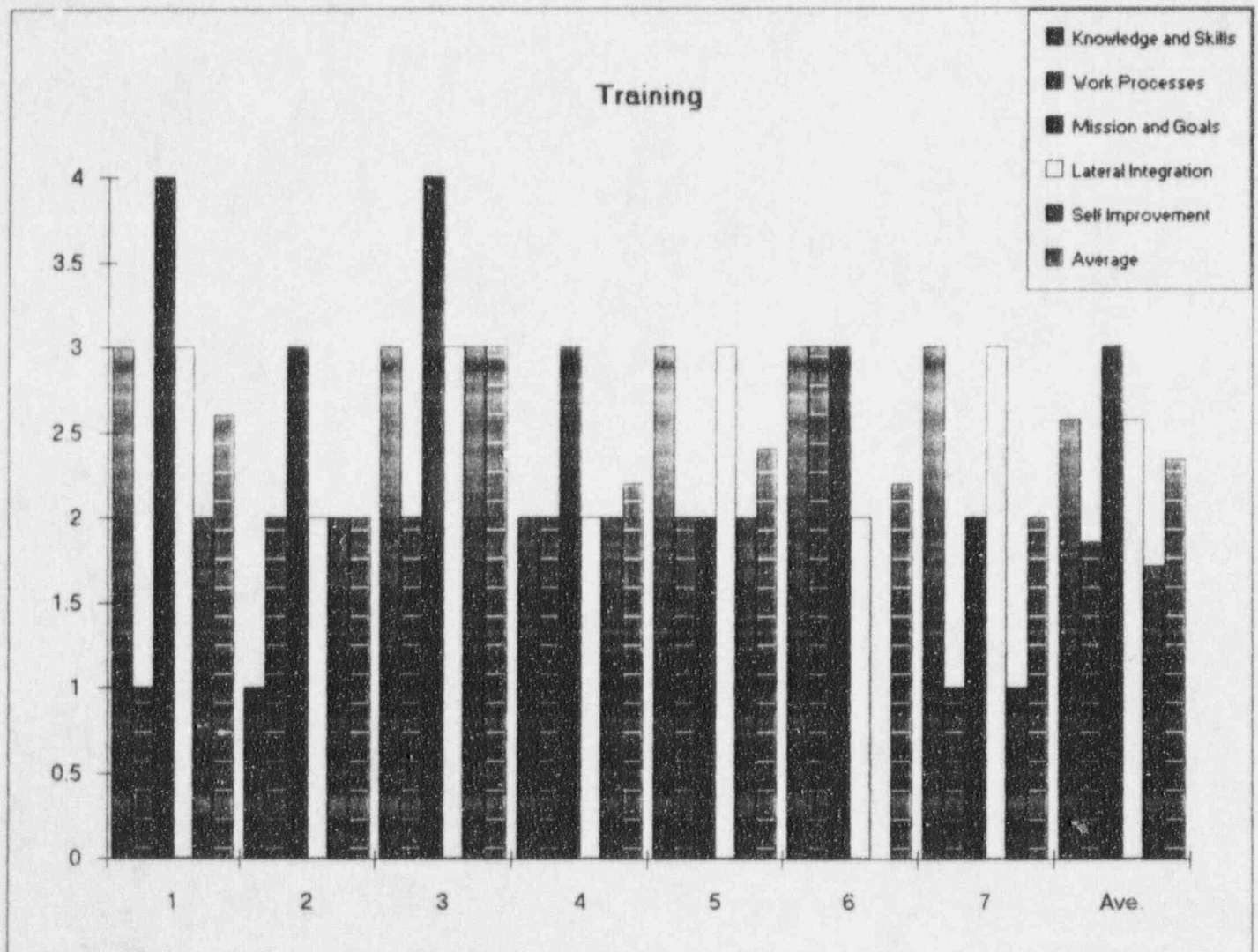
Plant Engineering Department

	1	2	3	4	5	6	7	8	9	10	11	Ave.	Total
Knowledge and Skills	2	3	1	4	1	1	4	1	1	1	4	2.1	23
Work Processes	1	1	1	0	1	1	3	0	1	1	1	1.0	11
Mission and Goals	3	3	3	3	3	1	3	2	2	3	3	2.6	29
Lateral Integration	2	2	3	4	2	1	2	2	2	2	3	2.3	25
Self Improvement	2	2	1	2	1	0	1	1	2	1	2	1.4	15
Average	2.0	2.2	1.8	2.6	1.6	0.8	2.6	1.2	1.6	1.6	2.6	1.9	20.6
Total	10	11	9	13	8	4	13	6	8	8	13	9.4	103



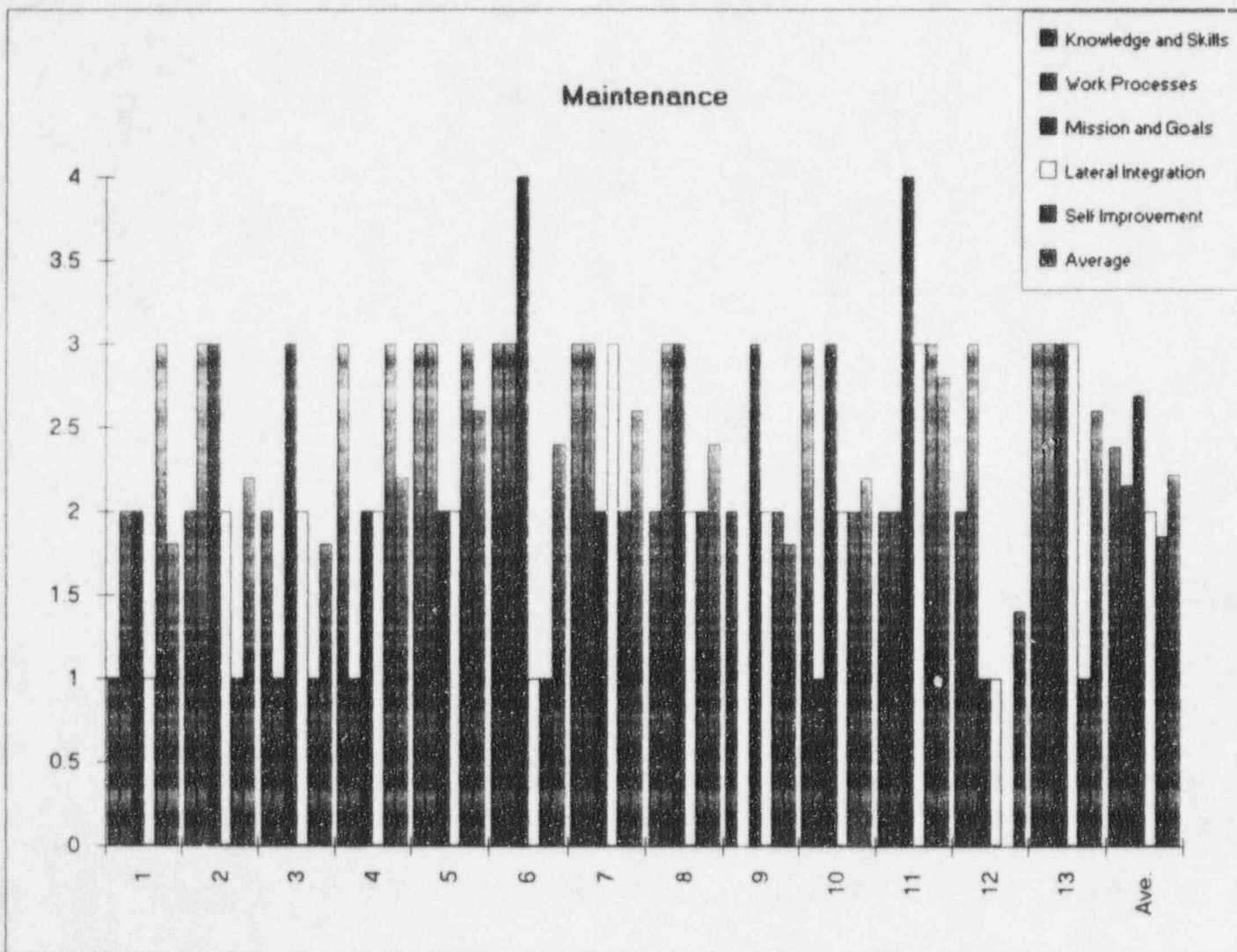
Training

	1	2	3	4	5	6	7	Ave.	Total
Knowledge and Skills	3	1	3	2	3	3	3	2.6	18
Work Processes	1	2	2	2	2	3	1	1.9	13
Mission and Goals	4	3	4	3	2	3	2	3.0	21
Lateral Integration	3	2	3	2	3	2	3	2.6	18
Self Improvement	2	2	3	2	2	0	1	1.7	12
Average	2.6	2.0	3.0	2.2	2.4	2.2	2.0	2.3	16.4
Total	13	10	15	11	12	11	10	11.7	82



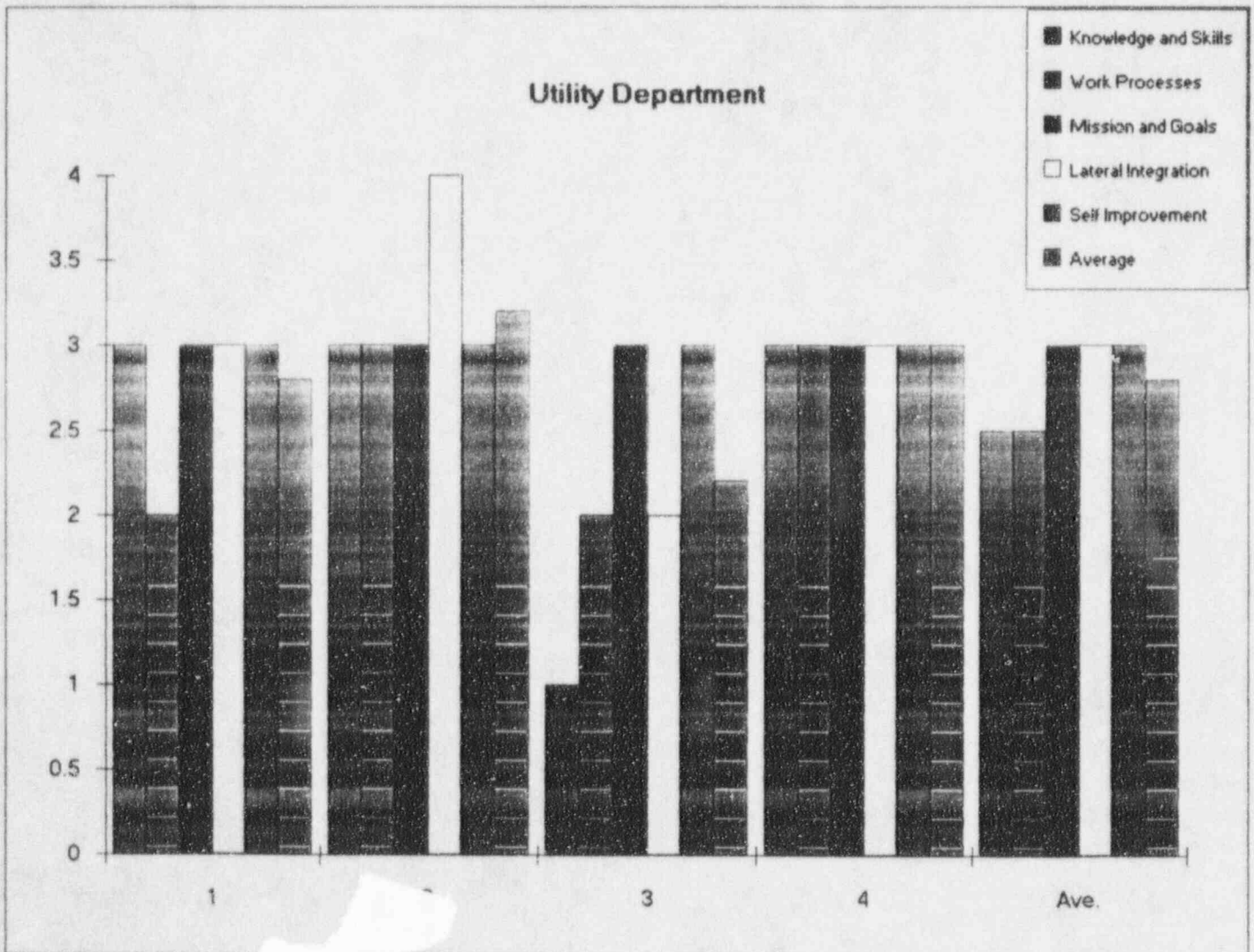
Maintenance

	1	2	3	4	5	6	7	8	9	10	11	12	13	Ave.	Total
Knowledge and Skills	1	2	2	3	3	3	3	2	2	3	2	2	3	2.4	31
Work Processes	2	3	1	1	3	3	3	3	0	1	2	3	3	2.2	28
Mission and Goals	2	3	3	2	2	4	2	3	3	3	4	1	3	2.7	35
Lateral Integration	1	2	2	2	2	1	3	2	2	2	3	1	3	2.0	26
Self Improvement	3	1	1	3	3	1	2	2	2	2	3	0	1	1.8	24
Average	1.8	2.2	1.8	2.2	2.6	2.4	2.6	2.4	1.8	2.2	2.8	1.4	2.6	2.2	28.8
Total	9	11	9	11	13	12	13	12	9	11	14	7	13	11.1	144



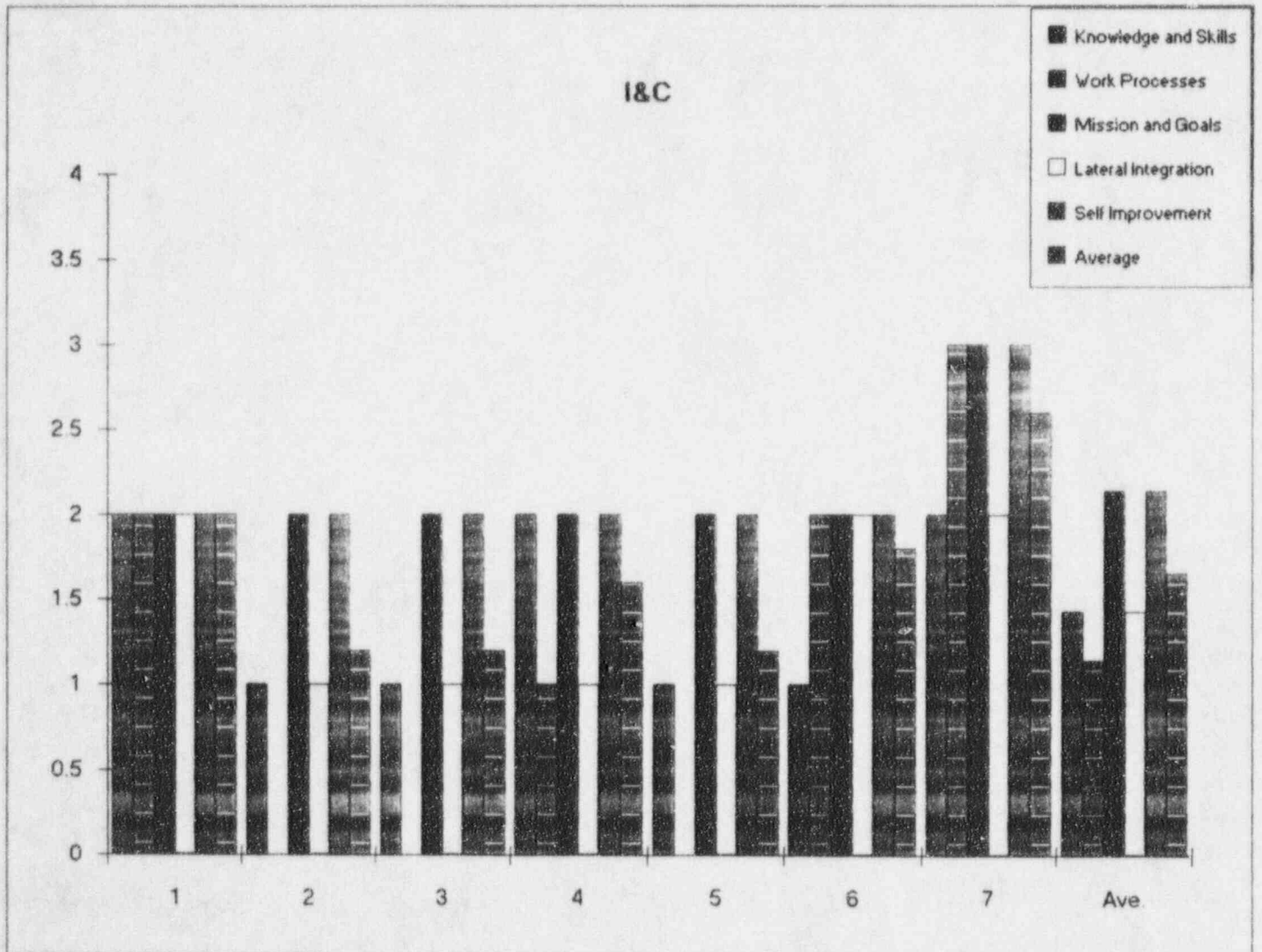
Utility Department

	1	2	3	4	Ave.	Total
Knowledge and Skills	3	3	1	3	2.5	10
Work Processes	2	3	2	3	2.5	10
Mission and Goals	3	3	3	3	3.0	12
Lateral Integration	3	4	2	3	3.0	12
Self Improvement	3	3	3	3	3.0	12
Average	2.8	3.2	2.2	3.0	2.8	11.2
Total	14	16	11	15	14.0	56



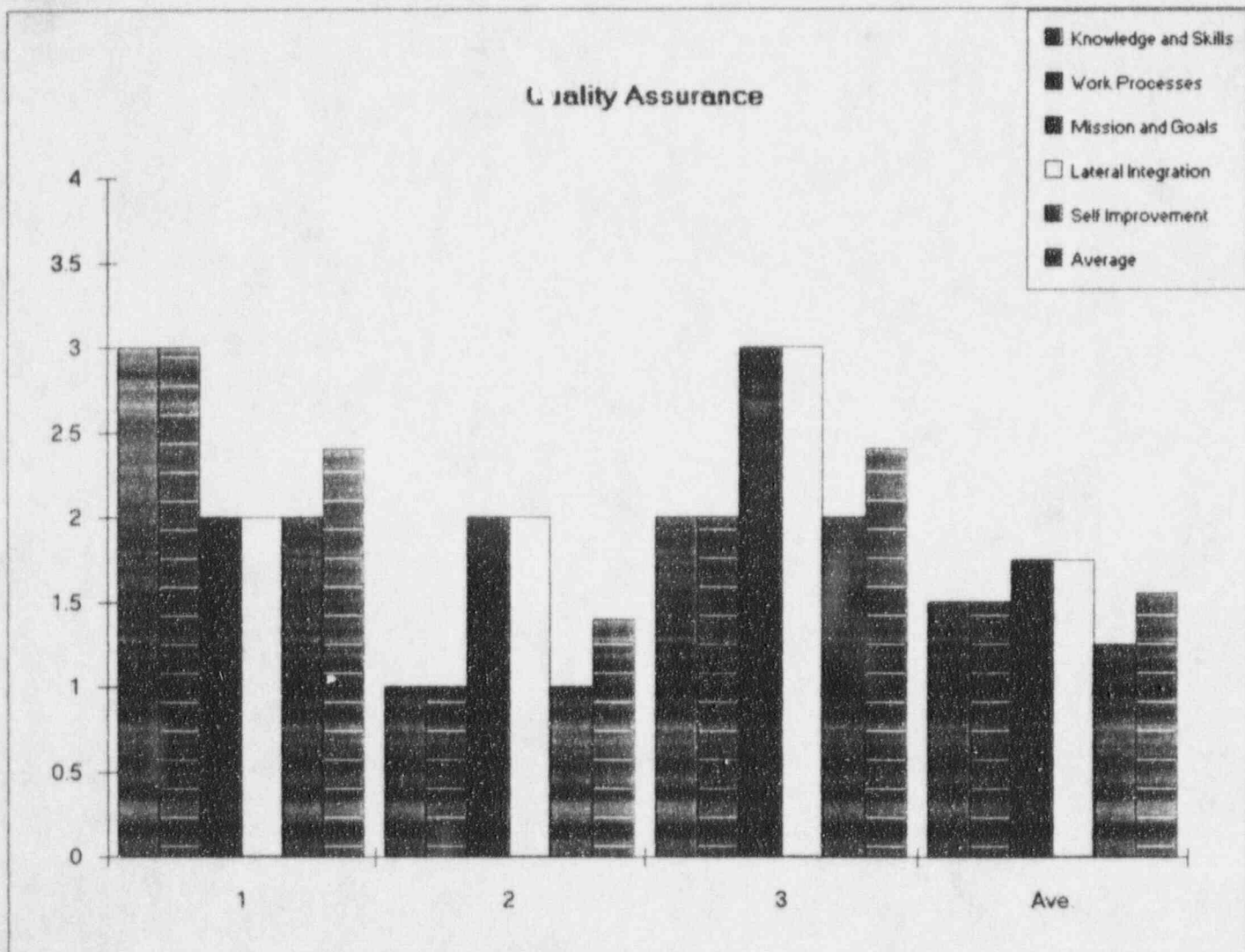
I&C

	1	2	3	4	5	6	7	Ave.	Total
Knowledge and Skills	2	1	1	2	1	1	2	1.4	10
Work Processes	2	0	0	1	0	2	3	1.1	8
Mission and Goals	2	2	2	2	2	2	3	2.1	15
Lateral Integration	2	1	1	1	1	2	2	1.4	10
Self Improvement	2	2	2	2	2	2	3	2.1	15
Average	2.0	1.2	1.2	1.6	1.2	1.8	2.6	1.7	11.6
Total	10	6	6	8	6	9	13	8.3	58



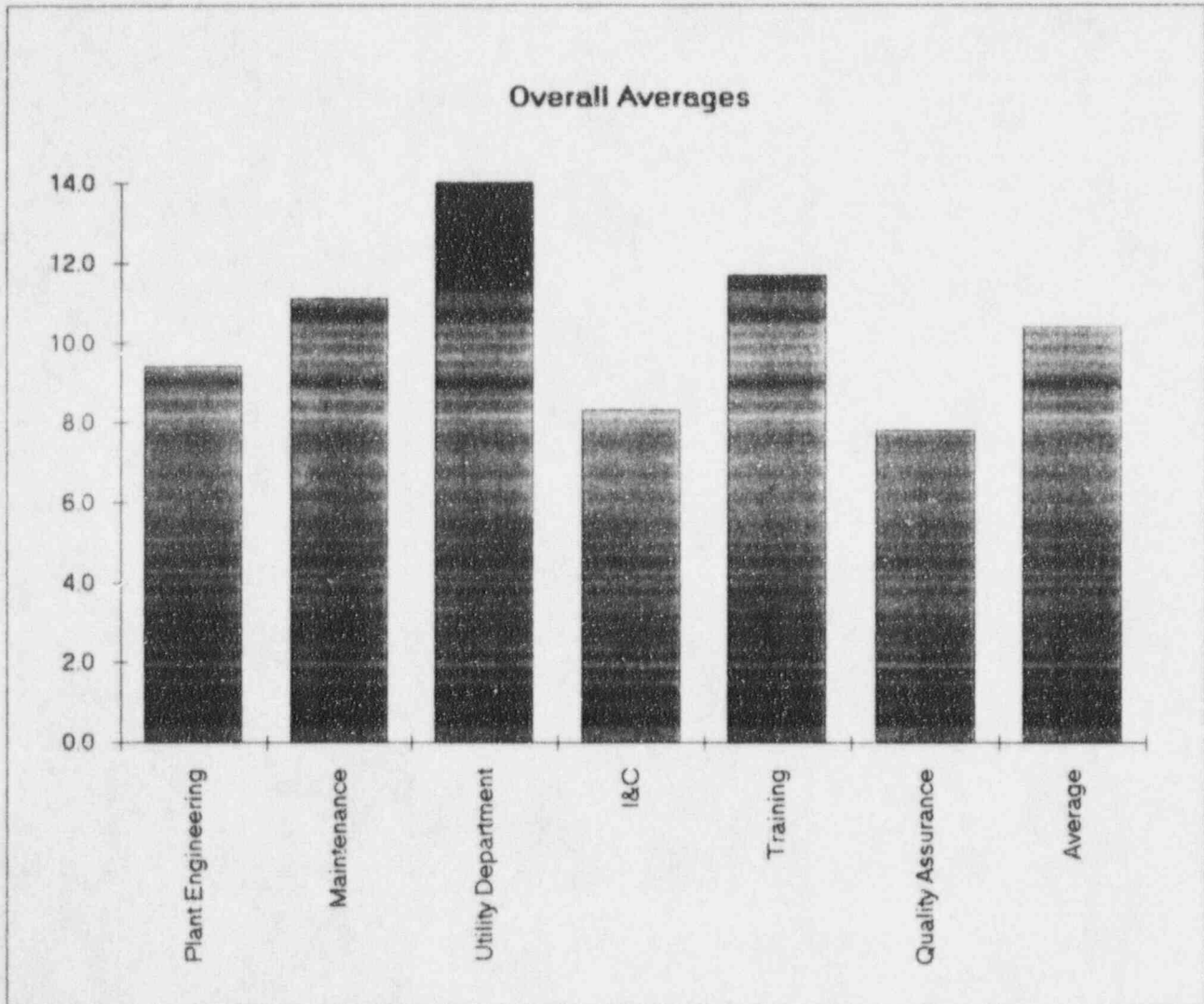
Quality Assurance

	1	2	3	Ave.	Total
Knowledge and Skills	3	1	2	1.5	6
Work Processes	3	1	2	1.5	6
Mission and Goals	2	2	3	1.8	7
Lateral Integration	2	2	3	1.8	7
Self Improvement	2	1	2	1.3	5
Average	2.4	1.4	2.4	1.6	6.2
Total	12	7	12	7.8	31



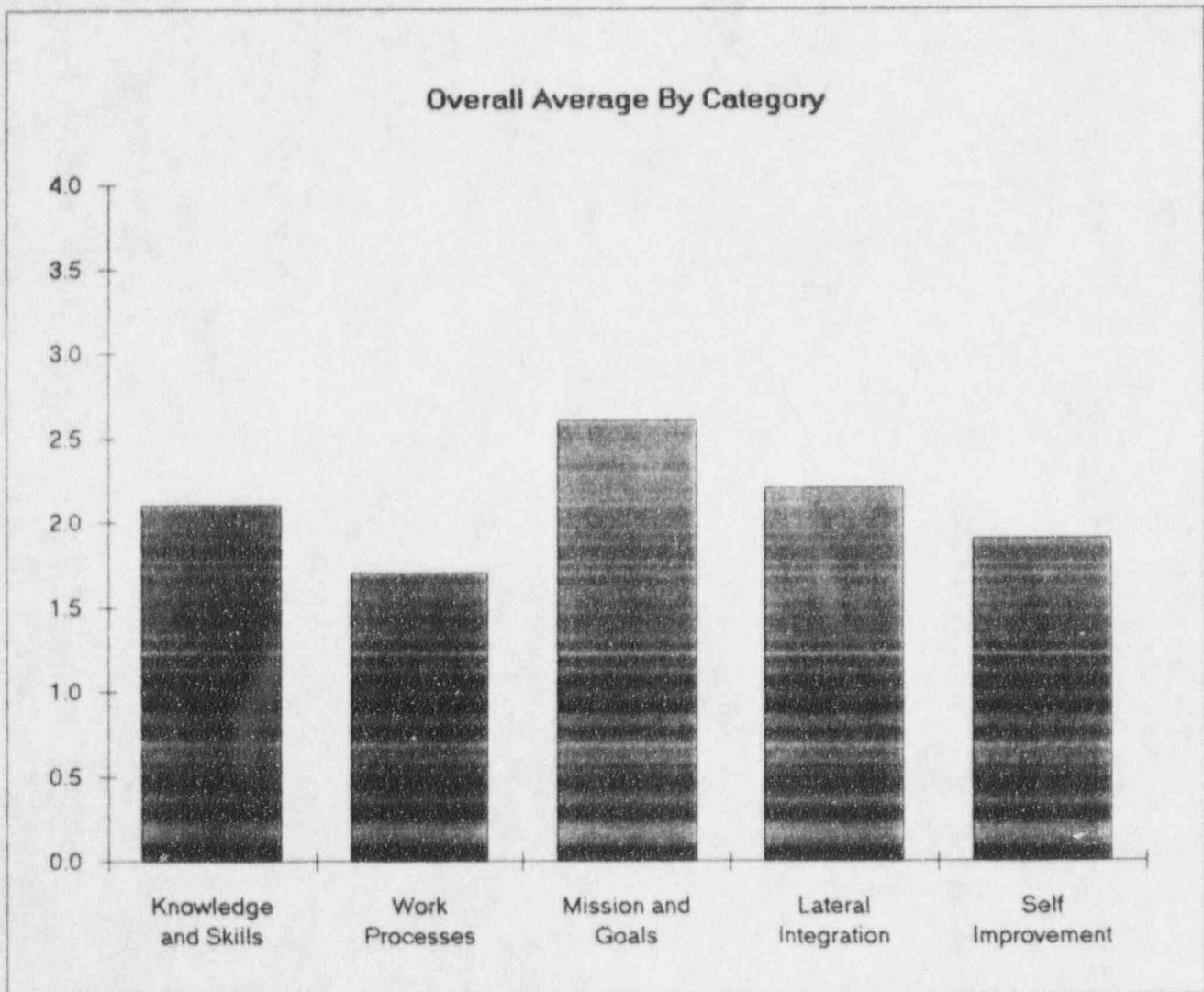
Overall Averages

Plant Engineering	9.4
Maintenance	11.1
Utility Department	14.0
I&C	8.3
Training	11.7
Quality Assurance	7.8
Average	10.4
Total	62.3



Overall Average By Category

Knowledge and Skills	2.1
Work Processes	1.7
Mission and Goals	2.6
Lateral Integration	2.2
Self Improvement	1.9



Plant Engineering Department

											Total Average		
Knowledge and Skills	2	3	1	4	1	1	4	1	1	1	4	23	2.1
Work Processes	1	1	1	0	1	1	3	0	1	1	1	11	1.0
Mission and Goals	3	3	3	3	3	1	3	2	2	3	3	29	2.6
Lateral Intergration	2	2	3	4	2	1	2	2	2	2	3	25	2.3
Self Improvement	2	2	1	2	1	0	1	1	2	1	2	15	1.4
Total	10	11	9	13	8	4	13	6	8	8	13	103	9.4
Average	2	2.2	1.8	2.6	1.6	0.8	2.6	1.2	1.6	1.6	2.6	20.6	1.9

Maintenance

											Total Average				
Knowledge and Skills	1	2	2	3	3	3	3	2	2	3	2	2	3	31	2.4
Work Processes	2	3	1	1	3	3	3	3	0	1	2	3	3	28	2.2
Mission and Goals	2	3	3	2	2	4	2	3	3	3	4	1	3	35	2.7
Lateral Intergration	1	2	2	2	2	1	3	2	2	2	3	1	3	26	2.0
Self Improvement	3	1	1	3	3	1	2	2	2	2	3	0	1	24	1.8
Total	9	11	9	11	13	12	13	12	9	11	14	7	13	144	11.1
Average	1.8	2.2	1.8	2.2	2.6	2.4	2.6	2.4	1.8	2.2	2.8	1.4	2.6	28.8	2.6

Utility Department

					Total Average	
Knowledge and Skills	3	3	1	3	10	2.5
Work Processes	2	3	2	3	10	2.5
Mission and Goals	3	3	3	3	12	3
Lateral Intergration	3	4	2	3	12	3
Self Improvement	3	3	3	3	12	3
Total	14	16	11	15	56	14
Average	2.8	3.2	2.2	3	11.2	2.8

I & C

	Total Average								
Knowledge and Skills	2	1	1	2	1	1	2	10	1.4
Work Processes	2	0	0	1	0	2	3	8	1.1
Mission and Goals	2	2	2	2	2	2	3	15	2.1
Lateral Intergration	2	1	1	1	1	2	2	10	1.4
Self Improvement	2	2	2	2	2	2	3	13	1.9
Total	10	6	6	8	6	9	13	58	
Average	2	1.2	1.2	1.6	1.2	1.8	2.6	11.6	1.7

Training

	Total Average								
Knowledge and Skills	3	1	3	2	3	3	3	18	2.6
Work Processes	1	2	2	2	2	3	1	13	1.9
Mission and Goals	4	3	4	3	2	3	2	21	3.0
Lateral Integration	3	2	3	2	3	2	3	18	2.6
Self Improvement	2	2	3	2	2	0	1	12	1.7
Total	13	10	15	11	12	11	10	82	
Average	2.6	2	3	2.2	2.4	2.2	2	16.4	2.3

Quality Assurance

	Total Average				
Knowledge and Skills	3	1	2	6	2.0
Work Processes	3	1	2	6	2.0
Mission and Goals	2	2	3	7	2.3
Lateral Integration	2	2	3	7	2.3
Self Improvement	2	1	2	5	1.7
Total	12	7	12	31	
Average	2.4	1.4	2.4	6.2	2.1

cc: Montgomery
Beach Dyer
Luyann
Stewart
COOPER NUCLEAR STATION
P.O. BOX 98, BROWNVILLE, NEBRASKA 68021
TELEPHONE (402)825-3611
FAX (402)825-5211

Nebraska Public Power District

NLS940001
July 28, 1994

Post-It™ brand fax transmittal memo 7671 # of pages 2

Suite 400
Arlington, Texas 76011

Subject: Response to Confirmatory Action Letter
Cooper Nuclear Station
NRC Docket No. 50-298

- References:
- (1) Confirmatory Action Letter (Revision 0) Dated May 27, 1994, to Guy R. Horn - Nebraska Public Power District (CAL 4-94-06).
 - (2) Confirmatory Action Letter (Revision 1) Dated June 16, 1994, to Guy R. Horn - Nebraska Public Power District (CAL 4-94-06A).
 - (3) Confirmatory Action Letter (Revision 2) Dated July 1, 1994, to Guy R. Horn - Nebraska Public Power District (CAL 4-94-06B).

Dear Mr. Callan:

References (1), (2), and (3) confirmed Nebraska Public Power District's (the District's) commitment to address four items prior to restart of the Cooper Nuclear Station (CNS). Several technical meetings already have been held which addressed NRC concerns described in the Confirmatory Action Letter (CAL) Items 1, 2, 3, and 4. These items involved: 1) as-found testing of 4160- and 480-volt undervoltage devices; 2) the design basis for surveillance acceptance criteria for the Control Room and Turbine Building Ventilation Systems; 3) primary containment penetration discrepancies; and, 4) electrical distribution surveillance testing and inservice inspection of penetration welds. An additional meeting will be held in NRC Headquarters office to review: 1) the conclusions discussed during the four technical meetings noted above; 2) actions taken to resolve the noted issues; and, 3) the basis for District management's conclusion that CNS is ready for restart. That meeting has been scheduled for July 29, 1994, at 9:00 a.m.

CAL Item 5 required the District, prior to plant restart, to provide the NRC Region IV office with a letter discussing eight areas of NRC interest. The attached discussion responds to this NRC request. However, limiting this response to just answering NRC questions would not fully capture the extensive efforts that the District has expended to address not only NRC issues, but also issues that CNS management has determined must be resolved prior to plant startup. During this shutdown, CNS has assessed several areas of Technical Specification interpretation, system design basis requirements, maintenance

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A/24

July 28, 1994

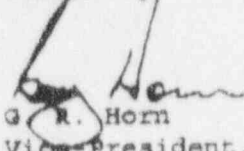
Page 2

practices, and management oversight. Additionally, several CNS efforts resulted in extension of the shutdown period because District management took a careful and conservative approach to resolving these emerging issues. Region IV management has been kept apprised of the District's actions.

The District's findings, while having a negative connotation regarding compliance, also have a positive side. Recent findings are in great part a result of management efforts to improve the questioning attitude of personnel and management's commitment to resolving emerging issues. CNS culture improvement initiatives to identify and fix problems correctly the first time are working. Now management has brought to CNS fresh ideas and higher standards for problem identification and resolution. Issues are being raised and resolved which, in past years, may have been placed at a lower priority. District management firmly believes that these initiatives will result in sustained improvement for the long term. The District will continue to monitor the effectiveness of performance improvement efforts to ensure that desired results are being achieved. The NRC will be kept informed of the progress of performance improvement efforts.

If there are any questions about the information presented in the attachment, or on other matters, please call.

Sincerely,



G. R. Horn
Vice-President, Nuclear

/nr

Attachment

cc: U.S. Nuclear Regulatory Commission
Attention: Document Control Desk

NRC Resident Inspector Office
Cooper Nuclear Station

NPG Distribution

Introduction

CAL 4-94-06B, Item 5, required that prior to restart, the District provide Region IV with a letter that discusses the following:

- (a) the root cause(s) for defeating the undervoltage trip function in the Motor Control Center N supply breaker;
- (b) the actions taken to confirm the design basis for the Control Room and Turbine Building Ventilation Systems;
- (c) the results of all testing that was performed for the issues discussed in Items 1, 2, and 3 of the CAL;
- ~~(d) the safety significance of all off-normal or discrepant conditions in Items 1, 2, 3, and 4 of the CAL;~~
- (e) the corrective actions that will be taken to prevent recurrence of the installation of devices (i.e., cable ties, jumpers, blocks, etc.) that will prevent the actuation of safety system functions and to ensure that the design basis surveillance testing criteria are established and maintained for the facility;
- (f) the lessons learned by CNS staff in response to the incident involving the undervoltage trip function in the motor control center supply breakers, including the lack of prompt recognition of the potential safety significance;
- (g) the basis for the District's determination that the testing programs for Electrical Distribution System surveillance testing and inservice inspection of penetration welds are technically adequate and complete; and,
- (h) the basis for the District's assurance that the testing programs for other licensed activities are adequately implemented.

Each of these CAL issues are addressed in this attachment. Where appropriate, the District also has addressed previously ongoing activities that are responsive to NRC concerns and additional issues that have emerged as a result of initial problem investigations.

WLS940001
July 28, 1994
Attachment

CAL 4-94-06b
Item 5 (a) :

"Discuss the root cause(s) for defeating the undervoltage trip function in the Motor Control Center N supply breaker."

NPPD Response

On May 16, 1994, a cable tie was found installed on the undervoltage trip device for the 480-volt feeder breaker to MCC-N. Its installation defeated this undervoltage trip device which was installed to isolate (shed) its load in the event of Loss of Off Site Power.

The root cause of the event is the failure of management to ensure that ~~requirements for configuration control were not adequately implemented~~ into the maintenance procedure. Maintenance procedures must have appropriate configuration control elements. Management's expectations must be clearly communicated and effected through the procedure review and approval process. While procedure content guidance existed regarding this issue, it was not well expressed. Strong, clear management expectations regarding its inclusion in maintenance procedures was not provided.

The immediate cause of the loss of configuration control was found to be an inadequate maintenance procedure. The procedure allowed installation of a cable tie, but did not provide specific guidance to remove, or verify removal, of the cable tie. While not the root cause, post-maintenance testing and surveillance tests both failed to identify that the cable tie was still installed and that the breaker could not perform its intended safety function. Human error also was involved. However, it was only a symptom and not the root cause.

CAL 4-94-06b
Item 5 (b) :

"Discuss the actions taken to confirm the design basis for the Control Room and Turbine Building Ventilation Systems."

NPPD Response

The District has reviewed several hundred documents to verify the design basis for the Control Room and Turbine Building Ventilation Systems. These documents span nearly 30 years, beginning with pre-construction in the mid 1960's, through the present. The documents reviewed included General Electric plant design criteria; Burns and Roe calculations, system descriptions and correspondence; pre-operational test procedures and test results; the FSAR and related amendments, questions and answers; the SER; the USAR; correspondence with the NRC; internal NPPD correspondence; test procedures, design changes and supporting calculations.

The results of our review are as follows:

July 28, 1994

Attachment

Control Room Ventilation System Design Basis

The Control Room Ventilation System design basis is:

- a) Provide temperature and humidity control and air movement for personnel comfort and optimum equipment performance.
- b) Provide sufficient filtered fresh air supply for personnel.
- c) Minimize the possibility of exhaust air recirculation into the air intake.
- d) Provide for operator protection in the event of a Design Basis Accident by providing filtered air and maintaining the Control Room Envelope at a positive pressure with respect to adjacent areas. This function is performed by the Control Room Emergency Filter System. Dose calculations assume a positive pressure in the Control Room Envelope; however, no specific value of pressure is assumed for use in the calculations. Dose calculations assume 10 CFM of unfiltered inleakage in accordance with guidance furnished by Murphy and Campe in a paper titled, "Nuclear Power Plant Control Room Ventilation System Design for Meeting General Criterion 19."

The Control Room Ventilation System is not designed to automatically respond to toxic gas events; rather, operators don Self Contained Breathing Apparatus (SCBA) and manually secure the outside air supply to the Control Room.

The administrative, operability, and surveillance requirements for the Control Room Emergency Filter System were discussed during a meeting between NPPD and NRC on July 7, 1994, and confirmed in a letter to the NRC from G. R. Horn, dated July 20, 1994.

Turbine Building Ventilation System Design Basis

The Turbine Building Ventilation System design basis is:

- a) Provide temperature control and air movement for personnel comfort and optimum equipment performance.
- b) Provide sufficient filtered fresh air supply for personnel.
- c) Provide for air movement from lesser to progressively greater areas of radioactive contamination potential prior to final exhaust.
- d) Minimize the possibility of exhaust air recirculation into the air intake.
- e) Accommodate effluent monitoring capability.

WLS940001
July 28, 1994
Attachment

CAL 4-94-06b
Item 5 (c)1:

"Discuss the results of all testing that was performed for the issue discussed in Item 1 of the CAL:

4160-volt undervoltage relay logic and 480-volt undervoltage devices (as-found)."

NRPP Response

4160-Volt Testing

As-found testing of the 4160-volt undervoltage devices for electrical loads ~~supplied directly from the two emergency busses 1F and 1G~~ was performed. Two discrepancies were identified. The discrepancies consisted of one relay that exceeded the allowable time delay setting and one relay contact that had marginally high resistance. Retests following resetting of the relay timing and cleaning of the contacts were satisfactory.

480-Volt Testing

Out of a total of 12 breakers that were as-found tested, two breakers failed to trip and two breakers failed to trip within the time delay acceptance criteria. Subsequent testing of the undervoltage trip assemblies (UVTAs) identified a fifth breaker which previously passed its acceptance testing but failed due to slow actuation timing. The unreliable and inconsistent performance of these UVTAs was either caused by mechanical binding in the latching mechanism or a defect in the time delay attachment. As a result, the UVTAs for these twelve breakers were replaced with a shunt trip device that is activated by the loss of voltage logic for the 4160-volt breakers. Successful testing of this shunt trip network for the 480-volt bus loads was completed on July 4, 1994.

CAL 4-94-06b
Item 5 (c)2:

"Discuss the results of all testing that was performed for the issue discussed in Item 2 of the CAL:

Control Room and Turbine Building Ventilation Systems."

NRPP Response

Control Room Envelope

On April 11, 1994 the Control Room Emergency Bypass Filter System failed post-maintenance testing which was being performed following maintenance on a door that formed part of the Control Room pressurization boundary. (See LER 94-006, dated May 11, 1994) Several leak pathways were sealed and the Control Room Envelope was successfully tested on April 28, 1994.

July 28, 1994

Attachment

On June 24, 1994 another test of the Control Room Envelope was conducted to verify that the new administrative limit ($\geq +0.04$ " wg) could be satisfied. The test failed. Another search for new or degrading leak paths was conducted. Several small leaks were identified and sealed.

Recent testing confirms that the Control Room Emergency Bypass Filter System can satisfy its design basis of providing a positive pressure to the Control Room envelope. The administrative limit of $\geq +0.04$ " wg has been consistently achieved during numerous tests of Control Room Envelope integrity conducted since July 9, 1994, with the exception of a test conducted on July 22, 1994, which failed due to a flow balancing deficiency. The balancing deficiency has been corrected and appropriate Control Room Envelope testing was satisfactorily performed on July 27, 1994.

The effects of wind speed have also been considered during recent testing and will be considered during future testing. Investigation into system design improvements to increase system performance margins is continuing. These improvements will be implemented prior to startup from the spring 1995 refueling outage.

Turbine Building

Actions taken recently to correct operational deficiencies in the Turbine Building Ventilation System discovered following the unsatisfactory Control Room Emergency Bypass Filter System test conducted on April 11, 1994, include the following:

- a) Repaired exhaust fan vortex and outlet dampers and controls.
- b) Cleaned and lubricated the vortex dampers for the exhaust fan.
- c) Repaired damaged ductwork.
- d) Verified sensing line integrity.
- e) Cleaned and balanced the system to obtain -0.25 " wg in the Steam Jet Air Ejector (SJAE) Room at design flow.
- f) Updated the system operating procedure to require operation at -0.25 " wg with respect to the environment in the SJAE Room. This parameter is also routinely logged in the Control Room Data log in the Control Room.

As a result of the above actions, satisfactory system operation at the -0.25 " wg differential pressure margin in the SJAE Room has been demonstrated. Preventive measures will be implemented through the ongoing Preventive Maintenance Program to ensure that performance of the Turbine Building ventilation system will remain satisfactory.

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CAL 4-94-06b
Item 5 (c)3:

"Discuss the results of all testing that was performed for the issue discussed in Item 3 of the CAL:

Primary Containment Penetrations."

Response

Walkdowns of primary containment penetrations for Design Basis Reconstitution purposes were performed from May 18 through June 5, 1994. As a result of identified discrepancies, eleven design changes were developed and implemented. These actions included the addition of test connections, ~~installation of welded caps on spare penetrations, complete~~ redesign of several containment isolation barriers, and installation of caps on vents, drain lines and test connections.

As-found testing was performed for penetrations which had not previously been Type A, B, or C tested and for which as-found testing was determined to be practicable. The total as-found leak rate due to these additional tests was approximately 26 SCFH, not including drywell pneumatic supply check valve IA-CV-65CV. Leak rate testing for this check valve revealed that it could not be pressurized. The safety significance of this leak rate is discussed in the response to Issue 5(d)3. Following modifications and repairs, the total Primary Containment as-left leak rate, including IA-CV-65CV, was less than the 0.6 La (189 SCFH) limit specified in CNS Technical Specifications.

Penetrations classified as IIIN, IVP, or indeterminate, were identified for which appropriate NDE records could not be found to ensure that the piping welds were of equivalent quality level to the containment. A design change was completed on forty-seven penetrations during this outage to upgrade the design and installation of this piping to a quality that is equivalent to the primary containment. The District will update the CNS ASME Section XI Inservice Inspection Program prior to the 1995 outage to include these piping segments. This action will ensure that the quality level of these piping segments will be maintained in the future. Thirty-five related butt welds were radiographed. Of that total, five rejectable indications were found. Two of the five rejected welds were removed by shortening a piping run and the remaining three welds were repaired. In addition, a total of 262 socket welds were subjected to liquid penetrant examination. There were no rejectable indications.

Based on the as-left leak rate, the repair of rejectable NDE indications on butt welds, and no rejectable indications for socket welds, the District concludes that containment integrity satisfies regulatory requirements. This issue was discussed with the NRC on June 27, 1994.

CAL 4-94-06b
Item 5 (d11)

"Discuss the safety significance of all off-normal or discrepant conditions found in Item 1 of the CAL:

4160-volt undervoltage relay logic and 480-volt undervoltage devices (as found)."

REG Response

4160-Volt Undervoltage Relay Logic

The safety significance of the 4160-volt undervoltage relay discrepancies ~~discovered during performance of Special Procedure 94-208 is as follows:~~

- a) EE-REL-27X3/1G timed out at 14.63 seconds, which is 3.63 seconds longer than allowed by acceptance criteria (10 seconds \pm 10%). This relay provides a close interlock in the DG breaker EG2 close circuit to prevent breaker closure until the 480-volt switchgear breakers feeding non-essential loads have adequate time to trip. The design basis for the DGs specify that the output breaker of the DGs must be closed within sixteen seconds from the time of DG actuation to meet the 10CFR, Part 50, Appendix K Analysis. The 14.63 second timing of EE-REL-27X3/1G would not have prevented DG2 from meeting this requirement. Concurrent with relay timing, DG2 would start, reach required speed, and bus load shedding would occur. Since DG2 would have started within the sixteen second limit and relay EE-REL-27X2/1G would have closed within the sixteen second limit, Bus 1G also would have been powered within the required sixteen seconds and the intended safety function would have been satisfied.
- b) The resistance of contacts 11-12 of EE-REL-27X/1GB was found to be higher than the acceptance criteria limits. These contacts provide a trip signal to breaker 1GE during a loss of voltage. The trip of breaker 1GB separates Bus 1G from the off-site power supply and allows transfer to the Emergency Transformer, if available. The acceptance criteria is <1 ohm and the resistance of these contacts was measured at 3.1 ohms. The 1 ohm acceptance criteria was chosen as a screening point for contacts requiring further evaluation. Subsequent review determined that this contact would have been able to perform as designed under all design basis conditions. Based on the above, the as-found contact resistance had minimal safety significance.
- c) On June 16, during performance of testing associated with Special Procedure (SP) 94-208, a malfunction associated with the 52/IN contact, the breaker position switch, for breaker 1GS occurred after the breaker had been racked to the test position to support testing and then racked in. The breaker malfunction was due to mis-adjustment of its guide wheels which resulted in it becoming misaligned as it was racked into its cubicle. The misalignment led to an over-travel in the position switch as the breaker was electrically cycled, which resulted in the breaker malfunction.

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To ensure that we thoroughly understood the cause of failure, a vendor representative was utilized to assist in evaluating the condition and correcting it. All other safety related breakers of this type have been inspected and no similar conditions were found.

The inoperable status of the breaker did not have an adverse impact on plant safety during the special procedure. Bus 1G had already been declared inoperable and the plant was in Cold Shutdown. The redundant division was available during performance of the special procedure and during repair of the breaker.

During normal operations, breaker 1GS is normally open, and would automatically close upon loss of power from the Normal and Startup Transformers, powering the 1G bus, providing that power is available ~~from the Emergency Transformer. Had this malfunction occurred while~~ at power, the effect would have been that the breaker would not have tripped upon loss of power from the Emergency Transformer.

To assess the operability of the breaker during the past operating cycle, a review of the operating history of the breaker was performed. It was determined that in each case where the breaker was racked in and cycled once successfully, the breaker would then operate properly in each subsequent demand. All failures of the breaker to operate properly have occurred on the first cycle of the breaker after it has been racked in.

On July 18, 1993, the 1GS breaker was racked in and was successfully cycled during the transfer to the emergency transformer and back to the startup transformer. No indication of a breaker problem was indicated between the July 18 cycling and the performance of STP 94-208.

In the misaligned condition, the ability of the breaker to perform its function during a seismic event is being evaluated. In the event that the seismic qualification was not affected by the misalignment, this condition would have had no safety significance. Should the breaker not be found seismically qualified, the safety significance would have been minimal based upon the following discussion.

The sequence of events that would have resulted in an accident scenario of concern is as follows:

- a) loss of a portion of the transmission system and normal off-site power (emergency transformer power source remains available);
- b) closure of the 1GS breaker, transferring the Division II emergency bus to the emergency transformer;
- c) loss of the 1GS breaker trip function due to the effects of a seismic event;

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- d) loss of the emergency transformer, de-energizing both 4160-volt busses; and,
- e) failure of Diesel Generator 1.

Given this sequence, HPCI and RCIC would have been operated in accordance with plant procedures to stabilize the plant. Operator action would be necessary to locally trip the IGS breaker, permitting breaker EG2 to close, allowing the DG to assume the necessary loads.

480-Volt Undervoltage Devices

Due to test failures and demonstrated unreliability of the 480-volt undervoltage trip devices (UVTAs) discussed in Item 5(d)1 above, Nuclear Engineering Design Calculations (NEDC) 94-110, "Operability of DG1 With Additional Loads," and NEDC 94-114, "Steady State Operability of DG and ET With Additional Loads," were prepared to assess whether the EDG units would satisfy their intended safety function, even if the UVTAs did not function as intended. As a result of these calculations, the District concluded that: 1) the EDGs would not have stalled; 2) EDG capacity would not have been exceeded to the degree that performance would have been adversely impacted; 3) EDG tie breakers would not have tripped; 4) the fuel supply would have been adequate; and, 5) all electric motors supplied by the EDGs would have successfully accelerated to operating speed. In summary, the EDG units would have been able to perform their intended safety function, even if all twelve of the UVTAs failed.

CAL 4-94-06b

Item 5 (d)2:

"Discuss the safety significance of all off-normal or discrepant conditions found in Item 2 of the CAL:

surveillance testing acceptance criteria for the control room and turbine building ventilation systems."

WPP Response

As previously discussed, the design basis Control Room operator dose calculation assumes 10 CFM of unfiltered inleakage based on positive pressure in the Control Room envelope. Therefore, the safety significance of the failure to achieve a positive pressure was evaluated by calculating the dose consequences of up to 2000 CFM of unfiltered inleakage. The basis for this assumption and the detailed results of the calculation has been provided to the NRC by separate letter from G. R. Horn, dated July 20, 1994. In summary, the resulting dose would be within GDC 19 and Standard Review Plan (SRP), Section 6.4 limits.

Based on the results of the calculations summarized in the referenced correspondence, the District concludes that the as-found condition of the Control Room envelope had minimal safety significance.

CSL 4-94-06b
 Item 9 (d)3:

"Discuss the safety significance of all off-normal or discrepant conditions found in Item 3 of the CAL:

Containment penetrations."

Response

The majority of the containment penetrations that did not comply with design requirements had been successfully tested at design pressure during the primary containment LLRT last performed in 1991. As-found testing was performed for penetrations which had not previously been subjected to LLRT or LLRT test pressure, and for which as-found testing was determined to be practicable. Testing demonstrated that the leak rates were within Technical Specification limits with the exception of the Drywell Pneumatic Supply Check Valve, IA-CV-65CV, in penetration X-22. Type C LLRT testing revealed this penetration could not be pressurized.

Potential off-site and on-site radiological dose consequences due to leakage from penetration X-22 during the 30 days following the accident were evaluated per calculation NEDC 94-154, "Off-site and On-Site Dose Consequences For LLRT Failure of IA-CV-65CV." The results of this calculation are summarized in the following chart.

Scenario:	Whole Body Dose (Rem)	Thyroid Dose (Rem)	Whole Body Dose Limits (Rem)	Thyroid Dose Limits (Rem)
1) Current Off-site LOCA Dose (QSAR XIV-6.3)	7.4×10^{-3}	9.0×10^{-2}	25	300
2) Off-site LOCA Dose With Additional Leakage from Penetration X-22	4.2×10^{-3}	5.2×10^{-2}		
3) Current Design Basis Control Room LOCA Dose	1.74	11.39	5	30
4) Control Room Design Basis LOCA Dose With Additional Leakage from Penetration X-22	4.42	58.51		
5) Control Room LOCA Dose With Additional Leakage from Penetration X-22 and no SGTS Actuation Delay	4.42	10.85		

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Off-site doses, considering the additional leakage in Scenario 2, are far below the 10CFR100 limits of 25 Rem whole body and 300 Rem thyroid. For Scenario 4 the Control Room doses exceed the SRP 6.4 limit of 30 Rem thyroid, but are below 10CFR Part 100 limits. However, this scenario reflects conservatism which go beyond those required by the relevant guidance documents for dose calculations of this type. The more accurate analysis is discussed below.

Scenario 5, which addresses additional leakage with no Standby Gas Treatment System (SGTS) delay, is more accurate in depicting the Control Room dose. This case does not consider 90 seconds of unfiltered release from secondary containment prior to SGTS actuation, which is assessed in design basis calculations based upon worst case secondary containment valve closure time. The basis for removing this assumption comes from ~~draft NUREG 1465~~, "Accident Source Term for Light Water Nuclear Power Plants," which indicates that it would take over one hour for fission product radionuclides to begin to exit containment. Therefore, it is a more realistic case to assume that all flow from secondary containment containing fission products would be filtered through the Standby Gas Treatment System within this time. Since Control Room dose for the more realistic Scenario, No. 5, is within GDC 19 and SRP 6.4 limits and the off-site dose would be within 10 CFR Part 100 limits, the safety significance of the inoperable X-22 penetration is minimal.

Additionally, barriers that should realistically mitigate the effects of the assigned leak rate include two other valves outboard of IA-CV-65CV and the Instrument Air and Nitrogen Systems. However, since these barriers are non-safety related, they were not taken credit for in the analysis described above. The design pressure/temperature for the associated piping is 125 psi/200°F and the piping system operating pressure for both systems is above 100 psi, well in excess of containment design pressure. These conservatisms provide further assurance that the Control Room operator thyroid dose would be within regulatory limits.

Creation of the postulated release pathway from primary containment requires a failure in the instrument air system piping, both inside and outside containment, concurrent with a DBA LOCA. A Probabilistic Safety Analysis (PSA) was used to estimate the frequency. It was postulated that under accident conditions (large break LOCA resulting in core damage, probability of occurrence $5.94E-08$ /yr.), the line could become a pathway for radionuclides to reach the environment. The probability of a line break outside of containment was assumed to be bounded by the probability of a loss of the Instrument Air System. This probability, including pipe breaks, is conservatively assumed to be $2.58E-04$.

Therefore, the frequency of occurrence of this scenario resulting in a release of radionuclides outside of containment through this penetration to the environment is $1.43E-11$ /yr. This value is well below the regulatory concern value of $1.0E-07$ /yr used in Probabilistic Safety Assessments for containment bypass events. Based on the above considerations, containment penetration leak pathways had minimal safety significance.

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Item 5 (d)4.a.

"Discuss the safety significance of all off-normal or discrepant conditions found in Item 4 of the CAL:

Electrical distribution system surveillance."

Response

A review of the Electrical Distribution System was conducted to verify testing was performed as specified in the Technical Specifications, USAR, and Design Basis. This review identified two discrepancies with potential safety concerns which are discussed below:

- a) Relays 27/1F-1 and 27/1G-1 were not being tested properly per the definition of the instrument functional test. The monthly functional test visually verified contact closure; however, the Technical Specification definition required the associated auxiliary relay to be energized. The past method of functionally testing the relay was not a safety concern because:
 - 1) Relays 27/1F-1 and 27/1G-1 are calibration tested once per cycle and functionally tested once per cycle by surveillance Procedure 6.3.4.3.
 - 2) The subject relays are protective relays which have contact mechanisms in which the relay contact position is visible in the both the open and close conditions. In the test mode, the relay contact will not be in the intermediate position.
 - 3) The monthly functional check did prove the induction disk rotated when the input voltage was removed, indicating a loss of voltage had been detected by the relay mechanism.

The monthly surveillance procedure has since been revised to correct this discrepancy and the relays have been satisfactorily tested.

- b) Two installed Diesel Generator Starting Air pressure indicators for which qualification was in question were discovered. An engineering evaluation was performed which verified that the instruments were qualifiable and capable of performing their safety function. Documentation of their qualification has now been developed. Therefore, the safety significance of this discrepancy was minimal.

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CAL 4-94-06b
Item 5 (d)4.b:

"Discuss the safety significance of all off-normal or discrepant conditions found in Item 4 of the CAL:

Inservice inspection of penetration welds."

NSIP Response

Twelve Class 2 welds were found to have been excluded from the ISI Program. However, even with the addition of the twelve welds to the total Class 2 weld population, the required weld examination percentages are still satisfied. For the current ten year interval, one outage remains to complete inspection interval examination requirements. CNS is confident that the welds are mechanically sound based on NDE verification at original construction. As such, the District has concluded that the safety significance of excluding the 12 Class 2 welds from the ISI Program is minimal. Further information related to this issue is provided in the response to CAL Item 5(g).

CAL 4-94-06b
Item 5 (d)4c:

"Discuss the safety significance of all off-normal or discrepant conditions found in Item 4 of the CAL:

Testing programs implemented in other areas of licensed activities."

NSIP Response

The safety significance associated with ongoing testing programs implemented in other areas of licensed activities is addressed in the response to Item 5(h).

CAL 4-94-06b
Item 5 (a)1:

"Discuss the corrective actions that will be taken to:

Prevent recurrence of the installation of devices (i.e., tie wraps, jumpers, blocks, etc.) that will prevent the actuation of safety-system functions."

NSIP Response

The following corrective actions have been or will be taken:

- a) A walkdown was conducted to verify that no similar cable tie installations were in place. None were found.
- b) A review was performed of station mechanical and electrical maintenance procedures; surveillance procedures in the chemistry, operations, and instrument and control areas, as well as the

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14.x series instrument and control procedures, to identify similar procedural deficiencies. Three mechanical procedures were identified as deficient. Changes have been initiated to correct them. Fifteen electrical procedural deficiencies were identified. Changes have been initiated to correct them. Three minor discrepancies were identified and corrected in the operations and instrument and control procedures. The noted procedure discrepancies will be corrected and approved prior to next use. No discrepancies were identified in the chemistry procedures. Field walkdowns were performed for similar deficiencies that could have been created during past use of the deficient procedures. No equipment configuration discrepancies were found.

- c) A revision has been made to Maintenance Work Practice (MWP) 5.0.4 to ~~add guidance to further ensure that any impairments, changes, or~~ blocking devices installed during performance of maintenance have been removed prior to completion of the procedure.
- d) In response to management deficiencies, maintenance supervision has held meetings with their personnel to emphasize the need for procedure compliance and immediate correction of problems and incomplete understanding of procedure requirements. Considerable effort is also being expended by Maintenance Management to ensure that expectations are clear regarding procedure compliance, procedure adequacy, and control of maintenance activities.

OHL 4-94-06b

Item 5 (e)2:

"Discuss the corrective actions that will be taken to ensure that the design basis surveillance testing criteria are established and maintained for the facility."

MWPP Response

The testing requirements specified in Technical Specifications and the OSAR for the major components of six critical systems have been reviewed against existing surveillance procedures. The systems reviewed included:

High Pressure Coolant Injection
 Reactor Core Isolation Cooling
 Residual Heat Removal (Low Pressure Coolant Injection mode)
 Core Spray
 Automatic Depressurization
 Emergency Diesel Generators

The review was performed as follows:

- a) An existing cross reference between Technical Specifications and surveillance procedures, which is maintained by the Surveillance Coordinator, was independently reviewed for correctness.

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- b) The Technical Specification surveillance requirements were reviewed against the respective surveillance procedures to determine if the requirements were being met.
- c) USAR sections describing the six systems were reviewed to determine if the USAR requirements were being met by the surveillance.

The results of this review are summarized in the response to Item 5(h).

Also, the District will verify that operating and surveillance test procedure content and surveillance test acceptance criteria are consistent with the design basis. Verification of surveillance testing program adequacy will be accomplished for future system-related Design Criteria Documents (DCDs) as part of the Design Basis Reconstitution Project. ~~Based upon a risk assessment, management has selected those systems that~~ will be completed on an expeditious basis.

An in-depth systematic review of the surveillance test program was initiated on July, 11 1994. This review addresses testing requirements specified in the Technical Specifications, the USAR, and those completed DCDs to ensure that the surveillance test procedures, including those specifically developed for ASME IST purposes, adequately incorporate pertinent requirements. This review is scheduled to be completed by March 1995. The systems included in the scope of this review are those for which Technical Specification testing requirements are specified.

Organizational and programmatic changes will be made to enhance configuration control consistency between design input and design output documents to ensure that: 1) procedure modifications are reviewed for impact on design input documents; 2) design output documents are revised when affected by changes to calculations; and, 3) changes to CNS engineering program documents (e.g., LLRT) are reviewed for impact on design input documents. Additionally, the District will perform a review to identify additional design input and output documents that require enhanced configuration maintenance provisions.

CHL 4-94-06b

Item 5 (f) :

"Discuss the lessons learned by the Cooper Nuclear Station staff in response to the incident involving the undervoltage trip function in the motor control center supply breaker, including the lack of prompt recognition of the potential safety significance of some issues."

Response

An assessment was performed of CNS performance related to the noted incident. The District found that the initial response was narrow, compliance-based, and poorly directed by management. Management and staff exhibited narrow-focused and compliance-based values. Although the District has been striving to provide the tools and management oversight to overcome those behaviors, it is clear that efforts have not yet been successful.

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Management performance issues are being addressed in great part by changes in management staff, communicating management expectations, and requiring an increased level of accountability. The District's immediate goal is to acquire new talent with higher performance standards, to deepen management resources, and to allow reassignment of some incumbent managers to other areas of need, while bringing fresh industry perspective to Cooper Nuclear Station's central management structure. A new Site Manager and Licensing Manager, both from plants which recently improved their performance, were hired on July 11. The Maintenance Manager has been replaced with a new senior manager with many years in the Navy. A new senior manager with many years in the Navy has been hired. A new Corrective Action Program Manager has been assigned. Condition Resolution Team mentor support has been provided, and five full-time, rotational Condition Resolution Team Leader positions are being established. Additional planning is underway for replacement or reassignment of the other key senior and middle manager positions, as appropriate.

Weaknesses in Quality Assurance staff performance during recent events are being addressed by: 1) the establishment of stronger guidance for dealing with emerging issues and interaction with the line organization; 2) increased oversight and supervision of QA field activities by QA Division and Department Managers; 3) training to improve safety and assessment skills (underway and to be completed by August 1994); and, 4) publication of senior management expectations for quality assessment activities.

Management oversight of Condition Review Group (CRG) activities has been increased by having a senior manager oversee the CRG's evaluation and decision making activities in the role of a protagonist to ensure adequate rigor and urgency. Condition Reports are being more thoroughly screened for significance by the Technical Staff prior to submittal to the CRG.

To improve safety attitudes and performance, training in safety principles and performance-based evaluation techniques will be provided to appropriate segments of the NPG staff starting in September 1994. Advanced root cause analysis and investigation training will also be provided.

Other programs were found to be ineffective during recent events. For example, the Operating Experience Review (OER) program should have addressed the inadequate diesel load shed testing and logic system functional testing problems. To ensure that this deficiency is not pervasive, a comprehensive review of past operating experience documents has begun.

The absence of design basis information adversely affected the District's efficiency in responding to potential safety issues. As a result, the reconstitution schedule has been accelerated. Efforts to review and upgrade the CNS surveillance and other testing programs are discussed elsewhere in this letter.

In summary, the District has taken, and will continue to take actions responsive to technical, programmatic, and managerial problems as they are identified.

CNS 4-94-06b
Item 5 (g) :

"Discuss the basis for your determination that the testing programs for electrical distribution system surveillance testing and inservice inspection of penetration welds are technically adequate and complete."

Response

Electrical Distribution

The District is confident that the surveillance testing of the Electrical Distribution System (EDS) for Cooper Nuclear Station is adequate. This confidence is based on the number and scope of actions that have been taken. ~~The following summarizes some of the more significant activities~~ and improvements that have been made during the current outage.

- a) compared the General Electric ECCS input assumptions against the Emergency Diesel Generator (EDG) load calculation;
- b) upgraded the 480-volt undervoltage design;
- c) reviewed the 4160-volt first and second level undervoltage logic and conducted additional testing via special procedures, temporary procedure changes, or new surveillance procedures;
- d) revised the EDG sequential loading test procedure and performed the revised test on both divisions to ensure appropriate load shedding;
- e) reviewed maintenance practices regarding installation and removal of devices such as cable ties, jumpers and contact boots and initiated procedure changes where necessary;
- f) reviewed operating procedures for proper operation of the Electrical Distribution System;
- g) reviewed the battery load study and compared it with battery load testing procedures;
- h) reviewed Design Criteria Documents (DCDs) for AC, DC, and EDGs at the component level, including support systems (e.g., Fuel Oil Transfer, HVAC, etc., that support the EDGs) to ensure proper testing/functionality could be demonstrated; and,
- i) reviewed the above DCD listings for Licensing commitments and open items identify items of potential safety significance.

Future actions planned by the District are addressed in response to Items 5(e)1 and 5(e)2.

With regard to preconditioning, CNS will neither test nor repair components, systems, or structures for the purpose of satisfying as-found acceptance criteria in surveillance tests. As-found testing will be performed prior to maintenance requiring adjustment of setpoints or

re-calibration per the surveillance program. For example, prior to performance of Technical Specification instrument surveillance calibrations and setpoint adjustments as-found data will be recorded. Similarly, prior to performance of maintenance on essential electrical breakers, as-found data will be recorded.

Inservice Inspection of Penetration Welds

As discussed during the July 8, 1994, meeting with the NRC, examples of incorrect classification of primary containment penetration piping welds were identified. As a result, a commitment was made to assess the ISI Program, to submit an addendum to add the excluded welds, component supports, and pressure test boundaries to the ISI Program, and to submit relief requests if required prior to the 1995 refueling outage to ensure ~~10CFR~~ Section XI requirements are implemented. Upon completion of these activities, the District will consider the ISI Program to be technically adequate and complete.

CML 4-94-06b
Issue 9 (A) :

"Discuss the basis for your assurance that the testing programs for other licensed activities are adequately implemented."

Issue Response

As discussed in Item 5(e), the surveillance testing for the major components of six critical plant systems has been reviewed to ensure conformance to the USAR and Technical Specification testing requirements. These reviews were performed on systems with substantial safety significance: High Pressure Coolant Injection, Reactor Core Isolation Cooling, Residual Heat Removal Low Pressure Coolant Injection Mode, Core Spray, Automatic Depressurization, and Emergency Diesel Generator Systems. The review found several discrepancies between CNS tests and the USAR. The discrepancies were corrected by USAR revisions or were incorporated into surveillance test procedures.

As a result of the investigation of the undervoltage trip assembly problems, the District also reviewed its program for logic system functional testing (LSFT). This review included the following systems:

High Pressure Coolant Injection	Standby Gas Treatment
Reactor Core Isolation Cooling	Reactor Building HVAC
Reactor Protection	Diesel Generator HVAC
Control Room HVAC	Reactor Equipment Cooling
Residual Heat Removal	Core Spray
Alternate Rod Insertion	Fire Protection
Service Water	Low-Low Set
Automatic Depressurization	Diesel Generator Lube Oil
Standby Liquid Control	Diesel Generator Auto Start
Diesel Generator Fuel Oil	Primary Containment Isolation (Gr 1-7)
Diesel Generator Starting Air	Anticipated Transient w/o Scram

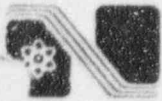
Each contact in the above listed systems was evaluated to determine if it performed an essential safety function and to determine whether a procedure existed which confirmed each contact's operability. Where testing was not being performed, either appropriate procedures were revised or special test procedures were issued to perform the testing. Completion of this testing has confirmed the design and functionality of the logic systems. From all of the testing performed, one minor, non-safety significant discrepancy associated with relay timing was noted. The delay relay REC-REL-1FR was found outside of its allowable range (27 to 30 seconds), but within procedural limits (15 to 60 seconds). Actual delay time was 33.27 seconds. The relay was calibrated and retested satisfactorily.

Furthermore, the District has implemented several programs and activities to critically evaluate and improve CNS operation. As part of these longer range programs, a series of self-evaluations of key programs continues to be performed, including those involving licensed testing activities. Examples include: fire protection, MOV program, Appendix J, ISI, IST, and instrument setpoint. "Health Reports" are also being generated for each program. These reports consider a number of program performance factors including currency of the program with industry practice, currency with regulatory issues and commitments, and establishment of adequate program controls. The health reports for activities involving testing programs include the surveillance testing program, the calibration program, inservice testing program, containment leak rate testing program, relief valve setpoints, instrument setpoints, relay setpoints, and the MOV program.

While no significant deficiencies were identified, a health report for the Protective Relay Setpoint Program identified concerns related to overall program management. Previously, control of the setpoints included in this program was considered one of many elements of the electrical maintenance program, not a unique setpoint program. Currently, program responsibility has been assigned to the design engineering group.

In addition, inservice testing and inspection, containment leak rate testing (program upgrades in progress), and the Check Valve and Vendor Manual Programs were all found to have health ratings that require further in-depth assessment and program improvements. The most significant concerns have been related to program ownership and support (i.e., management), not technical concerns. No technical deficiencies that would impact safe plant operation have been identified. Management concerns previously noted will be addressed. Any safety significant technical deficiencies discovered during in-depth program reviews will be evaluated for impact on safe plant operation and aggressively resolved.

While some activities remain to be completed, the District has concluded that testing programs for other licensed activities are adequately implemented.



Nebraska Public Power District

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NLS9400026
August 8, 1994

Mr. L. J. Callan
Regional Administrator
NRC Region IV
611 Ryan Plaza Drive
Suite 400
Arlington, Texas 76011

Subject: Response to Request for Additional Information
Cooper Nuclear Station
Docket No. 50-298, DPR-46

- References:
1. Confirmatory Action Letter (Revision 2) dated July 1, 1994 to Guy R. Horn - Nebraska Public Power District (CAL 4-94-06B).
 2. Letter from G. R. Horn (NPPD) to L. J. Callan (NRC) dated July 29, 1994, "Response to Confirmatory Action Letter."
 3. Meeting Between Nebraska Public Power District and the Nuclear Regulatory Commission on July 29, 1994, concerning restart readiness.
 4. Confirmatory Action Letter Dated August 2, 1994, to Guy R. Horn - Nebraska Public Power District (CAL 4-94-08).

Dear Mr. Callan:

On July 1, 1994, Confirmatory Action Letter 4-94-06B was issued which verified, among other things, that Nebraska Public Power District (the District) would provide the Nuclear Regulatory Commission (NRC) Region IV office with a letter that discussed eight areas of interest.

On July 29, 1994, the District provided the letter to the NRC and participated in a meeting with the NRC to discuss plant restart. With these two activities completed, all items in CAL 4-94-06B that were agreed upon as a precursor to plant restart were satisfied. However, at this meeting, the NRC requested additional, more detailed information regarding the District's component and system preconditioning policy, and its relationship to the implementation of testing programs. The NRC also requested, prior to restart, that the District document some of the detailed discussions held during the meeting and, in some cases, provide more detailed information on how reviews addressed in the July 29, 1994, letter were conducted. Attachment 1 to this letter provides the detailed information.

On August 2, 1994, the NRC issued CAL 4-94-08, which requested that (as a supplement to the CAL 4-94-06B response) the District describe its basis for concluding that an adequate review of Cooper Station operational experience,

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industry experience, and NRC information has been conducted to support plant restart. The NRC requested that the District's discussion also address two recent cases where previous District reviews apparently did not address certain precursor information. Attachment 2 to this letter provides this information. The NRC requested that all of the above information be provided before plant restart and that the information be discussed at a public meeting, currently scheduled for August 12, 1994, at the Cooper Station.

All of the District's activities, collectively considered, represent an extensive amount of work aimed at confirming that there are no significant issues at the Cooper Station which would warrant continued plant shutdown. The District has been very responsive to NRC concerns and often has conducted investigations that typically would not be considered a condition for plant restart. The District acknowledges that some of its reviews (e.g., Operating Experience Reviews) may not have identified all issues. Although some investigations are ongoing, the District does not anticipate that its continuing efforts will uncover deficiencies that have a significant impact on public health and safety. If any safety significant findings occur, the District will take appropriate actions up to and including plant shutdown, if necessary. Of course, further evaluations will be conducted as soon as possible, consistent with schedules discussed with the NRC.

If there are any questions regarding information presented in the attachments, or on other matters, please call.

Sincerely,



G. R. Horn

Vice President, Nuclear

RCG/nr

Attachments

cc: U.S. Nuclear Regulatory Commission w/attachments
Attention: Document Control Desk

NRC Resident Inspector Office w/attachments
Cooper Nuclear Station

NPG Distribution w/attachments

ATTACHMENT 1

A. DETAILED DISCUSSION OF INITIATIVES

Recent events at Cooper Nuclear Station (CNS) prompted several District initiatives to determine the scope of the equipment and process deficiencies that exist at the Cooper Station. Many of the actions taken to correct immediate deficiencies have been detailed in meetings and/or other correspondence with the NRC. While there may be several ways to perform reviews of issues, the District is confident that its approach is satisfactory for determining restart readiness. The following section details actions taken by the District.

1. CONFIGURATION CONTROL - CABLE TIE

The District concludes that the following actions represent a comprehensive investigation of the cable tie issue and should prevent recurrence of similar deficiencies. The District took the following actions to determine the scope of the problem and to correct any actual or incipient configuration control deficiencies.

First, a walkdown was conducted to verify that no similar cable tie installations were in place. None were found. The next step was to review station mechanical and electrical maintenance procedures; surveillance procedures in the chemistry, operations, and instrument and control areas; and the 14.x series instrument and control procedures, to ensure that configuration control had been maintained. Three mechanical procedures and fifteen electrical procedures required revision, along with three minor discrepancies in the operations and instrument and control procedures. No discrepancies were identified in the chemistry procedures. The above listed items will be corrected prior to next use of the procedure and do not adversely impact restart of the plant.

Concurrent with these activities, field walkdowns were performed to look for deficiencies that could have been created as a result of using the deficient procedures. No equipment configuration discrepancies were found. Based on these activities it was reasonably concluded that the cable tie condition was limited to the example identified.

To ensure that configuration control continues to be procedurally maintained, a revision has been made to Maintenance Work Practice (MWP) 5.0.4 to add guidance to further ensure that any impairments, changes, or blocking devices installed during performance of maintenance are removed prior to completion of the procedure. Also, management has held meetings with maintenance personnel to emphasize expectations with regard to configuration control, procedure compliance, and immediate correction of ambiguous or incomplete procedures. Additional meetings will be held to ensure that sensitivity to this issue continues.

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2. LOGIC SYSTEM FUNCTIONAL TESTING

The activities summarized below provide adequate assurance that logic system functional testing at Cooper Station is adequate. This concern evolved as a result of the discovery of the RHR Service Water Booster pump contacts that had not been tested. The process utilized for this issue is described below:

When the District discovered that contacts had not been tested as required, a review of the following systems was begun:

High Pressure Coolant Injection	Standby Gas Treatment
Reactor Core Isolation Cooling	Reactor Building HVAC
Reactor Protection	Diesel Generator HVAC
Control Room HVAC	Reactor Equipment Cooling
Residual Heat Removal	Core Spray
Alternate Rod Insertion	Fire Protection
Service Water	Low-Low Set
Automatic Depressurization	Diesel Generator Lube Oil
Standby Liquid Control	Diesel Generator Auto Start
Diesel Generator Fuel Oil	Primary Containment Isolation (Gr 1-7)
Diesel Generator Starting Air	Anticipated Transient w/o Scram

The elementary logic diagrams for each system were reviewed, contact by contact, and correlated against the existing surveillances. The screening methodology was as follows:

- a. Does an existing surveillance actually verify the operation of the contact directly? If yes, then no further action is necessary. If no, then proceed to b.
- b. Does the contact perform an automatic essential function as determined by an engineering review of the Technical Specifications and the USAR? If yes, then test prior to startup. If no, test after startup.

This review was completed on June 5, 1994, and testing commenced. In mid-July, due to a question concerning the LOCA signal auto close contacts for the Core Spray full flow test valves (which had been scheduled for post startup testing), a re-review of the post startup population of contacts was directed by senior management using this additional criterion:

Is the contact operationally significant (i.e., interlock that prevents an operator error) and not verified by existing testing? If yes, then test before startup. If no, then test after startup.

The second screen was completed on July 18, 1994. All contacts have been satisfactorily tested. A plan will be generated to address contacts requiring testing after startup.

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3. SURVEILLANCE REVIEW

The District concludes that the following activities adequately determined the extent of the surveillance deficiency revealed by the undervoltage and load shed testing inadequacies. A team of experienced Senior Licensed Operators reviewed the CNS Technical Specifications, USAR, and surveillance programs to identify any weaknesses or discrepancies. The major components (i.e., pumps and valves) of the following systems were reviewed: High Pressure Coolant Injection, Reactor Core Isolation Cooling, Residual Heat Removal (Low Pressure Coolant Injection mode), Core Spray, Automatic Depressurization, and Emergency Diesel Generators.

The review was performed as follows:

- An existing cross reference between Technical Specifications and surveillance procedures, which is maintained by the Surveillance Coordinator, was independently reviewed for correctness.
- The Technical Specification surveillance requirements were reviewed against the respective surveillance procedures to determine if the requirements were being met.
- USAR sections describing the six systems were reviewed to determine if the USAR requirements were being met by the surveillance.

The above reviews represent a significant undertaking by District personnel in a short period of time (July 2 to July 5, 1994). Reviewers developed a list of questions/discrepancies which was assigned to the appropriate departments (engineering, maintenance, etc.) for resolution. The discrepancies have been evaluated and incorporated into surveillance procedures, or corrected by USAR revisions. Additionally, the Design Basis Reconstitution Project will be accelerated and will include a review of surveillance testing adequacy for all systems in the project.

Based on the above reviews, the District has reasonable assurance that surveillance procedures adequately implement regulatory requirements.

4. DESIGN BASIS REVIEW OF THE ELECTRICAL DISTRIBUTION SYSTEM

While the reviews of various specific items were addressing individual concerns, the District determined that a comprehensive evaluation of the entire system should be performed to ensure that the problems were not endemic. As a secondary matter, this review also would address the adequacy of implementation of the Operating Experience Review (OER) program. This effort has received additional scrutiny because of its failure to adequately address the Westinghouse DB 50 breaker issue. The Electrical Distribution System (EDS) (AC Distribution, DC Distribution, and the Emergency Diesel Generators) was chosen because many of the recent problems appeared to affect electrical components and testing, and because of this system's critical nature. The investigation concluded that EDS components would have performed their intended safety function.

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Starting on July 19, 1994, a multi-discipline integrated review of the EDS was performed. The team consisted of personnel from the Engineering Department and Senior Reactor Operators. This review utilized design criteria documents (DCD) and evaluated the actual requirements at not only the systems level, but also at the component level. Included in these system level and component level reviews were support systems such as DG fuel oil, HVAC, DG lube oil, etc. Each of the commitments affecting testing or plant safety was reviewed to determine if they were adequately met. The initial review of the DCDs resulted in 49 questions requiring further evaluation and were investigated by Design Engineering, System Engineering, Operations Engineering, Configuration Management, or Operations Support Group. All of these items have been addressed. The review was completed on July 28, 1994.

B. ADDITIONAL DISTRICT REVIEWS

While the actions taken as a result of the technical issues that arose during the current shutdown provide some assurance that systems and components required for plant operation will function as required, the District concluded that additional reviews were warranted before startup. Therefore, the following actions have been taken:

1. OPERATING EXPERIENCE REVIEW

In 1993, the District recognized that its Operating Experience Review (OER) Program must be improved. This effort began in September 1993. The 1993 program began with a review by the Corrective Action Program Overview Group (CAPOG) of twenty percent of approximately two years of operating experience documents. On December 1, 1993, due to approximately a ten percent rejection of OER assessments, the sample size was expanded by another twenty percent. As discussed further in Attachment 3, the SBM switch and REC corrosion-related correspondence were not in the CAPOG sample population. Again, CAPOG re-reviews were a sampling effort that was not intended to assess all OER closeout documentation. Therefore, the fact that these issues were not satisfactorily closed was not fostered by 1993 OER oversight efforts.

However, due to the failure of the 480 VAC undervoltage trip devices, the District has commenced an additional pre-startup review of closed OER information. The scope of this review covers all closed OER responses for the years 1992, 1993, and 1994, all closed pre-1987, and 25% of 1987-1991 responses. The 1992-1994 period was chosen to validate the adequacy of the current program and represents approximately 25% of the entire historical database. A 100% review of the pre-1987 period was chosen because there was an apparent lack of formality in the program at that time. A 25% sample of the 1987-1991 population was chosen to provide assurance of program adequacy after it was formalized in 1987. This recent limited review provides a reasonable basis for the District's

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conclusion that the OER program has not overlooked issues that have a significant impact on plant safety. The screening criteria used during this review are as follows:

- The item could adversely affect nuclear safety.
- The item is needed to comply with the CNS Technical Specifications.
- The consequences of not completing the OER action could affect the ability of a safety system to satisfy its design function.
- The consequences of not completing the OER action could result in reduced safety system availability.

The closure documentation for items meeting the screening criteria are then reviewed for adequacy. If the basis for closure does not appear fully adequate, the item will be re-reviewed by NPPD engineering. CNS management will determine if pre-startup actions are required for any inadequate responses as determined by engineering. If an item does not satisfy the above criteria, it is assumed that the previous review, if inadequate, would not have a significant safety impact.

Approximately 14% of the pre-1987 items, approximately 6% of the 1987 - 1991 items, and approximately 0.4% of the post 1991 items (2 out of 552) have been returned for review of response adequacy.

A full review of the OER database responses for adequacy will be performed with an estimated completion time of 2 years.

The LER database also is being screened to identify recurring issues. Recurrence of the same or similar issues is indicative of a potentially inadequate corrective action. Those items found by the screening will be evaluated against the criteria defined above to determine if corrective action review is required prior to startup and CNS management will determine if any followup corrective actions will be required prior to startup. The remaining items will be reviewed after startup and the need for further action determined.

2. ASSESSMENT OF COMMUNICATION EFFECTIVENESS

Recent events at CNS have shown that additional efforts are necessary to ensure that everyone understands management expectations, especially for those issues that have been named as causes of recently discovered deficiencies, e.g., procedure use, preconditioning, and importance of problem identification. Since the maintenance organization also has been involved in several recent findings, additional management meetings have been held with the maintenance staff to discuss issues and to communicate expectations.

To reenforce the expectations expressed in the management meetings, the Site Manager issued a memorandum to the site dated July 29, 1994. This memorandum specifically addressed preconditioning of components for the purpose of passing

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surveillance tests, maintaining a questioning attitude, and the importance of clear and precise communication.

Independent of the above, from July 30, 1994, to August 1, 1994, the QA Division conducted a series of interviews with maintenance, operations, instrumentation and control, and chemistry to assess the state of understanding and acceptance of management's expectations. A specific list of questions covering procedural adherence, preconditioning, and identification and reporting of deficiencies was used. The following discussion provides a summary of the QA effort.

Preconditioning

The interviews had mixed results. For example, within the areas explored, management has been effective in communicating its expectations to NPG personnel with one notable exception. While over 93% (222 of 238) of personnel interviewed had an acceptable understanding of what constitutes preconditioning, 45% (107 of 238) did not clearly understand the importance of not preconditioning. The majority of these personnel discussed the effects on as-found readings, the ability to accurately identify problems or the inability to trend problems. While these are also important factors, the key issue of functionality does not appear to have been adequately communicated and/or absorbed. It appears that this lack of full understanding is the result of inadequate training on the subject.

CNS management is currently evaluating appropriate ways to expand preconditioning training to ensure complete understanding of the policy by all personnel.

Procedure Adherence

Interview results indicate that there is a very good understanding of management's expectations throughout the Nuclear Power Group. Virtually every individual interviewed clearly understood both the need for procedural use and compliance, as well as the need to question the adequacy of the procedures and instructions they use as part of their daily routine. Fifteen percent of interviewees, however, expressed that they did not fully understand management's expectations, many because the expectations were changing so rapidly, it was difficult to definitively state that they were understood. This is an understandable reaction to the many recent culture improvement initiatives. Through continued management reinforcement of expectations, this concern will dissipate.

Problem Identification

The interview results indicate that management has been very effective in communicating expectations in this area. Virtually all of those interviewed expressed a clear understanding of their responsibility to identify and document problems and concerns to ensure that they are corrected. However, management is concerned that interviews also indicated that several individuals are reluctant and/or uncomfortable with escalating problems that they did not feel had been resolved to their satisfaction. In this regard, reluctance by one individual is too many. Therefore, management will be increasing its focus on this aspect of problem identification.

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3. STARTUP AND POWER ASCENSION MANAGEMENT PLAN

Cooper Nuclear Station has developed a Startup and Power Ascension Management Plan to ensure that plant equipment, personnel performance, and organizational responsiveness are ready to support a safe and reliable plant startup and ascension to full power operation. A copy of this plan is provided (for information) as Attachment 3. The District does not anticipate forwarding subsequent revisions to the NRC. The Plan's purpose will be accomplished through the following objectives:

- Assign temporary positions and responsibilities to provide accountability and clear lines of responsibility during the startup and power ascension process.
- Establish communication paths to ensure accurate and timely transfer of information to support startup and power ascension.
- Describe outage activities to ensure completion of work supports a safe startup.
- Resolve emergent issues in a timely manner so safe startup and power ascension are not impeded.
- Conduct startup and surveillance testing in a safe and efficient manner to ensure that system and component operability support startup and power ascension

Two aspects of the plan are of special interest. First, each system engineer will review open items for his or her system to ensure there are no unresolved items which may impact that system. Open items for review include (among others) operating experience reviews, maintenance work requests, and temporary conditions. The completion of this review will be certified by the system engineer and reviewed by management.

Second, the manager of each station department will review open action items, condition reports, training, etc., to ensure that his department is ready to support startup and plant operation. As with the system engineer, the completion of the review will be certified by the department manager and reviewed by senior management.

Any item that meets one or more of the following criteria must be addressed prior to startup:

- The item could affect nuclear safety.
- The item is necessary for a safety system to satisfy its design function.
- The item is needed to comply with the CNS Technical Specifications.
- The item may result in reduced safety system availability, increased forced outage rate, or reduced capacity factor in the time before it is completed or resolved.

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4. FIELD COACHING TEAM

Obtaining prompt and precise feedback on performance in the field has been a problem at Cooper Station. This has occurred in great part because effective communication methods to ensure that this information exchange occurred did not exist in all areas. To remedy this deficiency for the short term, CNS has established a multi-disciplined team of CNS personnel headed by an independent manager charged with monitoring operations, maintenance, and surveillance testing in the field to ensure management requirements for proper testing and maintenance are understood and executed.

Charter

A charter has been written for this Field Coaching Team (FCT) which establishes specific criteria for observation and evaluation of field activities. At a minimum, the FCT team will observe adherence to procedures, identification and resolution of procedural inadequacies, awareness of any potential for a process or activity to contribute to preconditioning, demonstration of effective communication, and the performance of work in a safe and quality manner.

Scope

This process will focus at a minimum on:

- Adherence to procedures/instructions.
- Identification and resolution of procedure/instruction problems and inadequacies.
- Identification and resolution of any potential preconditioning problem.
- Identification and resolution of ineffective communication.
- Ensuring effective utilization of resources to accomplish tasks safely and with quality results.
- Insuring any perceived schedule pressure is corrected.
- Insuring identification of problems and generation of CRs when appropriate.
- Application and consistent use of self-checking.
- Supervisory involvement in field activities.

Process

FCT personnel will be provided with orientation training by the Site Manager to ensure that they fully understand management expectations. Once trained, team members will disperse into the field, making their presence and function known to all personnel engaged in an observed activity. At no time will the team

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subvert the role of line management -- in fact, they will serve as augmentation to line management's ability to observe and correct inappropriate practices. Specific techniques for assessment will be as dictated by the activity being observed, with appropriate consideration to the level of intrusiveness necessary to fulfill the objective and purpose of the FCT process. The District currently anticipates that the FCT team will observe pre-startup testing, and startup and power ascension testing. Once the startup and power ascension is complete, the team will remain in place to observe field activities until its purpose has been fulfilled.

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SBM Switches and Reactor Equipment Cooling Piping

As noted in Attachment 1, the 1993 OER review effort established a screening criteria for determining which findings required additional focus. This effort utilized a sampling approach to determine with reasonable assurance that previous OER efforts were satisfactory. Results of an assessment of the 1993 reviews could fall in one of three primary categories: (1) the components were not part of the sample group and therefore, the District's re-review did not directly miss potential safety issues, (2) the components were reviewed by the District as part of its sampling effort and it was reasonably concluded that the issues had been adequately addressed, or (3) the components were reviewed by the District as part of its sampling effort and it was erroneously concluded that the issues had been adequately addressed.

A review was performed to determine whether the SBM switches and REC issues had been specifically assessed by the OER review. Neither the SBM switches nor the REC issues were included in the sampling review. Therefore, it is reasonable to conclude, based on current findings, that these previous reviews were adequate. This conclusion, however, should not be considered an excuse for not identifying the SBM switch and REC issues. Proper questioning attitudes should have led to further discussion and satisfactory resolution of these issues. Notwithstanding these conclusions, the District assessed the potential safety significance of SBM switch failures and the REC System. A brief summary of safety significance conclusions is provided below.

SBM Switches

A review of SBM switch operating history at CNS illustrates that since GE SIL 155, "Possible Failures of Type SBM Control Switches," recommended inspection and refurbishment of the switches in 1980, there have been two switch failures (February 1989 and July 1994) due to the phenomenon described in the SIL. Seven additional switches with broken cam followers have been observed. However, this condition did not result in switch failure and none of the failures or cracks have occurred in switches refurbished in 1980.

During recent inspections a majority of switches not refurbished in 1980, had one or more cam followers categorized as "Category B" per GE SIL 155. However, this status is not considered a failure. GE does not recommend these switches be replaced and has conducted testing that shows approximately 45,000 successful switch cycles can be expected before switch failure. Therefore, the Category B switches are expected to perform upon demand. However, the District will establish a replacement protocol for the pre-1976 switches.

With approximately 140 installed essential switches and 14 years of operating experience since switch refurbishment, two switch failures equals a failure rate of 0.001 failures per year or approximately one switch failure every eight years. Additionally, industry experience (as evidenced by industry data base searches) indicates an extremely reliable switch operating history.

The District evaluated whether any safety functions would have been defeated had the switch failures occurred during a design basis accident. In summary, no safety functions would have been adversely impacted. This is due primarily to

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a combination of design redundancy in the switch contacts and components that are not required to change position to perform their intended safety function.

REC System

On July 29, 1994, a pinhole leak was discovered in a 12 inch non-essential REC weld. A section of the weld containing the flaw was sent to General Electric for metallurgical examination. The examination determined that Intergranular Stress Corrosion Cracking (IGSCC) was the most likely cause. The root cause was then determined to be nitrite induced cracking similar to that experienced in 1979 and 1980 at CNS. Subsequently, a second leak was found in a 6 inch section of non-essential piping.

An inspection program was initiated using the methodology defined in NCIG-02 (revision 2), "Visual Weld Acceptance Criteria, Volume 2: Sampling Plan for Visual Reinspection of Welds." The scope of the inspection eventually encompassed Ultrasonic Testing (UT) of 117 welds in the essential portions of the system piping. Of the 117 welds examined, 5 were found to have crack-like indications. Of the 5 welds with indications, 4 were acceptable per IWB-3600. All 5 welds will be repaired prior to startup. The remaining 112 welds had no crack indications.

The District also has performed a preliminary safety assessment of the as-found condition of the REC system. Of the 5 flaws found, 4 were acceptable per IWB-3600 and did not represent a threat to piping integrity. The remaining indication was within the critical flaw size and therefore, had it continued to propagate, would have leaked before the structural integrity decreased below acceptable limits. The non-essential portions of the piping perform no safety function and are isolated on a design basis event.

The only other safety related system in which nitrites are or were used is the Diesel Generator Jacket Water System. The use of nitrites as a corrosion inhibitor in diesel generator jacket cooling water is common industry practice. Per the Cooper-Bessemer "Model KSV Emergency Diesel Generator Lubricating Oil and Jacket Water Analysis Guidelines," (Revision 1 dated 1993), a nitrite based corrosion inhibitor program is recommended. Eight of nine current owners follow this recommendation. No leaks have occurred due to cracking in the Diesel Generator Jacket Water System at CNS and Cooper-Bessemer has no history of jacket water leakage as a result of nitrite use.