Consumers Power
POWERING MICHIGAN'S PROGRESS

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August 11, 1994

Mr. James M. Taylor
Executive Director for Operations
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

DOCKET 50-255 - LICENSE DPR-20 - PALISADES PLANT - RESPONSE TO DIAGNOSTIC EVALUATION TEAM REPORT

Dear Mr. Taylor:

Consumers Power Company's executive management has carefully reviewed your letter and the Diagnostic Evaluation Team (DET) Report which were issued on June 15, 1994. This letter provides our response to the DET Report, explaining how the DET findings and our evaluations of root causes are being addressed.

Consumers Power Company (CPCo) is dedicated to the safe, cost-effective, and reliable operation of Palisades. Beginning in mid-1993, a decline in performance at Palisades was becoming evident. CPCo began an evaluation of this declining performance prior to, and concurrent with, the NRC's Diagnostic Evaluation. During the period of the Diagnostic Evaluation, CPCo took numerous short-term actions to improve performance at Palisades, as well as work with the DET to identify longer-term issues that needed to be addressed. With the help of the DET, CPCo identified long-term actions intended to enhance the performance of Palisades, and integrated these actions into the Palisades Performance Enhancement Plan (PPEP). In addition, a Plant Restart Plan was undertaken to ensure that all weaknesses were comprehensively reviewed. Necessary short term actions were then taken to bridge the period until the PPEP could take effect. The short-term actions and the PPEP are described in Attachment 1. These actions not only provide the foundation for improvements in performance at Palisades, but also form the basis for resolution of the concerns identified in the DET Report. The significant actions include:

- In the first quarter of 1994, CPCo established a new top level management team for its nuclear operations, including a new Senior Vice President, Vice President of Nuclear Operations, and Plant General Manager for Palisades. The new management team has established a higher standard of performance based upon the fundamental principles of placing quality over cost and schedule, instilling a questioning attitude in all personnel, and open communications and interactions between all levels of the organizations and between different groups within the organization.

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- CPCo has taken steps to better identify its own problems, including stressing the importance of self-assessments; adding experienced individuals to the Nuclear Performance Assessment Department and modifying the role of the Nuclear Performance Assessment Department to focus on oversight, assessments, and trending; establishing a Management and Safety Review Committee with outside experienced individuals to provide for more diverse observations of performance; and enhancing the corrective action process by expanding the scope of issues requiring reporting to include nonconsequential items and requiring management review of root cause evaluations. CPCo recently established an ad hoc Management Advisory Group (MAG) to conduct an independent assessment of progress in achieving improvement and the adequacy of PPEP.

- CPCo established a plan for restarting the plant from the forced outage, which ended on June 18, 1994. The Restart Plan included reviews of fourteen safety systems to evaluate the individual and cumulative effect of outstanding issues, reviews by departments to confirm their ability to support continued operation, reviews of programs to determine the cumulative effect of programmatic issues, and reviews of corrective action documents and work orders to identify issues that warranted immediate resolution. The intrusive and self-critical restart plan was completed and Palisades was successfully restarted. The copy of the Restart Plan is provided in Attachment 2 to this letter.

- CPCo systematically evaluated areas warranting improvement, prioritized actions to achieve improvement, and integrated these actions into the PPEP. The PPEP identifies Focus Areas and Goals for improvement in the areas of Leadership and Management, Programmatic Improvement, Human Performance, Culture, Critical Assessment, and Plant Condition. For each Focus Area and Goal, a number of Objectives were established, and Action Plans were developed to accomplish each Objective. Summaries of the PPEP Action Plan scopes and examples of typical Action Plans are enclosed as part of Attachment 3. To ensure that the Goals and Objectives are achieved, the PPEP includes a number of controls to provide accountability for completing the Action Plans, to verify and validate completion of the plans, and to monitor performance to confirm that the Action Plans have been successful in achieving and sustaining improved performance. The PPEP is a living document and will be periodically updated to reflect completion of improvements and incorporation of new developments and issues. Our goal is to use the PPEP to institutionalize a questioning attitude which constantly strives to improve our performance. The current version of the PPEP and its Action Plans will be maintained onsite at Palisades and is available for NRC review.

- The Restart Plan and the DET each identified weaknesses in Palisades program implementation. Each department at Palisades is in the process of preparing a Department Master Action Plan (DMAP) which identifies the department's activities to implement PPEP and other key departmental improvement initiatives. These initiatives include activities to evaluate, enhance and to more effectively monitor current programs such as

the Inservice Inspection and Inservice Testing (ISI and IST) programs. Each program will have a single individual who is the technical and management sponsor for the program. Each program sponsor will be accountable to ensure that the program is meeting its intended functions, and that industry experience is reflected into future program enhancements.

CPCo's short-term actions, the Restart Plan and the PPEP provide a comprehensive program for addressing the root causes identified by both the DET and CPCo. The NRC DET identified the following root causes:

1. Acceptance of Low Standards of Performance

2. Failure to Integrate Processes and Clarify and Communicate Roles and Responsibilities

3. Failure to Ensure Effective Self-Assessment and Quality Oversight

4. Failure to Develop and Implement an Effective Corrective Action Program

CPCo's Nuclear Performance Assessment Department (NPAD) and Failure Prevention Inc. (FPI) performed assessments to identify the root causes of performance issues at Palisades, and CPCo's DET Response Team (DEPRT) performed root cause analyses of the DET's observations to identify common root causes. A comparison of the results is shown in Attachment 4. The root causes and common causes identified by the DEPRT, NPAD, and FPI are similar (and are similar to the root causes identified by the DET), thereby providing confidence that the correct set of underlying problems at Palisades have been identified for action.

Attachment 4 also shows that each of these root causes and common causes is addressed by either a short-term action or PPEP Action Plan. Additionally, as shown in Attachment 5, CPCo has evaluated the individual findings and root causes in the DET Report, and each of the DET's root causes and findings with generic or programmatic implications is addressed by either a short-term action, a PPEP Action Plan, or other appropriate corrective action. The more specific DET findings are being tracked for completion of corrective actions, and closure packages will be available for NRC review at Palisades.

In conclusion, in order to accomplish our mission of safe and reliable operation of Palisades, we have taken extensive short-term actions to enhance our management, plant, and programs. Our ongoing enhancements have been integrated into the PPEP, which is designed to achieve and maintain sustained improvements in performance at Palisades. We believe that together, these short-term actions and the PPEP will be sufficient to resolve the concerns of the DET. We would like to arrange periodic management meetings with NRC regional headquarters to discuss our progress in implementing the PPEP and other appropriate corrective actions, and to discuss performance trends and the results.

Finally, we appreciate the professionalism and cooperation of the NRC DET as well as the support of Region III during this review.

Sincerely,

Michael G. Morris
President and Chief Executive Officer

CC: John B. Martin, NRC Region III Administrator
William T. Russell, NRC Director of Nuclear Reactor Regulation
Richard W. Cooper II, Director, Division of Reactor Projects, Region I
Edward L. Jordan, Director, Office for Analysis and Evaluation of Operational Data
NRC Resident Inspector
NRC Document Control Desk

List of Attachments

1. Actions to Improve Performance at Palisades.
2. Palisades Plant Restart Plan from the 1994 Forced Outage.
3. Palisades Performance Enhancement Plan Describing Long-Term Actions to Improve Performance at Palisades.
4. Matrix of CPCo Identified Root Causes and Common Causes, Short-Term Actions, and PPEP Action Plans.
5. Matrix of DET Findings and Root Causes, Short-Term Actions, and PPEP Action Plans.
6. Acronyms

ATTACHMENT 1

Consumers Power Company
Palisades Plant
Docket 50-255

ACTIONS TO IMPROVE PERFORMANCE AT PALISADES

August 11, 1994

ACTIONS TO IMPROVE THE PERFORMANCE AT PALISADES

1.0 INTRODUCTION

This enclosure is organized as follows. Section 2 below describes the short-term enhancements which Consumers Power Company (CPCo) has initiated based upon its identification of issues to date and implementation of CPCo's plan for restarting from the current outage at Palisades. These enhancements pertain to the areas of management and organization, design and plant conditions, programs, and reviews and evaluations. Section 3 describes the longer-term enhancements which have been incorporated into Palisades Performance Enhancement Program (PPEP). Section 4 provides conclusions.

2.0 DESCRIPTIONS OF ENHANCEMENTS AT PALISADES

2.1 Enhancements in Management and Organization

2.1.1 Management Personnel and Organizational Changes

CPCo has established a new executive management team for its nuclear activities. Specifically:

- In January 1994, Michael Morris was promoted to President and Chief Executive Officer.
- In January 1994, David Joos was promoted to Senior Vice President of Nuclear, Rates and Marketing reporting to Mr. Morris. Mr. Joos has a masters degree in nuclear engineering and has held a number of managerial positions in the Nuclear Operations Department (NOD), including manager in charge of the Palisades steam generator replacement project.
- In early February 1994, Robert Fenech was appointed Vice President of NOD reporting to Mr. Joos. Mr. Fenech was previously the site vice president of the Sequoyah nuclear plant, and the general manager at the Arkansas Nuclear One nuclear plant.

To provide additional nuclear experience on the Board of Directors, John Yasinsky was elected to the Board as an outside director. He has 30 years of experience at Westinghouse, and was Westinghouse's group president with responsibility for power generation, nuclear power, process control, and environmental systems businesses.

Changes have also made been in Palisades plant management to effect a higher standard of performance and support safe operation. Thomas Palmisano, who has 22 years of nuclear experience, was promoted from Operations Manager to Plant General Manager in March 1994. CPCo has hired Mr. Richard Swanson as Director of the Nuclear Performance Assessment Department. Mr Swanson has 22 years of nuclear experience, most recently as General Manager of Quality Assurance/Nuclear Safety Review for Public Service Electric and Gas Co.

Further, a reverse loanee from the Institute of Nuclear Power Operations (INPO) has been installed as the Systems Engineering Manager. CPCo is also actively seeking highly qualified and experienced outside individuals to fill the positions of, Manager of Nuclear Engineering and Construction and Operations Manager.

Certain organizational changes have also occurred. At the plant level, earlier this year, the outage planning and scheduling function was separated from the Operations Department. This new position reports to the Plant General Manager. The Outage Planning and Scheduling Manager position has been filled with the promotion of the Operations Department Support Superintendent. At the NOD level, the Plant Safety & Licensing Director now reports directly to the Vice President of NOD. The NOD general office support organization has been substantially changed to improve service to the Palisades staff. These support departments have been consolidated under the Director of NOD Services and many of the support staff positions will be moved to Palisades over the next year. Further improvements in the NOD organizational structure are being considered.

2.1.2 Increasing Management Direction and Oversight of Plant Activities

CPCo has also taken a number of steps to increase senior management direction and oversight of plant activities. To provide close and immediate direction and oversight for Palisades activities, the Vice President of NOD, Mr. Fenech, is located at the Palisades site. Similarly, the offices of the Palisades Plant General Manager and other Plant line managers will be relocated inside the protected area in order to enable the managers to maintain closer contact with their personnel. Additionally, Palisades has established a Management Observation Program, in which managers regularly evaluate personnel performance in the field against checklists of critical attributes and then meet once per month to collectively review the results of their observations and ensure consistency in reviews and determine the need for change. As noted above, much of the consolidated general office support organization staff will be relocated to the plant site.

CPCo has also established a Nuclear Management and Safety Review Committee (MSRC), which held its first meeting in March of this year. The mission of the MSRC is to advise CPCo management up to the President and CEO on the progress of actions to successfully achieve and maintain an effective safety culture and performance excellence. The Committee not only includes Messrs. Joos and Fenech and the Director of the Nuclear Performance Assessment Department, but also a number of experienced non-CPCo employees in order to provide more diversity and an outside perspective on the performance of Palisades. The MSRC includes William Conway (who, as Executive Vice President for Arizona Public Service, has been in charge of the Palo Verde nuclear plant for the last five years) and James Partlow (who recently retired as the Associate Director for Projects in the NRC's Office of Nuclear Reactor Regulation). Within the MSRC, subcommittees have been established which focus on operations, maintenance, engineering, plant support, and self-assessments.

Additionally, CPCo recently established an ad hoc Management Advisory Group to conduct an independent assessment of progress in achieving improvement and the adequacy of PPEP. The advisory group is comprised of three outside executives, including Mr. Richard DeYoung, former director of the NRC's Office of Inspection and Enforcement.

2.1.3 Improvements in Management Information Systems, Expectations and Standards, and Communications

This year, Mr. Morris and Mr. Joos have each held meetings with plant personnel stressing the need to place quality over schedule, to recognize that there are matters that need to be corrected, and for employees to dedicate themselves to improving. Similarly, since being appointed as Vice President of NOD, Mr. Fenech has held a number of all-employee meetings at Palisades and Big Rock Point and with the NOD general office staff (in Jackson, Michigan) in order to communicate his standards and expectations to NOD employees. These meetings have stressed the fundamental principles of placing quality over cost and schedule, instilling a questioning attitude in all personnel, and open communications and interactions between all levels of the organizations and between the different groups within the organization. Additionally, departmental meetings have been established to improve communication of expectations and standards on a continuing basis.

CPCo has also initiated a number of actions to improve the senior management information systems. For example, CPCo is establishing a new management information system, in which performance indicators and data on various plant backlogs can be accessed. Additionally, information on the backlogs of the various plant activities are being captured and prioritized on one list, and the backlogs will be reviewed at least monthly by management to identify and remedy adverse trends. Initiatives in this area are ongoing and have been integrated into the PPEP.

Finally, several actions have been taken to improve internal communications. For example, the Palisades daily morning meeting structure has been changed to require department managers to make presentations in a more formal structure. Additionally, information from each department is captured and is available to employees for review. Pre-job briefing checklists have also been established to improve directions to personnel prior to beginning a task. Frequent all supervisor and all employee meetings have been held with the Vice President of NOD and the Palisades Plant General Manager to review current plant status, NOD issues and priorities. Feedback from attendees is encouraged.

2.1.4 Operations Department Improvements

Substantial changes have recently been made in the Palisades Operations Department. In order to focus the Operations Department on plant operations, the outage planning and scheduling function was separated from the Operations Department. An additional senior reactor operator (SRO) has been added to the on-shift control room staff in order to enable the Shift Supervisor to spend more time in the plant focussing on plant-wide activities and personnel affecting operation. The duties of the Shift Engineer have also been adjusted to enable the Shift Engineer to perform more of an oversight role. Additional

staff has also been added to the Operations Department to support procedure development and revisions, to perform self-assessments, and to improve the interfaces with other departments.

To improve the skills of managers and supervisors in the Operations Department, CPCo will provide customized individual supervisory and management skills development training. This training seeks to improve the skills of managers and supervisors in communicating standards and expectations; monitoring, evaluating, and providing feedback on personnel performance; and interpersonal relationships.

A major effort has been directed towards developing a cohesive management team within the Operations Department. An outside management consultant has been working with the shift supervisor, support staff section heads, and the department manager to develop a consistent and appropriate set of expectations for the entire department. This effort is continuing and has already resulted in establishing many new standards for the organization.

2.2 Enhancements in Design and Plant Condition

2.2.1 Improvements in Design Basis Documentation

CPCo has been implementing an extensive design basis reconstitution program for a number of years. As part of the design basis reconstitution program, CPCo also performed a safety system design confirmation (SSDC) vertical slice verification using the design basis documents to provide assurance that operation procedures, testing procedures, maintenance procedures, and training are consistent with the design basis. As a result of NRC inspections and its own assessments, CPCo determined that some of the discrepancies identified by the SSDC had not been corrected in a timely manner. CPCo has recently completed a review of all SSDC discrepancies, including those for which corrective actions had been taken, to verify that appropriate actions have been taken or are scheduled to be taken for these discrepancies. As part of the PPEP, CPCo will be setting new standards for design basis documents and will be conducting reviews to conform existing design basis documents with the new standards.

Additionally, CPCo has established a design basis integration effort. This effort includes the designation of specific groups within Nuclear Engineering and Construction Department with responsibility for the ownership of the design basis for plant systems, and designating the owners as being responsible for the adequacy of design documents for their systems. Also, training will be provided to these owners on the design basis. This effort has been encompassed within the PPEP.

2.2.2 Improvements in Controls of Modifications

CPCo has taken several steps to improve the modification process. For example, more stringent standards have been established for technical reviews of engineering work. CPCo has established requirements for multi-disciplinary reviews of the design and quality verification plans for modifications which

affect plant safety. Finally, CPCo has raised the level of approval authority for modifications and now requires an engineering manager to approve modifications.

CPCo has taken several steps recently to prevent the maintenance process from introducing uncontrolled modifications. In this regard, the scope of activities requiring a modification package has been expanded, and the need for modification packages has been repeatedly stressed in meetings among maintenance personnel. Reviews are also being performed of completed work orders to identify any uncontrolled design changes.

2.2.3 Other Design and Engineering Improvements

CPCo has initiated other improvements to its design and engineering programs. Expectations of engineers regarding quality and ownership of engineering work are being clarified by development of more stringent standards for technical review of engineering work. The roles and responsibilities of the engineering groups are also being clarified. Additionally, managers have reinforced with their personnel the need to place quality over schedule considerations.

2.2.4 Enhancements in Hardware

During the spring outage, CPCo took a number of actions to verify the adequacy or improve the condition of hardware, including the completion of over 600 work orders. These actions included modification and testing to enhance the reliability of the water supply to the Auxiliary Feedwater System, testing of the fuel consumption of the emergency diesel generators to ensure that their operation has not been degraded, walkdowns to ensure that permanent and transient plant equipment is appropriately restrained to prevent them from impacting safety systems, walkdowns to evaluate the potential for items becoming dislodged and clogging the containment sump, and walkdowns to check plant structures and correct any degraded conditions (especially in small diameter piping and instrument tubing supports). Some of these hardware improvements were an outgrowth of observations by the DET.

CPCo has also taken steps to increase the design margin of plant structures, systems, and components. For example, a Service Water System design margin improvement program was established to identify ways and develop plans to improve operational and safety margins. CPCo will also be addressing the design margins in the Emergency Diesel Generator Fuel Oil System.

CPCo has also embarked on a long term program to improve its office facilities at Palisades. This program should result in an improved Technical Support Center layout in addition to improved worker productivity.

CPCo has initiated a temporary modification backlog reduction program. Additionally, the existing temporary modifications have been reviewed by Operations to confirm that they do not pose an undue burden to operations. The definition of control room deficiency has also been expanded to include equipment with an outstanding work request.

2.3 Enhancements in Programs

2.3.1 Improvements in Self-Assessments

CPCo has taken several steps to enhance the overall effectiveness of the self-assessment function. First and foremost, the new senior management team has repeatedly stressed in employee meetings the need for a strong self-checking function. In particular, management has emphasized the following:

- Each individual must do the job right the first time. This responsibility includes the need to perform self-checking.
- Each individual must have a questioning attitude and communicate to supervision and management their concerns as they arise.
- Supervision and management must be in the field to observe work and personnel performance, and to establish two-way communications with employees on expectations, standards, barriers to improved performance, and problems being encountered by employees.

The Plant General Manager has issued a memorandum stressing that it is the responsibility of all personnel to perform self-checking and that certain areas warrant heightened sensitivity, including safety tags, valve operations, maintenance work, and documentation and validation of engineering activities.

Second, CPCo has stressed the need for departments to self-assess their own work. In this regard, the Operations Department and NECO have or will be assigning individuals within their departments to perform self-assessments of department activities, and some of the other departments have previously done so.

Third, NPAD's role has been modified by deleting its function as a facilitator of solutions to problems and limiting NPAD's role to critical, intrusive oversight, assessment, and trending of performance at Palisades. Additionally, the capability of the NPAD continues to be strengthened through the addition of personnel who have recent line experience, both from inside and outside of CPCo. NPAD's assessments have been strengthened through the performance of more intrusive reviews of the technical adequacy of design and engineering activities.

Finally, as discussed above, CPCo has establish a Management and Safety Review Committee and a Management Advisory Group with experienced non-CPCo personnel to provide more diverse observations of performance.

2.3.2 Improvements in the Corrective Action Program

The Corrective Action Process has been substantially upgraded in several respects. On May 7, 1994, the scope of reportable conditions was expanded in order to capture nonconsequential events. Second, a new screening group, called the Condition Review Group (CRG), was established to identify those conditions which are significant and need plant management attention and detailed root cause analysis. Third, completed root cause evaluations are now

reviewed by a Management Review Board (MRB), which is chaired by the department manager responsible for the root cause evaluation. For events that are reportable to NRC or other significant events, the MRB is chaired by the Plant General Manager. Fourth, the Corrective Action Review Board function was improved through more structured meetings and formal presentations by individuals responsible for the corrective action. Finally, CPCo identified the need for further revisions in the Corrective Action Process to improve root cause evaluations and analysis of trend data. In this regard, CPCo has received an assessment of NPAD and the root cause evaluation process at Palisades from Failure Prevention, Inc. (FPI). Actions to accomplish improvements in these areas have been incorporated in the PPEP.

2.3.3 Improvements in Operability Determinations

Palisades has made several improvements in the process for making operability determinations. The Shift Supervisor has been explicitly defined as the person responsible for making operability determinations. The new process also requires more timely operability determinations and better documentation of operability determinations, including discussion of specific factors affecting operability. Finally, training was provided to staff personnel regarding the types of information needed in corrective action documentation in order to assist the Shift Supervisor in making operability determinations.

2.3.4 Improvements in Procedure Development and Adherence

In 1993, CPCo revised its procedure development and revision process to streamline the process for issuance of procedures and to improve the quality and adequacy of procedures. For example, CPCo has established a method to issue urgent procedure changes and revisions. CPCo has also assigned sponsors to prepare and maintain procedures, and made them responsible for the quality and adequacy of the procedures. Additionally, reviews are performed to ensure technical correctness and continued fulfillment of the procedure purpose each time a procedure is revised or changed. Currently, CPCo is automating the procedure process, and is making procedures available on-line at computer terminals.

An administrative procedure has been developed to specify requirements on procedure adherence. This procedure incorporates management's expectations and standards of conduct on procedure adherence. In particular, the procedure states that failure to comply with procedures or the failure to correct deficient procedures will not be tolerated, and that work must be stopped and the supervisor informed when a procedure cannot be performed as written. The procedure also specifies the controls governing emergency situations in which deviations from procedural provisions are necessary in order to protect safety, personnel, or equipment.

2.3.5 Industry Experience

CPCo has taken a number of actions to increase its awareness of changes in industry standards and events at other plants. For example, CPCo is loaning a maintenance superintendent to INPO, and continues to send personnel to other

plants to participate in peer reviews. Conversely, CPCo also requests peer reviews of Palisades by personnel from other plants. As discussed above, CPCo has also filled the positions of Vice President of NOD and Nuclear Performance Assessment Department Director with experienced nuclear professionals, is actively seeking to fill several key plant management with personnel from outside of CPCo, and has established a Management Safety and Review Committee and an ad hoc Management Advisory Group which includes experienced non-CPCo personnel.

2.4 Reviews and Evaluations

In addition to the enhancements discussed above, a management review group (including frequent participation by the Vice President of NOD) performed a number of reviews and evaluations to help ensure the adequacy of the existing designs, hardware, and programs at Palisades, to identify whether further enhancements should be implemented, and to communicate new standards and expectations. These reviews and evaluations were conducted as part of the restart plan from the outage Palisades began in February. A copy of the plan is provided as Attachment (2). Other reviews were conducted in response to the DET. These reviews and evaluations are discussed below.

- Reviews of Systems - Reviews were conducted of fourteen safety systems by system engineering to evaluate the individual and cumulative effect of outstanding issues related to the system operability. The review activity included walkdowns of the systems by assigned system engineers and reviews of outstanding work orders, temporary modifications, long range operator concerns, design basis issues and safety system design confirmation discrepancies (SSDCs), planned modifications, industry issues, DET observations, and corrective action documents.

- Reviews of Departments - Reviews were conducted of various departments at Palisades to confirm their adequacy to support continued operation of Palisades. These included reviews of the definition of the roles and responsibilities of the department, processes implemented by the departments, department resources, and the processes for monitoring the performance of the departments.

- Reviews of Programs - Reviews were conducted to determine the cumulative effect on plant safety of issues identified by the implementation of various programs. For example, reviews were conducted of issues identified by the fire protection program, the erosion/corrosion program, the inservice inspection and testing program, the environmental and seismic qualification programs, station blackout program, safety-related piping reverification program, Palisades Periodic Activity Control (PPAC) program, and the programs for motor operated valves, check valves, relief valves and air operated valves. The review considered design basis issues and SSDCs, planned modifications, industry issues, DET observations, and corrective action documents.

- Reviews of Corrective Action Documents and Work Orders - Reviews were conducted by multi-discipline teams of open deviation reports and event reports initiated prior to establishment of the current operability determination process, open work orders, SSDCs and open design basis issues in order to identify issues that warrant immediate resolution. These reviews included consideration of the impact of issues across system boundaries.

The focus of these reviews was to identify critical needs to be addressed in the near term. These short term actions are identified, tracked, subject to daily meetings, and are being implemented. To help complete these actions, additional resources (personnel and budget) are being committed.

Additionally, CPCo performed a root cause analysis of the observations of the DET as they were issued. The analyses looked at more systems and programs than were the subject of the DET observations, and investigated the issues in detail. CPCo used the DET observations as an opportunity to focus and stimulate its ongoing improvement efforts. In this regard, CPCo has added several long term objectives to the PPEP.

3.0 PALISADES PERFORMANCE ENHANCEMENT PROGRAM (PPEP)

The actions discussed in Section 2 above were initiated in late 1993 and early 1994, and many of these actions are still in progress. Although these actions address essentially every area of performance at Palisades, CPCo's new management desired to ensure that all matters warranting improvement were in fact being addressed. Management also wanted to ensure that the improvements were being integrated, planned, and managed such that improved performance is achieved and sustained. To accomplish these goals, CPCo established the PPEP.

The first step in creating the PPEP was to evaluate both internal and external issues to identify areas warranting improvement. The internal issues were identified based upon interviews of personnel and a review of plant documentation, and external issues were identified based upon a review of recent significant INPO and NRC reports, such as notices of civil penalties and the Systematic Assessment of Licensee Performance (SALP) Report for Palisades. Through a participative team process, workshops, and management reviews, a list of six general Focus Areas and Goals were identified in the areas of Leadership and Management, Programmatic Improvement, Human Performance, Culture, Critical Assessment, and Plant Condition. Furthermore, for each Focus Area and Goal, a number of Objectives were identified. These Focus Areas, Goals, and Objectives are listed in the attachment 3 and are summarized below:

- Leadership and Management - Actions will be taken to establish the strategic direction, establish clear roles and responsibilities, establish aligned management expectations and goals, establish a management development program, define management information needs, enhance control of contractors and non-NOD personnel, enhance communications, and enhance community involvement.

- Programmatic Improvement - Actions will be taken to prioritize all existing work, establish an improved planning and prioritization process, improve the corrective action process, implement an enhanced modification process, establish a management information system, enhance the operability determination process, and establish a root cause program.

- Human Performance - Actions will be taken to enhance employee knowledge and skills and to improve site facilities.

- Culture - Actions will be taken to communicate the NOD nuclear safety philosophy, and to establish a strong sensitivity to the plant's design basis.

- Critical Assessment - Actions will be taken to establish critical self-assessment as a norm for line organizations, enhance the quality of NPAD assessments, and improve the effectiveness of the assessment functions.

- Plant Condition - Actions will be taken to establish a program to improve the plant design margin.

As is apparent, these Objectives encompass and correspond to many of the enhancements that were initiated in late 1993 and early 1994. To the extent that these enhancements have not yet been completed, they are being incorporated into PPEP. In total, the PPEP Objectives identify a comprehensive and integrated set of areas where action will be taken in order to reach and sustain a high level of performance.

The second step was to develop an Action Plan to achieve each Objective. Each Action Plan identifies a number of actions for accomplishing its objective. A responsible individual, priority, resource loading, and due dates are identified for accomplishing each action. The Actions Plans were reviewed to ensure that they represented a manageable set of actions, and that the actions were properly prioritized and sequenced.

To ensure that its Goals and Objectives are achieved, PPEP incorporates a number of management controls. As discussed above, each Action Plan identifies responsible individuals and due dates to provide accountability for timely completion of the Action Plan. PPEP contains provisions for reporting and trending of progress in implementing the Action Plans, and for modifying the Action Plans based upon experience. Additionally, the Action Plans identify verification and validation activities to ensure that the actions have been properly completed and performance indicators to help in determining whether the Action Plans have been successful in accomplishing their Objectives. These controls provide a high level of assurance that PPEP will be successfully implemented and effective in achieving lasting improvement.

PPEP will be implemented over the next six to twelve months. However, PPEP is also intended to be a living document. As a result, it will be revised to reflect completion of various Action Plans, to incorporate additional actions for those Goals or Objectives that may not be fully accomplished, and to

address newly arising issues. PPEP was revised to reflect the results of the DET inspection. Given the comprehensive evaluations that were undertaken in developing the Focus Areas, Goals, and Objectives for PPEP, the DET findings with generic or programmatic implications are being addressed by PPEP or other corrective actions as shown in Attachments 3 and 4. CPCo evaluated and performed root cause analyses of the Diagnostic Evaluation Observations (DEO) as they were issued, and expanded the PPEP. Additionally, PPEP will be integrated with the strategic directions in the NOD and Palisades Business Plans, which are updated annually.

4.0 CONCLUSIONS

In mid to late 1993, CPCo identified a decline in performance at Palisades and in early 1994 initiated a number of actions to enhance its performance. In particular, CPCo has established a new management team for Palisades, increased management direction and oversight of plant activities, and communicated new management standards and expectations. CPCo is also making improvements in design basis information, the control of modifications, and plant hardware. Furthermore, CPCo has made a number of improvements to its self-assessment program, corrective action process, and operability determinations. Finally, CPCo has performed reviews and evaluations of plant systems, programs, and departments to confirm their adequacy for continued safe operation.

In order to ensure that its actions addressed all areas warranting improvement, and to provide for an integrated program for achieving improvement, CPCo established the Palisades Performance Enhancement Plan. The PPEP is a living document that incorporates mechanisms (such as identification of responsible individuals, due dates, verification and validation, and performance indicators) to ensure that the enhancements will be implemented in a timely manner and that the actions will be effective in achieving and sustaining improved performance.

ATTACHMENT 2

Consumers Power Company
Palisades Plant
Docket 50-255

PALISADES PLANT RESTART PLAN FROM THE 1994 FORCED OUTAGE

August 11, 1994

PALISADES PLANT

RESTART PLAN

from the

1994 FORCED OUTAGE

Revision 1

Approved Robert A. Fenech

Vice President, Nuclear Operations Department

PALISADES PLANT RESTART PLAN

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I. BACKGROUND

On February 17, 1994, a through wall leak was discovered on the body of the containment sump outlet check valve, CK-ES3166. The reactor was taken off-line with no anomalies noted during the shutdown. The plant was taken to a condition of less than 325 degrees F and 400 psig and held at that level until February 23, 1994 when a decision was made to take the plant to cold shutdown. Cold Shutdown conditions were met at 1113 hrs on February 24, 1994.

During the repair of the check valve, other deficiencies were identified relating to channel separation of signal wires to the Reactor Protection System (RPS) cabinets, inadequate isolation of non-1E equipment on 1E power, inverter output harmonic distortion, deficiencies with the Emergency Diesel Generators and their fuel systems, improper installation of reactor vessel insulation and problems with the Auxiliary Feedwater System.

These system problems, plus other concerns identified during and after the 1993 refueling outage showed a need for a systematic and programmatic review of plant systems, programs and departments to insure readiness to restart and to provide assurance for a safe, reliable run.

Additional reviews, including a safety function review and multi-disciplinary reviews of work orders and corrective actions were added to the scope of the restart reviews as a result of system, program, and department reviews.

II. RESTART PLAN OBJECTIVES

The overall objective of the Palisades Plant restart plan is to provide a vehicle by which plant management can effectively assess the plant's readiness for heat-up and start-up.

The plan will ensure the comprehensiveness of the restart efforts through an integrated framework of system, program, departmental, safety function, work order backlog, and corrective action backlog reviews.

III. METHODOLOGY

The Restart Plan reviews will be conducted by a Restart Review Team that will consist of: Vice President, Nuclear Operations Department (Chair), Palisades Plant Manager, Nuclear Engineering and Construction Organization Manager, Nuclear Plant Assessment Department Manager and a Senior Operations Department Representative.

The Restart Plan will provide an in depth look at the systems and programs considered important to safe generation of the plant. A list of the programs and systems designated for review is provided in Attachment 1.

Department reviews will be performed to evaluate the organizational readiness across the systems and programs boundaries. The departments identified for review are included in Attachment 2.

Multi-disciplinary reviews of both the work order backlog and corrective action backlogs will be performed.

As a validation and verification of the process, the objectives of the Palisades Performance Enhancement Plan (P^2EP) will be reviewed for weaknesses identified to determine if the current status of the identified issues is adequate to support startup. Also, the system, program, and departmental weaknesses will be evaluated from a safety function perspective to ensure the cumulative effect of weaknesses in these areas in considered.

The Vice President, Nuclear Operations Department will approve the plan.

IV. PROCESS

In order to assure a safe, controlled restart and a safe, reliable power generation cycle the Restart Review Team will evaluate the readiness of plant systems, programs and departments. The team will consider the following:

- Adverse impact on safety system availability or performance

  For example, potential for causing frequent entry into TS action statements, potential for entry into short-term TS action statements, and potential to render a component or system incapable of performing intended design function.

- Significant challenge to plant/personnel performance because of individual or aggregate impact

  For example, high numbers of required compensatory actions, disabled annunciators, high backlog numbers, and degraded or unreliable equipment performance.

- High potential to impact plant operating reliability

For example, likelihood of causing trips/transients,common or single failure point weaknesses, necessitates entry into short term TS action statements, and likelihood for hardware failure before the end of the next operating cycle.

- **Need for correcting deficiencies prior to restart**

  For example, actions required prior to heatup to enhance safety margin, reduce outage risk, or to reduce operational impact.

Items of concern resulting from these reviews will be noted and transmitted to outage management for tracking and close-out. The resulting Action Item List will be reviewed prior to recommending restart.

IV.A Plant Systems Review

Prior to restart, a system readiness review will be conducted by System Engineering and presented to the Restart Review Team. Its purpose is to give plant management an overview of the status of the systems important to safety. The Restart Review Team will insure that the cumulative effect of a number of marginal aspects of a system and all the systems are evaluated and considered. The review will also provide direct contact of the system experts with senior plant management to insure any concerns are communicated.

The system review will include the following items:

1. Review of the Work Order Backlog

   a. How many work orders in each priority
   b. Age of backlog
   c. Discussion of specific work orders which are significant

2. Review of Temporary Modifications (TM)

   a. **Number of temporary modifications**
   b. **Age of temporary modifications**
   c. **Number of operations sensitive TMs**
   d. **Discussion of significant TMs**

3. Operator Concerns

   a. Discuss items on the Long Range Concerns List for the system

4. Design Basis Issues

   a. Discuss areas where the system approaches limits of compliance with design requirements.

   b. Discuss outstanding Safety System Design Confirmation (SSDC) discrepancies on the system.

5. Modifications

   a. Discuss modifications that have been identified as being necessary or highly desirable but have not yet been implemented.

   b. Discuss modifications implemented this outage and potential vulnerabilities related to these modifications.

6. Industry Issues

   a. Discuss identified industry issues on the adequacy of how they have been addressed.

7. Diagnostic Evaluation Observations Requiring Action

   a. Present DEOs associated with the system and status of action required.

8. Corrective Action Documents

   a. Identify outstanding corrective actions associated with the system.

   b. Discuss outstanding corrective action document actions that have significance to startup

   c. Cover any corrective action documents from this outage that had previously been identified for PRC review but were removed because of this review

9. Preventive Maintenance (PPAC) Issues

   a. Discuss any PPACs on the system that have not been performed but should be, and discuss why they have not been performed.

IV.B Plant Program Review

Prior to restart, a plant program readiness review will be conducted by the Program Managers and presented to the Plant Review Team. Its purpose is to give plant management an overview of the status of the key programs affecting plant safety. The Plant Review Team will insure that the cumulative effect of a number of marginal aspects of plant performance as determined by the programs are evaluated and considered. The review will also provide direct contact of the program managers with senior plant management to insure any concerns are communicated.

The program review will include the following items:

1. Design Basis Issues

   a. Discuss areas where the plant approaches limits of compliance with design requirements.

   b. Discuss outstanding Safety System Design Confirmation (SSDC) discrepancies on the program.

2. Modifications

   a. Discuss modifications that have been identified as being necessary or highly desirable but have not yet been implemented.

3. Industry Issues

   a. Discuss identified industry issues and the adequacies of how they have been addressed.

4. Diagnostic Evaluation Observations Requiring Action

   a. Present DEOs associated with the system and status of actions required.

5. Corrective Action Documents

   a. Identify outstanding corrective action documents.

   b. Discuss outstanding corrective action document actions that have significance to startup.

   c. Cover any corrective action documents from this outage that had previously been identified for PRC review but were removed because of this review.

IV.C Plant Department Reviews

Prior to restart, a review of departmental readiness will be performed by each department manager and presented to the Restart Review Team. The purpose of this review is to ensure the department's organizational structure, resources and processes are adequate to support restart and continued safe operation of the plant. The process is intended to help align the management to common objectives.

The department reviews will include the following items:

1. **Organizational Structure**

    a. **Departmental Roles and Responsibilities/Defined**
    b. **Outline of Departmental Structure**
    c. **Critical functions defined**

2. **Department Processes**

    a. Process Weaknesses Identified
    b. Actions to ensure effectiveness of processes

3. **Resources**

    a. Current Resource Status vs. Short Term needs
    b. Resource Planning
    c. Departmental Work Backlog Status

4. Assessment

    a. Performance Monitoring Systems in place

IV.D Safety Function Review

The Safety Function Review will integrate the various weaknesses identified through the system, program, and departmental reviews. This review will evaluate the cumulative effect of these weaknesses on the Emergency Operating Procedure Safety Functions. Each of the success paths for fulfilling the following safety functions;

1) Reactivity Control

2) Maintenance of Vital Auxiliaries, Electric

3) Inventory Control

4) Pressure Control

5) Core Heat Removal

6) Plant Heat Removal

7) Containment Integrity

8) Containment Atmosphere

9) Maintenance of Vital Auxiliaries, Water

10) Maintenance of Vital Auxiliaries, Air

will be evaluated for conditions that could lead to an inability to fulfill the safety function. By reviewing the individual success paths, seemingly unrelated discrepancies will be correlated to the safety function. This will provide the integrated look at the cumulative effect of identified weaknesses on the plant's ability to effectively cope with an accident.

IV.E Palisades Performance Enhancement Plan Objectives Review

Prior to startup the objectives of the Palisades Performance Enhancement Plan (P^2EP) will be reviewed by the Restart Review Committee to assess the overall readiness of the plant for restart based on the areas identified by the plan as needing improvement.

This review will consist of a preliminary review of all of the P^2EP objectives by the review committee to identify areas of concern. P^2EP program sponsors will then be asked to present the current status and plans associated with those areas of concern to the review committee. This review is intended as a validation of the system and departmental reviews being performed under Section IV.A - C.

IV.F Work Order Backlog Review

Prior to Restart a multi-disciplinary review of the work order backlog will be performed. The team will, as a minimum, include a member from Operations, System Engineering, Mechanical Maintenance, Electrical/ I+C Maintenance, and Reactor Safety and Analysis. The review will focus both on the cumulative effect of the backlog and the individual impact of each deficiency. The review will evaluate the work orders for the following criteria:

- Adverse impact on safety system availability or performance
- Significant challenge to plant/personnel performance because of individual or aggregate impact
- High potential to impact plant operating reliability
- Need for correcting deficiencies prior to restart

Items of concern resulting from this review will be noted and transmitted to outage management for tracking and close-out. The resulting Action Item List will be reviewed prior to recommending restart.

IV.G Corrective Action Backlog Review

Prior to Restart a multi-disciplinary review of the corrective action backlog will be performed to identify issues which might have significant implications for equipment operability and warrant resolution before plant startup. The review team will consist of, as a minimum, a member from Operations, Probable Risk Analysis, System Engineering, Plant Safety and Licensing, and Reactor and Safety Analysis. The review scope will include all open Deviation Reports and Event Reports that have not been subject to the formal, enhanced operability determination process, and all open Action Item Records in the Palisades, NPAD, or commitment tracking systems. The review will evaluate the corrective actions for the following criteria:

- Adverse impact on safety system availability or performance
- Significant challenge to plant/personnel performance because of individual or aggregate impact
- High potential to impact plant operating reliability
- Need for correcting deficiencies prior to restart

Items of concern resulting from this review will be noted and transmitted to outage management for tracking and close-out. The resulting Action Item List will be reviewed prior to recommending restart.

IV.H GOP-2, Plant Heatup (Cold Shutdown to Hot Shutdown) and
GOP-3, Hot Shutdown to Critical in Hot Standby

These documents provide instructions for a normal Plant Heatup from Cold Shutdown to Hot Shutdown conditions, and from Hot Shutdown to Hot Standby conditions. They contain the operational reviews and verification completed prior to restart and the final authorization to restart from the Plant General Manager. The following specific reviews are included.

GOP-2:

1. **Checklists required for plant conditions have been completed.**

2. **Review of:**

   a. Personal Protective Tagging
   b. Caution Tags
   c. Temporary Modifications and
   d. Work Orders for items conflicting with plant heatup

3. Mechanical Maintenance Superintendent verifies vital work completed

4. Electrical - I&C Maintenance Superintendent verifies

   a. vital work completed and

   b. Restoration of Safety Injection Actuation Circuits

5. If the plant has been in Cold Shutdown for greater than 100 days, then Operations Superintendent verifies that licensed operator refresher training on plant startup has been conducted at the simulator.

6. **Plant Safety and Licensing Director or designated alternate, verifies**

   a. **No outstanding Licensing commitments conflicting with plant heatup.**

   b. **All related Corrective Action documents required prior to heatup are completed.**

   c. **PRC has reviewed upward operation condition changes made under Technical Specification 3.0.4 (refer to Admin Proc 3.01).**

7. Engineering Programs Manager verifies

   a. Facility Change projects required to be completed prior to plant heatup have been completed to the Operations Authorization signoff.

   b. All Specification Changes required to be completed prior to plant heatup have been completed through the Action Completed block.

8. The Technical Specification Surveillance Coordinator verifies all required Technical Specifications surveillance testing completed.

9. **ALARA Coordinator verifies that all lead shielding in Containment that is to be removed from components prior to leaving Cold Shutdown per the Shielding Engineering Evaluations, is removed.**

10. PCS Chemistry ready for plant heatup by

    a. Chemistry Supervisor verifies PCS chemical and activity levels acceptable for heatup (per COP 1) and

    b. Primary Coolant Boron measured

11. **Heatup approved by Plant General Manager or authorized representative.**

GOP-3:

1. GCL 2 completed

2. Insure that Checklists CL 3.9, CL 6.1, CL 6.2, CL 12.6, CL 35 and CL 36 have been completed within the previous ten days or have been waived in accordance with Admin Procedure 4.02.

3. **Surveillance completed for all items required above hot shutdown on SHO-1 or D/WO-1.**

4. **Review:**

   a. Open work orders

   b. Switching and tagging orders for items conflicting with critical approach.

5. Technical Specification Surveillance Coordinator verifies all Technical Specification tests required prior to critical have been completed.

6. PCS Chemistry ready for criticality by:

   a. Chemistry Supervisor verifies PCS chemical and activity levels acceptable for heatup (per COP 1)

   b. Primary Coolant Boron measured.

7. Plant Safety and Licensing Director or designated alternate, verifies:

   a. No outstanding Licensing commitments conflicting with critical approach.

   b. All related Corrective Action documents required prior to critical approach are completed.

   c. PRC has reviewed upward operation condition changes made under Technical Specification 3.0.4 (refer to Admin Proc 3.01) and

   d. If plant has been in Cold Shutdown for greater than 100 days, a Nuclear Safety Board operational readiness review has been conducted.

8. ALARA Coordinator verifies that all applicable lead shielding in Containment is removed.

9. Zero Power Mode (ZPM) bypass keys removed (refer to SOP 36).

10. Critical prediction completed (refer to EM-04-24).

11. Radiation Safety Supervisor verifies that:

   a. All radiation doors in the containment building are locked and

   b. No personnel in containment.

12. Operations Shift Supervisor verifies that:

   a. At least two Instrument Air Compressors available.

   b. Instrument Air dryer is ready for service (refer to SOP 19).

c. Instrument Air Header ready for service and

d. High Pressure Air Receiver tanks T-9A and T-9B greater than 260 psia and not crosstied (refer to SOP 20).

13. Critical approach approved by Plant General Manager or authorized representative.

14. Plant requirements, precautions and limitations of SOP 6 and GOP 3 reviewed by Licensed Operators who will perform critical approach.

Plant readiness will be reviewed and assessed by the action in IV.A, IV.B, IV.C, IV.D, IV.E, IV.F, IV.G and IV.H. The actual verifications and authorizations to heatup and startup the plant will be contained in General Operating Procedures GOP 2 and GOP 3 as described in Section IV.H above. With the exception of the additional authorizations delineated in section VI.

V. ASSESSMENT AND OVERSIGHT

As part of the restart activities, a number of assessments, reviews and oversight activities are being employed to ensure that key areas for improvement are identified, that the associated restart plan and activities are appropriate to address those weaknesses, and that the restart plan is effectively implemented. Key review and assessment activities include:

1. **System reviews referenced in Section IV.A.**

2. **Program reviews referenced in Section IV.B.**

3. **Departmental reviews referenced in Section IV.C.**

4. **A review of the restart plan by the Management Safety Review Committee members.**

5. **A comprehensive program of Nuclear Plant Assurance Department Assessment.**

6. **Nuclear Plant Assurance Department direct oversight and assessment of the restart plan activities and Diagnostic Evaluation Observation (DEO) closeout reviews.**

7. On independent assessment of common causal factors of DEO discrepancies identified.

VI. CLOSURE AND DOCUMENTATION

Restart Plan completion will consist of a "roll-up" of a number of interfacing and overlapping inputs. These include the plant systems review, plant programs review, plant departments review, safety function review, Palisades Performance Enhancement Plan objectives review, work order backlog review,and corrective action backlog review performed in accordance with the Restart Plan. The Restart Review Team will also review the Action Items developed from the above assessments. Completion of the reviews will be documented below.

1. **System reviews referenced in Section IV.A.**

Completed J R Hanna 6/7/94
Restart Plan Manager

2. **Program reviews referenced in Section IV.B.**

Completed J R Hanna 6/7/94
Restart Plan Manager

3. **Departmental reviews referenced in Section IV.C.**

Completed J R Hanna 6/7/94
Restart Plan Manager

4. **Safety Function Review referenced in Section IV.D.**

Completed J R Hanna 6/7/94
Restart Plan Manager

5. **P²EP Objective Review referenced in Section IV.E.**

Completed J R Hanna 6/7/94
Restart Plan Manager

6. Work Order Backlog Review referenced in Section IV.F.

Completed J L Hanson 6/7/94
Restart Plan Manager

7. Corrective Action Backlog Review referenced in Section IV.G

Completed J L Hanson 6/7/94
Restart Plan Manager

8. **A review of the restart plan by the Management and Safety Review Committee members.**

Completed J L Hanson 6/7/94
Restart Plan Manager

9. Action items from Reviews.

Completed J L Hanson 6/8/94
Restart Plan Manager

HEATUP RECOMMENDATION

The Restart Review Team will confirm that the readiness review has been sufficiently completed to support heatup, and upon completion of the action items required prior to heatup, recommend heatup of the Palisades Plant.

J 2 Hamm 6/8/94
Operations Department Representative

Rm Rece 6/8/94
Nuclear Plant Assessment Department Manager

R D Ross 6/8/94
Nuclear Engineering and Construction Organization Manager

6/8/94
Palisades Plant General Manager

Robert A. Fenech
Vice President, Nuclear Operations Department

STARTUP RECOMMENDATION

The Restart Review Team will confirm that the readiness review has been completed, and upon completion of the Action Items List required for operation, recommend the restart of the Palisades Plant.

6/16/94
Operations Department Representative

6/16/94
Nuclear Plant Assessment Department Manager

For W. F. Peabody 6/16/94
Nuclear Engineering and Construction Organization Manager

6/17/94
Palisades Plant General Manager

Vice President, Nuclear Operations Department

ATTACHMENT 1

SYSTEMS and PROGRAMS IMPORTANT TO SAFETY

SYSTEM	ASPECTS	ENGINEER	SECTION HEAD
TGS	EHC DEH Main Generator Turbine	JDStafford TELeva	B*Kubacki RSWesterhof
MFW	System Performance CV-0606 Failure FP Controls FRV Controls Feed Flow Indication	CWMain RSWesterhoff	B*Kubacki RSWesterhof
RPS	Time Response Cable Separation Reliability Power Supply Pin Engagement TMM Alarms/Pretrips	BDMeredith	RSWesterhof
CCW	Heat Exchanger Containment Issue ESF Pump Cooling	WABinnington	PJGire
SW	Margins Bio-Fouling	WABinnington	PJGire
PCS	Inconel 600 CRDM Vessel Internals	BABemis	B*Kubacki
	Primary Coolant Pumps	SCCedarquist	
CVCS	Letdown CCP Packing Heat Tracing	PABurke	B*Kubacki
EPS	Diesel Generator Controls Fuel Oil	GJSzczypka	PJGire

ESS	HPSI LPSI Containment Spray	EJGrindahl	PJGire
SCS		JPBroschak	B*Kubacki
AFW	Various Controls	DABixel URPeterson	PJGire RSWesterhof
HVAC	Reliability Design	LTPhillips	B*Kubacki
SPS	4160/2400/480 125V DC 120V Preferred as Invertors	RKMoceri RSWesterhof RSWesterhof RSWesterhof	RSWesterhof
CIS	Airlocks Appendix J Electrical Penetrations (N2 Purge)	AJSoderberg BMSova	BVVanWagner RSWesterhof

PROGRAMS

SYSTEM	ASPECTS	ENGINEER	SECTION HEAD
EEQ		DRDay	TABuczwinski
Appendix R		RWPhillips	TABuczwinski
SQUG		DEEngle	TABuczwinski
MOV		WTOConnell	BALow
Valves	Checks Air Operated Reliefs	JRJohns	BALow
PPAC		RBKasper	
ISI		THFouty	BVVanWagner
Erosion/ Corrosion		BCHarsche	TABuczwinski
CCP		GSchrader	BVVanWanger
Pump & Valve IST			

Station-Blackout		RHamm	KAToner
SRPRP	Safety Related Piping and Verification	DRiat	BVVanWagner

ATTACHMENT 2

DEPARTMENT REVIEW LIST

The following list identifies the departments to be included in the departmental review.

1. Operations
   - a. Operations
   - b. Chemistry
   - c. Reactor Engineering
2. Maintenance
   - a. Mechanical
   - b. Electrical
   - c. Instrument and Control
3. System Engineering
4. Administrative
5. Nuclear Training
6. Radiological Services
7. Nuclear Engineering and Construction Organization
8. Nuclear Plant Assessment Department

ATTACHMENT 3

HEATUP,STARTUP, AND POWER ESCALATION HOLD POINTS

Objectives

This attachment outlines the management plan for ensuring the safe, controlled, and deliberate return to service of the Palisades Nuclear Plant from the 1994 Forced Outage. It is intended as a supplement to the comprehensive operating procedures that govern plant heatup, startup, and power escalation and will not duplicate sign offs and verifications already existing in the General Operating Procedures. It provides for the documentation of the additional management oversight appropriate for a plant startup considering the plant's performance history. The hold point sign-offs will focus primarily on the human performance aspects of the evolutions performed and secondarily on equipment performance.

Management Oversight

To ensure adequate management involvement of the heatup, startup, and power escalation the Plant General Manager shall establish a schedule by which Plant and NECO managers will be assigned to provide management oversight for critical evolutions and periodic general oversight during prolonged evolutions of less critical nature.

Engineering Involvement

During the heatup, restart, and power escalation of the plant from the outage, engineering will monitor the plant's response from a system, program, and design basis conformance view point. Important equipment transitions and mode changes will be monitored for proper system response. Programs will be verified, where possible, to be meeting the required standards through observations of appropriate evolutions. Design basis assumptions will be verified against actual plant operation to the extent reasonable.

Maintenance and Support Group Involvement

During heatup, startup, and power escalation of the plant from the outage, maintenance and the other support groups will establish a plan by which they will ensure that resources are available to support emergent work. Plans to support post maintenance testing and required surveys during startup and power escalation will be in place. The support groups are expected to be proactive in their support of the plant and to seek out areas where their support will further the safe and efficient operation of the plant.

Assessment Hold Points

This plan establishes the following assessment hold points at which plant conditions are maintained until a prescribed assessment of site readiness for further progression, as defined by this attachment is completed.

-Prior to leaving cold shutdown

-Prior to Reactor Startup

-Prior to Synchronization

-Prior to exceeding 35% Reactor Power

-Prior to exceeding 55% Reactor Power

-Prior to exceeding 90% Reactor Power

-Continuing Operation after 10 days of full power operation

The hold points for leaving cold shutdown and prior to reactor startup will be controlled through the normal Plant General Manager authorizations required in GOPs 2 and 3. The hold points for prior to synchronization and at the various power levels will be controlled by Operations Department management through daily orders entries. The Plant General Manager will make the authorizations for proceeding beyond the hold points.

Human Performance Evaluations

The human performance evaluations called for in the Hold Point Assessments and Authorizations section of this attachment will be performed with a focus on procedural compliance, attention to detail, communications, and safety sensitivity of the department staff. In order to evaluate this adequately it is expected that each manager will review the performance of their employees comprehensively using various inputs.

The primary input for evaluating human performance is the corrective action system. The corrective action documents generated that are applicable to the performance of a department should be evaluated for significance and for trends in performance. This evaluation should be supplemented by observations of work in the field. Inputs received during department standdown meetings should also be considered in assessing the culture existing within the organization.

The effectiveness of communication both within the individual departments and between departments is a critical element of any organization. The safe operation of the plant is dependent upon good communication at and between all levels of the organization. The

effectiveness of communication within and between departments should be assessed to determine if the process ensures that safety concerns are being adequately communicated and that the resolution of these concerns is being effectively communicated back to the concerned individuals. Likewise, communication of directions, actions and alignments must be adequate to ensure that no critical action is missed.

Hold Point Assessments and Authorizations

PRIOR TO LEAVING COLD SHUTDOWN

The full Restart Review Team shall authorize leaving cold shutdown as documented in Section VI of the Restart Plan. The authorization will be based on the restart plan review results and management observations of work in the field. In addition each plant and NECO department head shall evaluate his departments readiness to support heatup and document that evaluation below.

-Human Performance from the aspect of procedural compliance, attention to detail, communications, and safety sensitivity has been adequate to justify plant heatup.

Elec./I+C/Comp.Engineering Manager

Proj. Mgmt, Const.,& Testing Manager

Engineering Programs Manager

Mech., Civil, Structural Eng Manager

Reactor and Safety Analysis Manager

Eng Programs-Strat. Issues Manager

NECO Manager

Operations Manager

FOR RC MILLER

Systems Engineering Manager

Maintenance Manager

Radiological Services Manager

Administrative Manager

Human Resources Director

~~Human Resources Director~~
Training manager

6/9/94

Plant General Manager

PRIOR TO REACTOR STARTUP

-Heatup records have been reviewed for procedural compliance and adequate equipment response.

6/16/94
Operations Manager

-System response during heatup has been reviewed by System Engineering and is adequate to support reactor startup.

6/16/94
Systems Engineering Manager

-Plant material condition and general housekeeping is adequate for plant startup.

6/17/94
Plant General Manager

-Hot shutdown testing has been completed satisfactorily from systems perspective.

* ALL EXCEPT MC-11B, QO-32, PO-1 THESE WILL BE COMPLETED PRIOR TO CRITICAL AND CONTROLLED BY GOP-3 SIGNOFFS BY SYSTEM ENGINEERING. *

6/16/94
Systems Engineering Manager

-All plant modifications performed during the outage have been reviewed for adequacy and completeness to support plant startup.

6/17/94 ~~6/15/94~~ JMM 6/16/94
NECO Manager

-Plant Review Committee (PRC) startup meeting is complete and all open items dealing with reactor startup and power escalation have been resolved to the PRC's satisfaction.

6/15/94
PRC Chairman

-Human Performance from the aspect of procedural compliance, attention to detail, communications, and safety sensitivity has been adequate during the hot shutdown testing period to justify reactor startup.

6/16/94
Operations Manager

6/16/94
Systems Engineering Manager

Maintenance Manager

Radiological Services Manager

RB Kepler for TJP 6-17-94
Plant General Manager

PRIOR TO SYNCHRONIZATION

-Plant and Human Performance during the reactor startup met management's expectation for quality.

6/19/94
Plant General Manager

PRIOR TO EXCEEDING 35% POWER

-Plant power escalation records have been reviewed for procedural compliance and adequate equipment response.

6/19/94
Operations Manager

-System response during power escalation has been reviewed by System Engineering and is adequate to support continued power escalation.

6/19/94
Systems Engineering Manager

-Plant operation is consistent with design.

NECO Manager

-Plant material condition and general housekeeping is adequate for continued power escalation.

6/19/94
Plant General Manager

-Human Performance from the aspect of procedural compliance, attention to detail, communications, and safety sensitivity has been adequate to justify continued power escalation.

6/19/94
Operations Manager

6/19/94
Systems Engineering Manager

W.L. Ford for RBK 6/19/94
Maintenance Manager

6/19/94
Radiological Services Manager

Bruce M. Dostal for TJP per telecon
Plant General Manager 6-19-94 2330

PRIOR TO EXCEEDING 55% POWER

-Plant and Human Performance during power escalation to 55% power met management's expectation for quality.

for TJP per telecon 6,20,94 0545
Plant General Manager

PRIOR TO EXCEEDING 90% POWER

-Plant and Human Performance during power escalation to 90% power met management's expectation for quality.

for TJP per telecon 6/20/94 2217
Plant General Manager

CONTINUED OPERATION FOLLOWING 10 DAYS OF FULL POWER OPERATION

-Plant material condition and general housekeeping are adequate for continued operation.

Plant General Manager

-Modification performance supports continued operation.

NECO Manager

-Fuel performance is adequate to support continued operation.

Reactor and Safety Analysis Manager

-System response during power escalation has been reviewed by System Engineering and is adequate to support continued power escalation.

Systems Engineering Manager

-Plant operation is consistent with design.

NECO Manager

-Human Performance from the aspect of procedural compliance, attention to detail, communications, and safety sensitivity has been adequate to justify continued operation.

7/6/94

Operations Manager

7/6/94

Systems Engineering Manager

7-6-94

Maintenance Manager

Radiological Services Manager

Plant General Manager

ATTACHMENT 3

Consumers Power Company
Palisades Plant
Docket 50-255

PALISADES PERFORMANCE ENHANCEMENT PLAN

Describing Long-Term Actions to Improve
Performance at Palisades

August 11, 1994

PALISADES

NUCLEAR PLANT

PALISADES PERFORMANCE ENHANCEMENT PLAN (P²EP)

Consumers Power Company
PALISADES NUCLEAR PLANT

July 15, 1994

Approved By Robert A. Fenech 7-14-94

Vice President - Nuclear Operations Date

TABLE OF CONTENTS

SECTION 1.0

INTRODUCTION

1.0 INTRODUCTION

The Palisades Performance Enhancement Plan (P^2EP) was developed to address identified barriers to achieving the high level of performance that we desire. Recent performance assessments indicate that, without an integrated, plant-wide Performance Enhancement Plan, effective and sustained performance improvements will not be possible. This Plan is integrated across organizational boundaries and is applicable to all organizations that perform work affecting any aspect of the Palisades Nuclear Plant.

This Plan is based on the issues and barriers that were determined to exist at the time the Plan was developed. It is recognized that changing conditions and standards require flexibility in planning and implementation of actions such as those contained in this Plan. This Performance Enhancement Plan is a *living document*; it will be modified as necessary to continue to focus on both current and emerging issues. Performance indicators coupled with aggressive monitoring and feedback mechanisms will ensure that performance improvements are realized. Feedback from periodic monitoring of action completion and, more importantly, results, will allow for modification of this Plan as necessary to remain on track in achieving our overall performance goals.

SECTION 2.0

NUCLEAR OPERATIONS DEPARTMENT AND PALISADES MISSION STATEMENTS

2.0 NUCLEAR OPERATIONS DEPARTMENT AND PALISADES MISSION STATEMENTS

2.1 Nuclear Operations Department Mission and Values

The Nuclear Operations Department (NOD) Business Plan (1994-1996) provides upper-tier direction for aligning the organizations responsible to operate and support the Palisades Nuclear Plant. The Business Plan communicates the NOD mission:

> *The MISSION of the Nuclear Operations Department is the SAFE, COST-COMPETITIVE, and RELIABLE generation of electricity from nuclear power for the well-being of our communities and employees.*

The NOD Business Plan also sets forth the following *Organizational Values*:

- Safety (nuclear, radiation, and industrial)
- Cost-Competitiveness
- Reliable Performance
- People
- Community

This upper-tier direction is translated and communicated down the organization into department business plans and management expectations.

2.2 Palisades Mission and Vision

The Palisades Business Plan (1994-1996) states the Palisades Mission:

> *The Mission of the Palisades Nuclear Plant employees is to operate, maintain, and modify the plant to provide safe, cost-competitive, reliable, electricity to our customers now and in the future. We will strive to provide our employees with the necessary tools to optimize their performance while maintaining the enhancing their job satisfaction.*

The Palisades Vision Statement is:

> As employees, we all would like to work in an environment where our contributions are valued, respected, recognized and rewarded. The best way to

achieve this is to serve our customers better and meet our stakeholders' expectations. We will be successful when:

We are viewed by our **customers** as a reliable, low-cost provider of electricity,

We are viewed by **senior management and investors** as a valued asset,

We are viewed by our **industry peers** as a leader in achieving safe, competitive performance,

We are viewed by our **communities** as a good and desired neighbor,

We are viewed by **ourselves** as a great place to work, and

We are viewed by our **regulators** as an organization that does not need to be given any extra attention.

2.3 Palisades Performance Enhancement Plan (P^2EP)

This Palisades Performance Enhancement Plan (P^2EP) is necessary in order to fulfill our mission and attain our vision. P^2EP will provide the management and supervisory staff at Palisades the necessary management tool to focus on performance improvement. P^2EP will be transitioned into the NOD Integrated Business Planning Process (refer to Figure 1) while each of the Action Plans are being implemented.

SECTION 3.0

P^2EP PROCESS

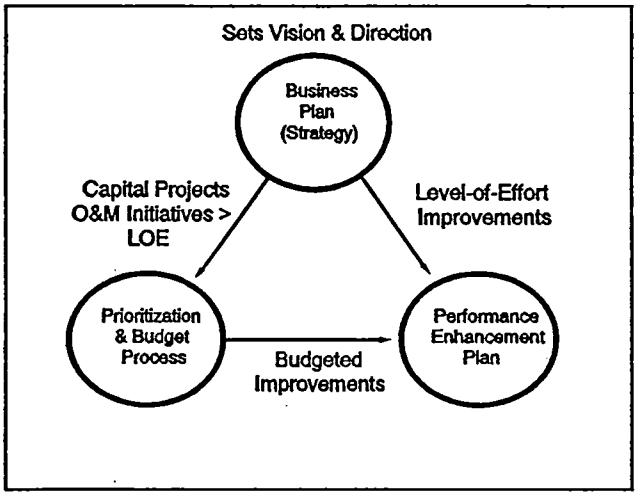
3.0 PALISADES PERFORMANCE ENHANCEMENT PLAN PROCESS

3.1 Performance Issues

The P²EP has been developed because there are a number of issues needing resolution to achieve the Palisades Vision and fulfill the NOD and Palisades mission. This section documents the process used to develop the Plan to ensure not only that it is comprehensive but also that the actions are appropriately monitored and implemented.

Over the past year we have had several comprehensive internal and externally performed assessments of management and plant performance. In taking an introspective and critical look at what these assessments were telling us, it became apparent that our past approach lacked a sufficient degree of recognition and acceptance of the issues we face to be successful. Additionally, our past efforts lacked the integration and focus to meet our expectations. Also, our expectations lacked clarity, follow-through, and appropriate accountability mechanisms.

Although some progress has been made, a step increase is needed in order to achieve desired results. With that end in mind, the short-term strategy for addressing the Palisades performance improvement issues began with identification and validation of performance issues which led to development of the P²EP. The P²EP is intended to be implemented over the next six to twelve months, while an enhanced NOD business planning process is developed. Although business plan revision is occurring, it is still expected to comply with the basic process concept illustrated as follows:



The P²EP, the NOD Business Plan, the Palisades Business Plan, and individual departmental Action Plans will be integrated via the more detailed revised business planning process illustrated above. It is expected the revised business plan will address

a broader range of issues than those included in the current set of business plans. The organizational values in the current business plans include Safety, Cost-Competitiveness, Reliable Performance, People, and Community. Most importantly, however, is the planning process will include features designed to ensure the root causes of Palisades performance issues are corrected and a sustained level of superior performance is achieved.

3.2 Performance Enhancement Plan Development

The P^2EP was developed using a process that:

- Determines and continuously validates the performance issues through the use of root cause/common cause analyses.
- Arrives at common understanding of the most important issues, thereby resulting in a manageable agenda for performance improvement.
- Gains buy-in, enrollment, and commitment across the NOD organization.
- Supports development of meaningful Objectives and Action Plans that, when implemented, resolve the performance issues.
- Integrates with the evolving business planning process.
- Engages NOD and Palisades senior management and provides monitoring, trending and feedback.
- Provides validation and verification by Action Plan sponsors

A participative team process was used and continues to be used to develop and validate the issues (refer to Figure 2). Common understanding of the performance issues was reached through the use of workshops among a cross section of NOD personnel, representing various organizational levels and groups. The process developed Focus Areas, Goals, and Objectives necessary to reach and sustain a high level of performance in support of the Palisades Mission.

As stated before, the P^2EP is a *living document*. The plan will be updated as conditions and standards change, and as we learn and develop better tools and processes. For example, one of the high priority Objectives contained in this Plan involves the development of an integrated planning process. It is expected that development of such a process will impact how activities are prioritized, defined (scope and responsibility), estimated, planned, scheduled and budgeted within NOD and Palisades. This, in turn, will impact and enhance the implementation of the P^2EP. Appendix A includes two sample Action Plans.

The Performance Enhancement Plan makes use of past business plans, current performance information, and newly developed issues, Objectives, and Action Plans. While some of these activities have been done before, the current plans were developed using participative, team techniques to foster buy-in, commitment, and enrollment. This focused development, coupled with the commitment from the management team, provides the foundation for our high level of confidence in the success of this program.

3.3 Layout of the Palisades Enhancement Plan

The Palisades Performance Enhancement Plan consists of Focus Areas, Goals, and Objectives that address performance issues facing the plant. Appendix B provides a matrix of Focus Areas, Goals and Objectives arranged as follows:

- Leadership and Management
- Programmatic Improvement
- Human Performance
- Culture
- Critical Assessment
- Plant Condition

Under each Focus Area is a summary of the performance issues that were determined to exist in that area, followed by a brief Goal describing the desired future state. One or more Objectives have been identified to break the Goal into manageable tasks. Collectively, fulfilling the Objectives supporting a Goal is necessary to attain the desired state. Additionally, the Objectives address one or more performance issues that were identified. Meeting the Objectives will address the performance issues in that Focus Area and the Goal will be achieved.

Finally, a comprehensive and specific P^2EP Action Plan is prepared to achieve each Objective. Action Plans are discussed in Section 4.0.

SECTION 4.0

P^2EP ACTION PLANS

4.0 P²EP ACTION PLANS

4.1 P²EP Action Plan Index

Appendix C is the current Index of P²EP Action Plans

4.2 Generic Action Plan

Each Action Plan uses a standard template for consistency. Action Plans contain statements of the actions taken to address performance objectives, schedule, resource needs, responsibility, deliverable products and performance indicators. Appendix D is the Generic P²EP Action Plan Templates. The Action Plan content is as follows:

4.2.1 Cover Page

Objective: - The assigned number and description from Appendix C

Sponsor: - The sponsor is the single most responsible individual who must achieve the objective. This person develops and implements the Action Plan, often as a matrix project manager who draws upon a team of multiple departments for resources.

Priority (of Objective): - Selected from: 1 = High, 2 = Medium, or 3 = Low

Completion Date: - The completion date for the last activity in the plan. Most often this is the expected completion of the validation and verification activity which assesses the degree of effectiveness of the Action Plan.

Date - The effective date for the Action Plan or subsequent revision of the Action Plan.

Signature Block - Approval signatures for the Action Plan by the Management Sponsor, P²EP Manager, Plant General Manager, and Director NOD Services.

4.2.2 1.0 Focus Area - Issue Summary

The Issue Summary Section comes from the Objective Matrix, Appendix B. These summaries are a compilation of observations from the participative team process discussed in Section 3.2. The summaries describe the current state.

4.2.3 2.0 Goal

The Goal Section is a description of the desired future state for high level performance from the Objective Matrix, Appendix B. Refer to Appendix B.

4.2.4 3.0 Focus Area - Specific Issue Statement(s)

The Specific Issue Statement(s) Section presents the specific performance issues identified by the participative team process which have been mapped for resolution by Objective.

4.2.5 4.0 Objective

The Objective Section is the specific Objective from the Objective Matrix.

4.2.6 4.1 Related Objectives

Frequently, other Objectives are related and interdependent with the subject Action Plan Objective. This Section cross-references multiple Objectives related to the same issue.

As Action Plans are developed and activities are defined, related Objectives interface or cross-tie the activities. These interfaces are vital to the integrated planning of Action Plan activities.

4.2.7 5.0 Action Plans

This section presents the summary statement of how the Objective is to be accomplished. This statement is the summary of the content of the individual activities which are stated in the following Sections.

4.2.8 Section 5.1, 5.2, etc. Action Plan Activities

Action Plan Activities describe the logical steps required to accomplish the Objective. Activities chosen by the sponsor identify the work tasks. Activities must sequence or parallel other activities within the subject Action Plan. They must allow for interface (integration) with activities in other Action Plans. They must be understandable for outside review.

The Action Plan Section activity format includes:

A description of what is being done or what the action is.

Estimated duration - the elapsed time in work days to perform the activity. A week is 5 days; a typical month is about 22 days.

Required Completion if Applicable - usually externally imposed milestones, meetings, submittals, deadlines, etc.

Resources Required with Estimated Manhours - the estimated manhours to perform the work broken down by type of employee, department and frequently by individual.

Priority of Activity - the priority for each activity. It often differs from the Priority of Objective, but still uses the same scale: 1 = High, 2 = Medium, 3 = Low.

Responsible Individual - the single person responsible for getting the individual Action Plan Activity work done. This person may be different from the sponsor. This person is the single point of accountability for providing accurate status of the activity.

4.2.9 6.0 Deliverables

Deliverables are the measurable product or output resulting from the Action Plan activities. Examples include: draft business plan, process flow chart, new or revised directives/procedures/guidelines, schedule of meetings or presentations, self and independent assessments, lesson plans and training modules, etc.

4.2.10 7.0 Lessons Learned

Lessons Learned are insights gained during the development or implementation of Action Plans. Lessons learned are worthwhile experiences which can benefit the P^2EP process by providing feedback to management.

4.2.11 8.0 References

References are relevant information sources. They can be assumptions or bases for estimates, INPO research results or industry data or comparable plant data.

4.2.12 9.0 Performance Indicators

Performance Indicators are relevant indicators that Objectives are achieved. The indicators should show that actions are executed effectively while meeting quality requirements. Examples include plant performance: SALP, Capacity Factor, Production Expense, or safety statistics. Other examples include training head counts, test scores, closure of Action Plan Activity tasks, documented surveys, or contractor cost and schedule reports.

4.2.13 10.0 P^2EP Action Plan Verification Checklist

This section provides a checklist for the sponsor which verifies comprehensive preparation of his Action Plan. A back check is provided by the P^2EP Manager.

4.2.14 11.0 Closeout

This section provides the sponsor's statement that the Action Plan activities have been executed with relevant deliverables. Where appropriate, continuing activities are dispositioned with statements that the Action Plan phase has been completed and a transition was effected for long term or permanent institution into directives, guidelines, or procedures.

4.2.15 Appendices

This section contains the relevant project controls tools for each Action Plan as follows:

Action Plan Activity Table (Update Report)

Action Plan Activity Bar Chart

Action Plan Logic Diagram (refer to Figure 3)

4.3 Department Action Plan

Extensive planning already exists in NOD and Palisades departments in addition to P^2EP Action Plans. Palisades managers prepare Department Master Action Plans to implement P^2EP initiatives and to account for and plan other improvement initiatives. Figure 4 illustrates the Department Action Plan Flow Diagram. Appendix E is the Department Master Action Plan Template.

SECTION 5.0

P^2EP

PROGRESS REPORTING

AND

TRENDING

5.0 P²EP PROGRESS REPORTING AND TRENDING

5.1 P²EP Update Process

The P²EP group functions as the project controls organization to provide progress and trending information to Senior Management, Sponsors, Department Managers, and employees. Appendix F contains an Action Plan Summary Description and an Action Plan Task Listing. The update process starts with an update report being distributed to Action Plan Sponsors and Department Managers. The update is a set of questions:

- Is the plan still valid
- Which activities have actual starts and completes
- What are the remaining durations of activities not completed
- What responsible individuals or resources have changed
- What logic changes are appropriate, especially if the plan has changed

The answers to those questions are the marked-up update reports or re-drawn logic diagrams which are input to the scheduling software, processed and analyzed, and the resulting output is distributed as progress/trend reports for management. New update reports are produced and cycled again to the sponsors and responsible departments for the next update. Frequency of the update cycle is monthly.

5.2 Trending

The overall progress of each Action Plan will be trended monthly by reviewing the production results or work completed, and the forecast of completion by the Action Plan Sponsor against the target schedule (as originally or currently set by Senior Management with the Action Plan Sponsors concurrence). Variances in scheduled completion, product quality, issue identification and resolution will be reported to the Action Plan Manager through Senior/Executive NOD Management by exception.

SECTION 6.0

P^2EP

ADMINISTRATIVE

CONTROL PROCESS

6.0 P²EP ADMINISTRATIVE CONTROL PROCESS

6.1 PURPOSE

The purpose of this administrative control process is to establish the requirements for use, revision, distribution, reporting and tracking status of Palisades Performance Enhancement Plan (P²EP) implementation.

6.2 SCOPE

This administrative control applies to all personnel involved with work activities at Palisades.

6.3 CONTROL PROCESS

A. Use of P²EP

1. The P²EP is a list of improvement initiatives being developed and implemented by a group of approximately two dozen specific Action Plans. Information contained in each P²EP Action Plan includes the responsible Action Plan sponsor or owner and a summary of the actions being implemented by the Action Plan. For each Action Plan, activity (task), the detailed actions to implement the Action Plan, the individual responsible for performing each activity and the resources required for each activity are listed. P²EP is a *living document* also used to identify emergent work activities, status improvement work, and to keep management apprised of Action Plan progress. Changes to Action Plans, validation and verification, and closure of items in P²EP Action Plans will occur only after appropriate senior management review and approval.

   Extensive work already exists in Palisades departments in addition to P²EP. Department Master Action Plans are being developed to account for and plan other improvement initiatives.

2. P²EP Action Plans are categorized by focus areas as follows:

   a. Leadership and Management

   b. Programmatic Improvement

   c. Human Performance

   d. Culture

   e. Critical Assessment

f. Plant Condition

B. Revision to P²EP Action Plans

1. Any P²EP Action Plan Sponsor or department-level or higher manager may request a revision to P²EP Action Plans.

2. This will normally occur by marking the desired changes on a copy of the P²EP Action Plan and transmitting it with a signed P²EP Input Form to the P²EP Manager.

3. The P²EP Manager will obtain any required approvals and, if the proposed change is approved, arrange for the Action Plan and associated documents to be revised. If the proposal is not approved, he will provide feedback to the requestor.

C. Distribution of the P²EP Status and Trends

1. P²EP will be updated and copies distributed to all department-level and higher managers.

2. Additionally, the P²EP may be distributed as part of the Palisades Business Plan to a controlled distribution list. The Palisades Business Plan is updated periodically to reflect accumulated P²EP Action Plan changes.

D. Emergent Issues

1. Anyone may identify an emergent item, obtain approval from responsible P²EP Action Plan Sponsor and or department level manager, and submit the request to P²EP Manager using the P²EP Input Form.

2. Such items may be added to P²EP if they meet the following criteria:

   a. The activity is designed to address a significant weakness which impacts or compromises safety and quality.

   b. The issue is complex and affects multiple organizations.

   c. The initiative is an externally identified improvement which Palisades concurs with.

E. Approval of Changes to P²EP Action Plans

1. Proposed changes to P²EP require the following approvals:

   a. Changes to the Focus Areas or Goals require the concurrence of Palisades Safety and Licensing Director and the P²EP Manger, or as designated by the Vice President of Nuclear Operations (VP-NOD).

   b. Changes to P²EP items require the approval of the Action Plan Sponsor and P²EP Manager.

   c. Changes to Departmental Master Action Plans require the approval of the responsible department manager.

F. Reporting the Status of P²EP

1. Action Plan Sponsors are required to provide status updates (e.g. starts, completions, deliverables) monthly to the P²EP Manager.

2. The P²EP Manager updates P²EP and provides the information to Palisades department-level and higher managers and to the Action Plan Sponsors.

3. The P²EP Manager provides summary information on P²EP trends and progress to senior site management at least once a month.

G. Closure of P²EP Action Plans

1. Closure of P²EP Action Plan items are documented in the Action Plan and forwarded to the P²EP Manager for closure action.

2. P²EP closed items require senior management review and approval by the P²EP Manager

P²EP INPUT FORM

To: P²EP Manager

From: _____

Subject: P²EP - _____

TYPE OF P²EP CHANGE

☐ **NEW**

☐ **CHANGE/DELETION**

☐ **VERIFICATION AND VALIDATION**

☐ **CLOSEOUT**

Issue for P²EP Consideration: _____

Root Cause Necessary to Perform ☐ NO ☐ YES (If YES, please attach)

Action Description:

Resources Required:

Priority Category:

_____ / _____ _____ / _____

Requestor Date Action Plan Sponsor Date

_____ / _____

P²EP Manager Date

Figure 1

NOD Business Planning Integration Process

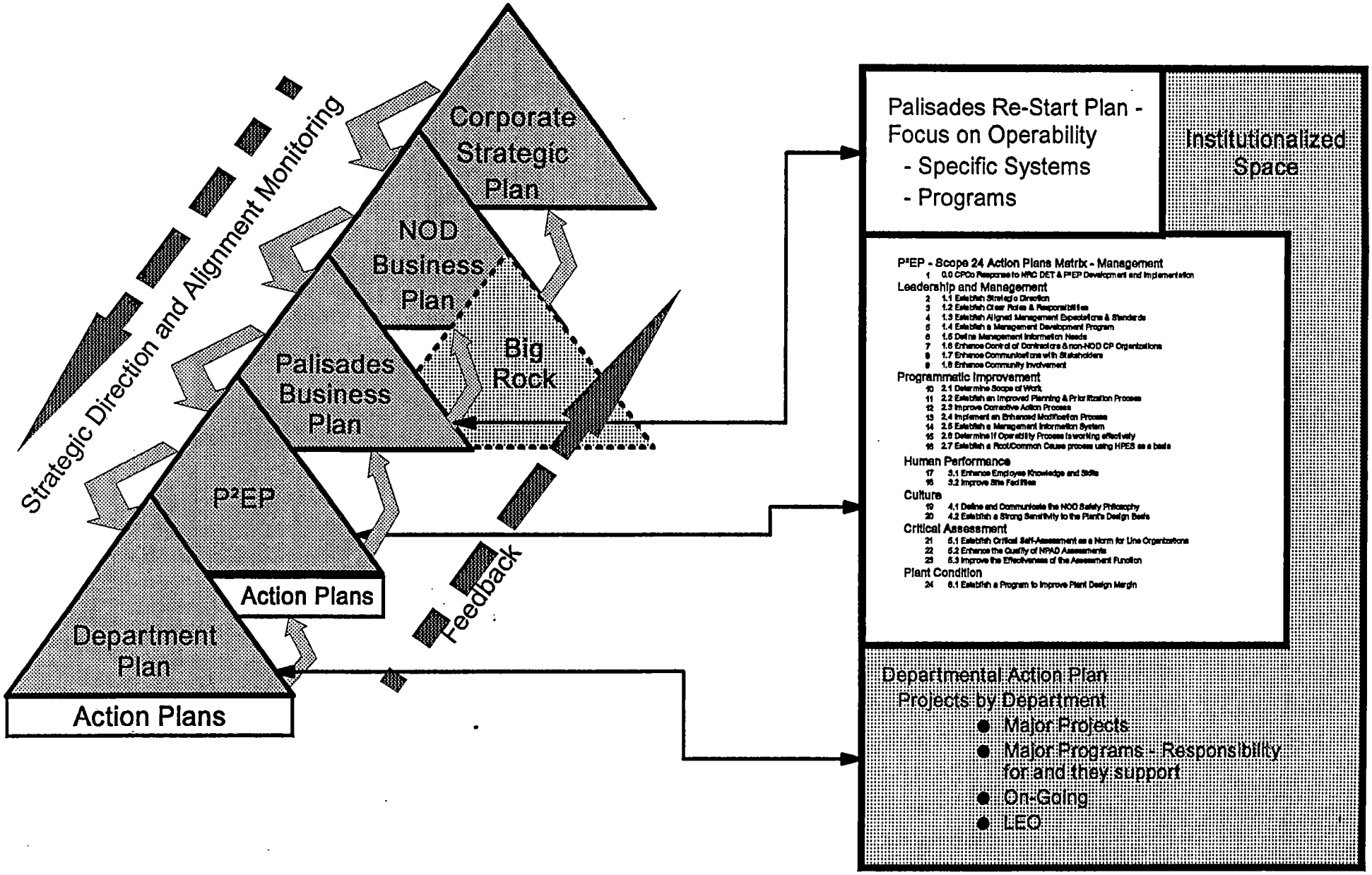


Figure 2

P²EP Process Flow Chart

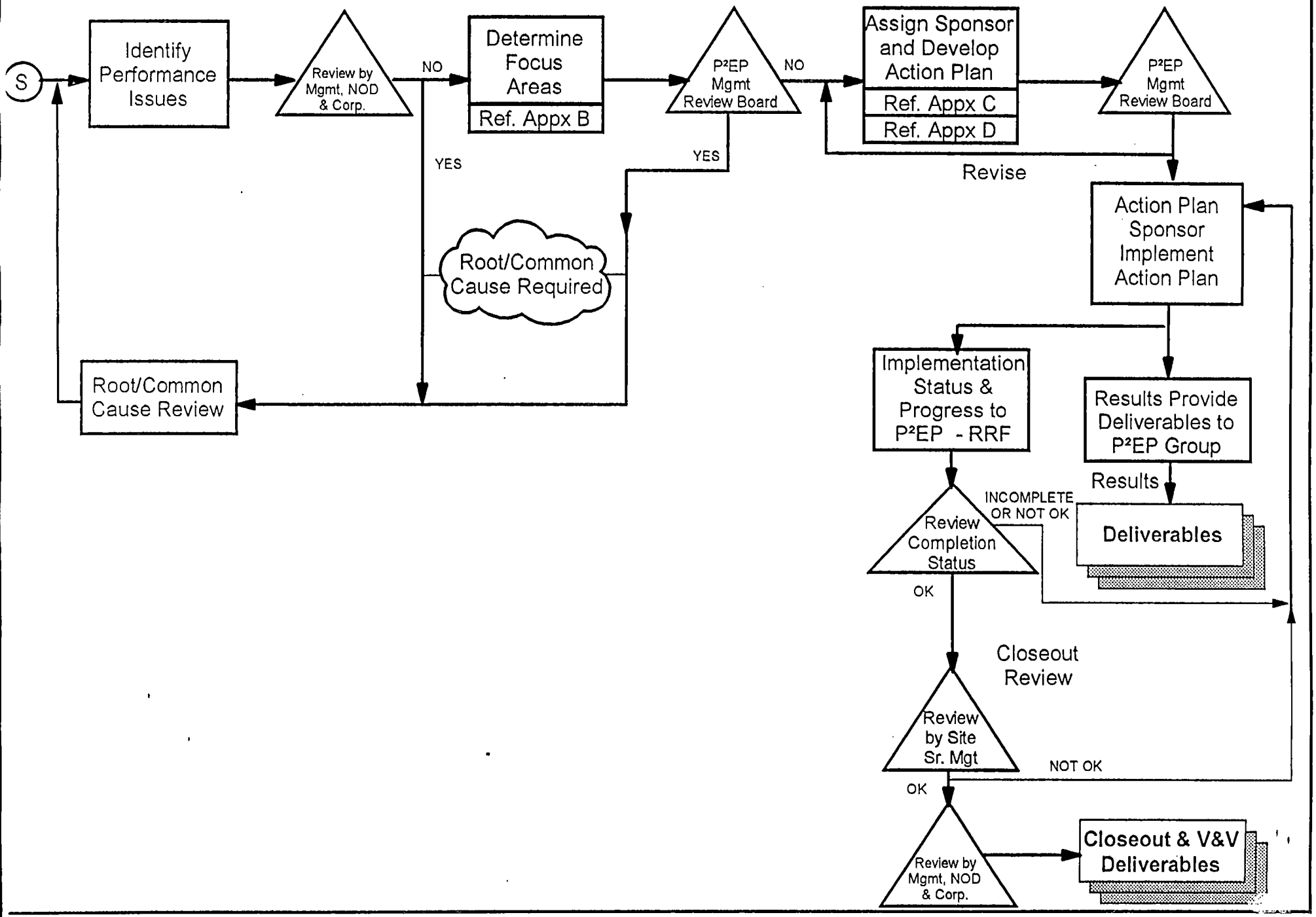


Figure 1

Generic Logic Example

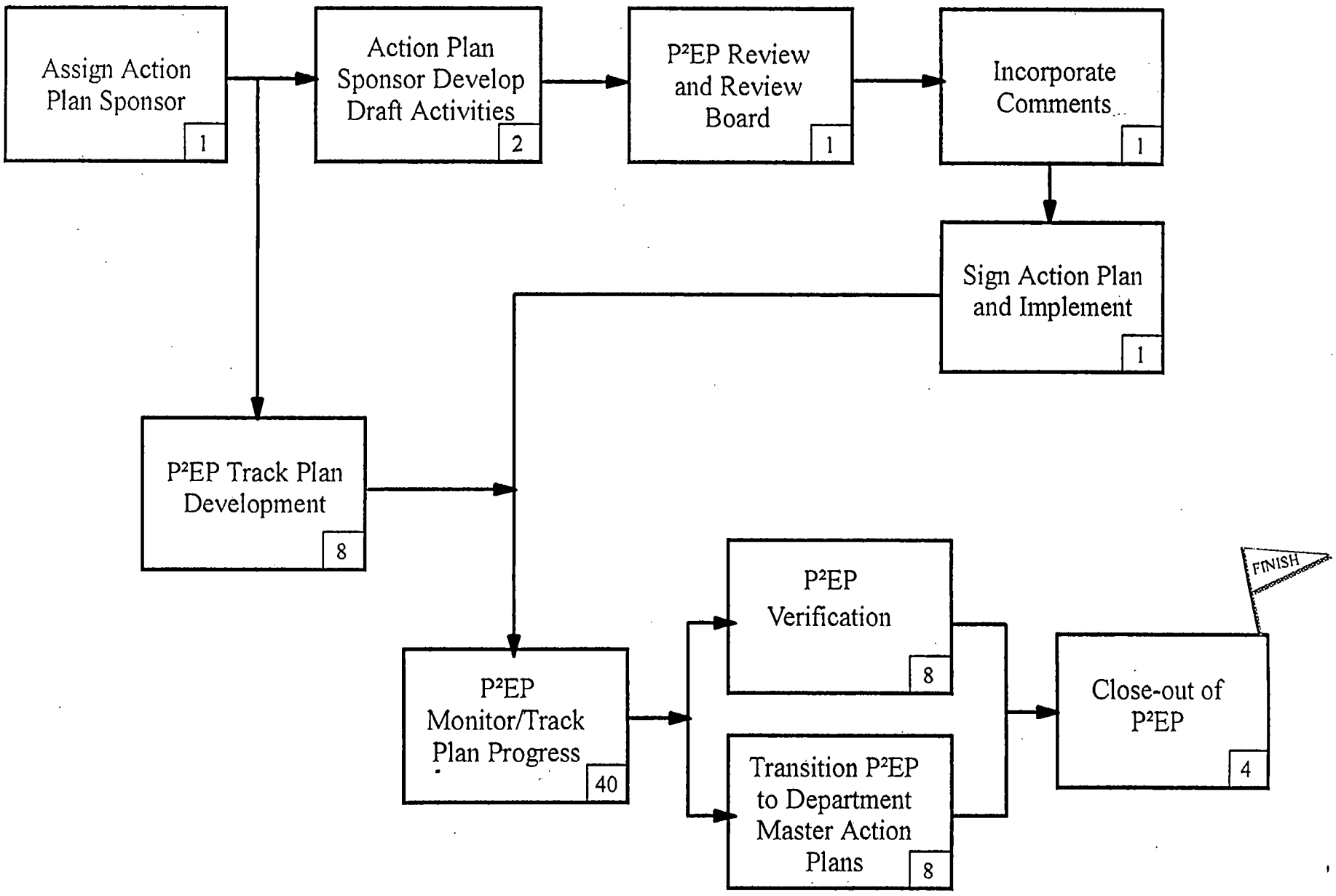


Figure 4

P²EP/Department Action Plan Flow

P²EP ACTION PLANS

0.0 CPCo Response to NRC DET & P²EP Development and Implementation

Leadership and Management
- 1.1 Establish Strategic Direction
- 1.2 Establish Clear Roles & Responsibilities
- 1.3 Establish Aligned Management Expectations & Standards
- 1.4 Establish a Management Development Program
- 1.5 Define Management Information Needs
- 1.6 Enhance Control of Contractors & non-NOD CP Organizations
- 1.7 Enhance Communications with Stakeholders
- 1.8 Enhance Community Involvement

Programmatic Improvement
- 2.1 Determine Scope of Work
- 2.2 Establish an Improved Planning & Prioritization Process
- 2.3 Improve Corrective Action Process
- 2.4 Implement an Enhanced Modification Process
- 2.5 Establish a Management Information System
- 2.6 Enhance the Operability Determination Process
- 2.7 Establish a Root/Common Cause Program

Human Performance
- 3.1 Enhance Employee Knowledge and Skills
- 3.2 Improve Site Facilities

Culture
- 4.1 Define and Communicate the NOD Safety Philosophy
- 4.2 Establish a Strong Sensitivity to the Plant's Design Basic

Critical Assessment
- 5.1 Establish Critical Self-Assessment as a Norm for Line Organizations
- 5.2 Enhance the Quality of NPAD Assessments
- 5.3 Improve the Effectiveness of the Assessment Function

Plant Condition
- 6.1 Establish a Program to Improve Plant Design Margin

DEPARTMENT MASTER ACTION PLANS

Improvement Issues/Concerns (List)

P²EP Initiations (List)

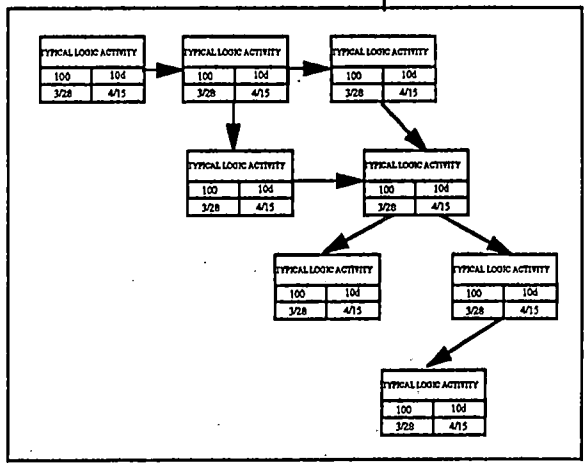
Program Improvements (List)

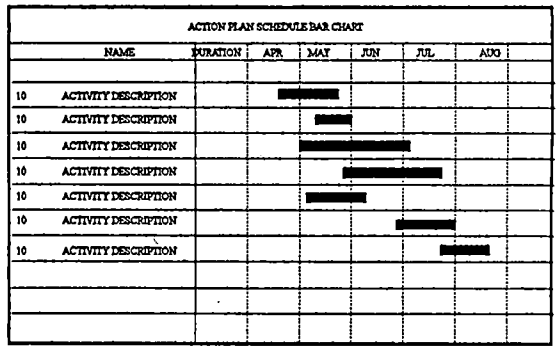
Project Improvements (List)

PRIORITIZATION

Action Work Scope Logic, Duration (Elapsed time) and Resource Estimated and Deliverables

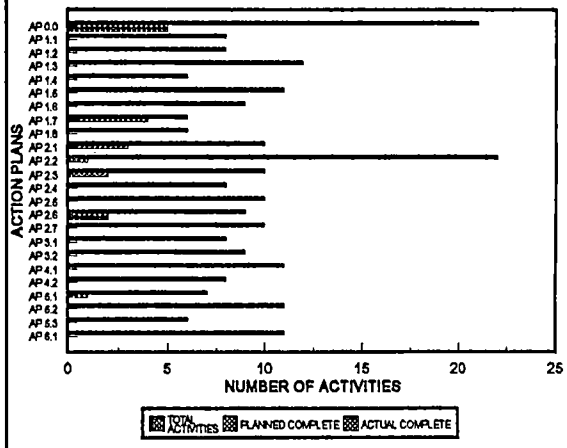
ACTION PLAN LOGIC





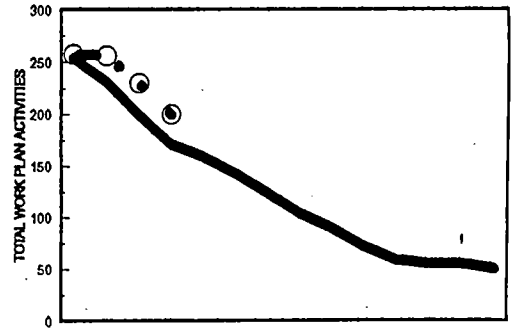
P²EP ACTION PLAN ACTIVITY STATUS

As Of 4/15/94



P²EP OPEN ACTIVITY

As of Week ending 4/15/94

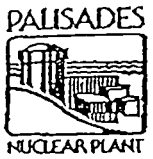


WEEK ENDING	4/1	4/15	4/29	5/13	5/27	6/10	6/24	7/8	7/22	8/5	8/19	9/2	9/16	9/30
PLANNED	254	231	199	171	159	143	124	104	90	72	59	55	55	50
ACTUAL	257	258	210	200										

APPENDICES

APPENDIX A

SAMPLE ACTION PLANS



PALISADES NUCLEAR PLANT

PERFORMANCE ENHANCEMENT ACTION PLAN

OBJECTIVE 1.1 ESTABLISH STRATEGIC DIRECTION

SPONSOR: RAFenech

PRIORITY (of Objective): - 1 -

COMPLETION DATE: June 3, 1994

March 25, 1994

Revision 0

Management Sponsor:	
P²EP-Manager:	
Plant General Manager:	
NECO Manager:	

1.0 FOCUS AREA - Issue Summary

Leadership and Management

NOD Management has not successfully translated and communicated the NOD/Palisades Vision down through the organization. Management has not clearly established appropriate and consistent standards and expectations. Roles and responsibilities are not aligned and clearly established or communicated. NOD in general and Palisades specifically are not "learning" organizations and do not solicit or welcome outside criticism or perspectives. A contributing cause lack of appropriate skills and experience.

2.0 GOAL

Management provides a clear vision and sets direction throughout NOD for sustained Palisades Plant performance improvement. Expectations and roles and responsibilities are clearly communicated and foster an atmosphere where functional alignment, individual accountability, and organizational understanding are achieved and performance goals are met. Management knowledge and skills are state-of-the-art and the community and regulator fully value Palisades performance.

3.0 FOCUS AREA - Specific Issue Statement(s)

There is a vision, which is ineffectively translated to the work force, and thereby provides little context for day-to-day activities. (2B)

Palisades does not manage change well, including controlling change and eliminating unnecessary changes. The organization does not cope well with changing external conditions. (5) (part)

Programs are developed but true cultural and institutional change has not occurred in many cases. (For example, Operations personnel have not accepted the performance improvement programs implemented within the department. In general, a feeling of accommodation has been assumed with the provision that "this, too, shall pass.") (C) Related: 4.3

4.0 OBJECTIVE 1.1: Establish Strategic Direction

Establish the vision, values, and strategic focus for the organizations that perform work in support of Palisades so that they are aligned and consistent with the corporation's vision, values, and strategy.
[Input from Objective 4.1]

4.1 RELATED OBJECTIVES

2.2, 4.3

5.0 ACTION PLANS

The Nuclear Operations Department (NOD) strategic direction, as conveyed in the Business Plan and CPCo/NOD guide, will be reviewed and revised by the Vice President of NOD. The draft revision will be subject to review and comment by the direct reports to the Vice President of NOD to assure buy-in of the vision, values, strategies, and focus areas by the Palisades Management Team. The revised strategic direction will be communicated to NOD employees, Non-plant CPCo employees, contractors and vendors. Verification and validation will occur on an ongoing periodic basis to assure alignment is maintained and is consistent with CPCo corporate vision.

5.1 ACTION PLAN ACTIVITY

Review and Revise CPCo/NOD Guide as Needed

Estimated Duration (in days)	15 Days
Required Completion if Applicable	N/A
Resources Required with estimated manhours	20 MH - RAFenech

Priority of Activity 1

Responsible individual: RAFenech

5.2 ACTION PLAN ACTIVITY

Distribute to Direct Reports for Review and Comment

Estimated Duration (in days)	5 Days
Required Completion if Applicable	
Resources Required with estimated manhours	2 MH for each Direct Report - RAFenech
Priority of Activity 1	

Responsible individual: RAFenech

5.3 ACTION PLAN ACTIVITY

Incorporate Comments

Estimated Duration (in days)	4 Days
Required Completion if Applicable	N/A
Resources Required with estimated manhours	2 MH - RAFenech
Priority of Activity 1	

Responsible individual: RAFenech

5.4 ACTION PLAN ACTIVITY

Print up New Booklets

Estimated Duration (in days)	5 Days
Required Completion if Applicable	N/A
Resources Required with estimated manhours	0 MH - RAFenech
Priority of Activity 1	

Responsible individual: MAEngle

5.5 ACTION PLAN ACTIVITY

Develop Communication Schedule

Estimated Duration (in days)	5 Days
Required Completion if Applicable	N/A
Resources Required with estimated manhours	2 MH: RAFenech RRFrisch TPHagan

Priority of Activity 1

Responsible individual: RRFrisch

5.6 ACTION PLAN ACTIVITY

Implement Communications

Estimated Duration (in days)	5 Days
Required Completion if Applicable	N/A
Resources Required with estimated manhours	4 MH - RAFenech

Priority of Activity 1

Responsible individual: RAFenech

5.7 ACTION PLAN ACTIVITY

Perform Verification and Validation

Estimated Duration (in days)	5 Days
Required Completion if Applicable	N/A
Resources Required with estimated manhours	1 MH - RAFenech

Priority of Activity 1

Responsible individual: RAFenech

5.8 ACTION PLAN ACTIVITY

Review results and make changes as necessary.

Estimated Duration (in days)	5 Days
Required Completion if Applicable	N/A
Resources Required with estimated manhours	4 MH - RAFenech

Priority of Activity 1

Responsible individual: RAFenech

6.0 DELIVERABLES

6.1 DELIVERABLE - Action Plan Activity 5.1

Draft revision to 1994 Business Plan.

6.2 DELIVERABLE - Action Plan Activity 5.4

Issue revised 1994 Business Plan including pocket version.

6.3 DELIVERABLE - Action Plan Activity 5.5

Schedule for Communication meetings to disseminate 1994 Business Plan.

6.4 DELIVERABLE - Action Plan Activity 5.6

Conduct communication briefings on 1994 Business Plan.

7.0 LESSONS LEARNED

8.0 REFERENCES

1994 - Palisades Business Plan
1994 - CPCo Business Plan
1994 - CPCo Strategic Plan

9.0 PERFORMANCE INDICATORS

9.1 Industrial Safety Accident Rate

Start Date: Ongoing
Frequency: Monthly
Responsible: RRFrisch

9.2 Systematic Assessment of Licensee Performance Reporting

Start Date: Ongoing
Frequency: Monthly
Responsible: RRFrisch

9.3 Net Capacity Factor

Start Date: Ongoing
Frequency: Monthly
Responsible: RRFrisch

9.4 Production Expense $/MWH

Start Date: Ongoing
Frequency: Monthly
Responsible: RRFrisch

9.5 Employee Survey Results

Start Date: Ongoing
Frequency: Monthly
Responsible: JCGriggs

9.6 Community Survey Results

Start Date: Ongoing
Frequency: Monthly
Responsible: DAMcKee

10.0

P²EP
ACTION PLAN
VERIFICATION CHECKLIST

ACTION PLAN NO. 1.1

ACTION PLAN DESCRIPTION	APS	P²EP	
1.0 Objective Description	✓	✓	
2.0 Priority	✓	✓	
3.0 List of Specific Activities Necessary to Accomplish Objective (including V&V and closure.)	✓	✓	
4.0 List of Specific Deliverables	✓	✓	
5.0 Duration for each Activity in Days	✓	✓	
6.0 Resources Identified for each activity by Individual or Type and Estimated Manhours to Accomplish Activity	✓	✓	
7.0 Required Due Date (if Applicable) by Activity	✓	✓	
8.0 Sequence, Dependencies Inter-Relationships Identified (Action Plan Logic Sequence and Inter-Relationships Between Action Plans)	✓	✓	
9.0 Industry References	✓	✓	

28
RRF
3

11.0 CLOSEOUT

APPENDICES

- Action Plan Activity Table
- Action Plan Activity Bar Chart
- Action Plan Logic Diagram
- Action Plan Resource Table by Activity
- Resource Histogram

Name	Scheduled Start	Duration	Scheduled Finish
P2EP	1/1/93 8:00am	651d	7/1/95 5:00pm
1.0 Leadership and Management	1/1/93 8:00am	397d	7/11/94 5:00pm
1.1 Establish Strategic Direction	3/28/94 8:00am	50d	6/3/94 5:00pm
1.1.01 Review and Revise CPCO/NOD Guide as Needed	3/28/94 8:00am	15d	4/15/94 5:00pm
1.1.02 Distribute to Direct Reports R&C	4/26/94 8:00am	5d	5/2/94 5:00pm
1.1.03 Incorporate Comments and FRC Issues	5/3/94 8:00am	4d	5/6/94 5:00pm
1.1.04 Print up New Booklets	5/9/94 8:00am	5d	5/13/94 5:00pm
1.1.05 Develop Communication Schedule	4/18/94 8:00am	5d	4/22/94 5:00pm
1.1.06 Implement Communications	5/16/94 8:00am	5d	5/20/94 5:00pm
1.1.07 Perform Verification and Validation	5/23/94 8:00am	5d	5/27/94 5:00pm
1.1.08 Present Findings	5/30/94 8:00am	5d	6/3/94 5:00pm

1.1 Establish Strategic Direction	
3	50d
3/28	6/3

done 4/7/94

1.1.01 Review and Revise CPCO/NOD	
4	21d
3/28	4/25

1.1.02 Distribute to Direct Reports R&C	
5	5d
4/26	5/2

1.1.03 Incorporate Comments and FRC	
6	4d
5/3	5/6

1.1.04 Print up New booklets	
7	5d
5/9	5/13

1.1.06 Implement Communications	
9	5d
5/16	5/20

1.1.07 Perform Verification and	
10	5d
5/23	5/27

1.1.05 Develop Communication	
8	5d
4/26	5/2

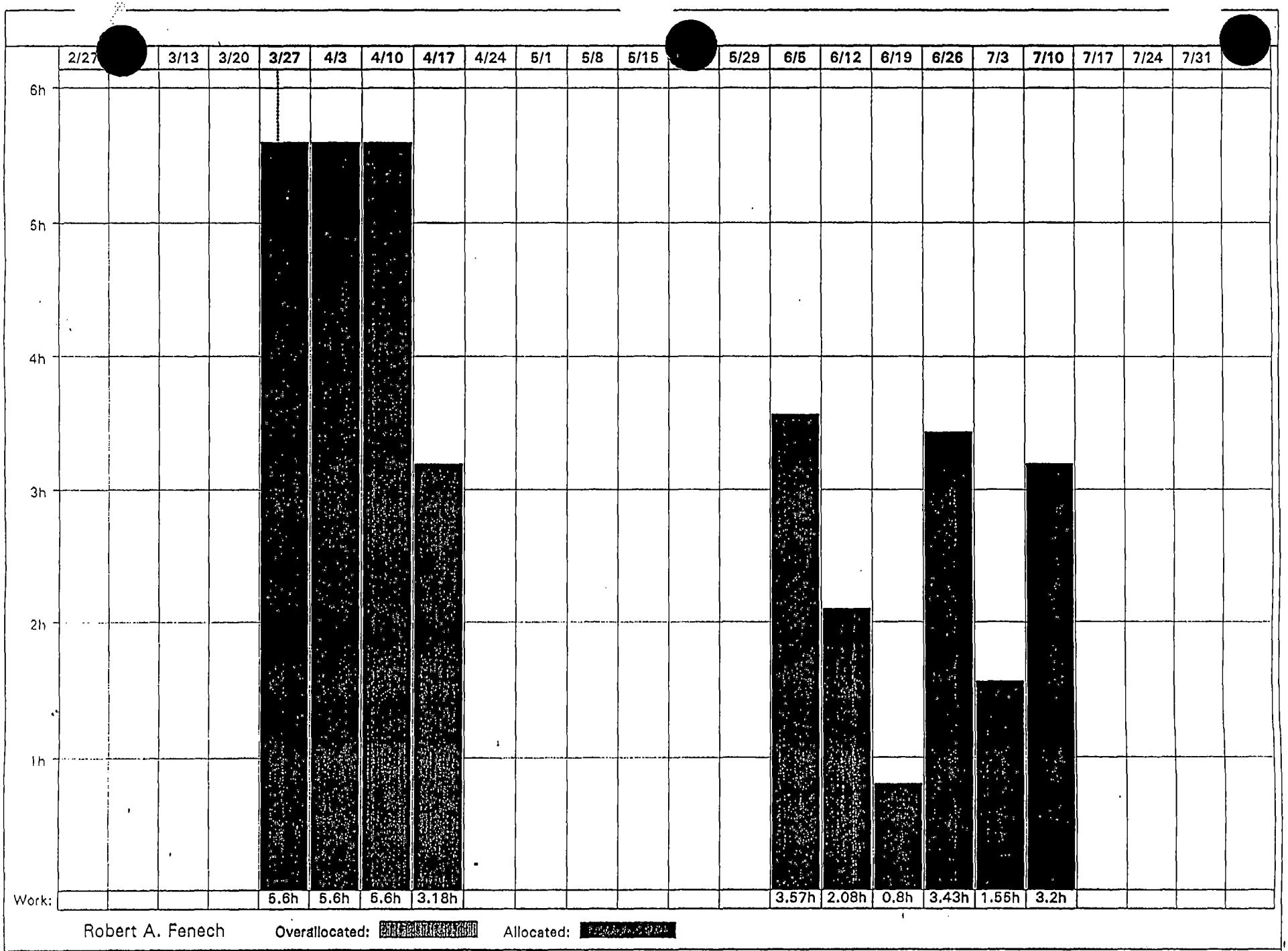
1.1.08 Present Findings	
11	5d
5/30	6/3

VI. FOCUS AREA 6 - *Plant Condition*

ACTION PLAN 6.1 - *Establish a Program to Improve Plant Design Margin*

Action Plan 6.1, *Establish a Program to Improve Plant Design Margin*, has been assigned to the Nuclear Engineering and Construction Manager.

Past and present evaluations of system design margins will be reviewed to determine which recommendations will provide for maximum benefit to system margin. A list of system modifications and/or engineering analysis will be provided to management for approval. Approved system modifications and/or engineering analysis will be incorporated into each department plan. Safety system design margins, system and component performance margins and material condition issues will also be determined, and based upon this determination, margin recovery efforts will be identified and prioritized.


2/27
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6/5
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6h
5h
4h
3h
2h
1h
Work:
5.6h
5.6h
5.6h
3.18h
3.57h
2.08h
0.8h
3.43h
1.56h
3.2h
Robert A. Fenech
Overallocated:
Allocated:

PALISADES
NUCLEAR PLANT

PALISADES NUCLEAR PLANT

PERFORMANCE ENHANCEMENT ACTION PLAN

OBJECTIVE 2.1: DETERMINE SCOPE OF WORK

SPONSOR: D J MALONE

PRIORITY (of Objective): 1

COMPLETION DATE:

April 4, 1994

Management Sponsor:		4/8/94
P²EP-Manager:	Ralph R Fruisch	4/5/94
Plant General Manager:		4/8/94
NECO Manager:		4/8/94

1.0 FOCUS AREA - Issue Summary

Certain processes are not effective in achieving desired results. The process concerns range from ineffectiveness through implementation difficulties as follows:

1. NOD lacks an integrated cohesive process for the functions of strategic planning, issue management, resource allocation, scheduling, completion of work, closeout, and performance monitoring. Emerging issues are not handled well.

2.0 GOAL

Processes are clear, user-friendly, and achieve desired results throughout the organization. The processes feed into an overall formal planning and prioritization process that integrates strategic planning, budgeting, and scheduling to effectively utilize plant resources. Management has easy access to the information necessary to monitor plant performance.

3.0 FOCUS AREA - Specific Issue Statement(s)

Note: This Objective represents a quick, up-front portion of Objective 2.2.

4.0 OBJECTIVE 2.1: Determine Scope of Work

Identify all existing issues, actions, and projects above a specified resource threshold. Prioritize and rank these items. Develop and implement a manageable subset of these activities to be included in the current scope of work. Important activities that do not attain a high enough priority will be considered for future years' work; activities below a specified priority will be abandoned.
[This Objective supports 2.2]

4.1 RELATED OBJECTIVES

1.5, 2.2, 2.5

5.0 ACTION PLANS

A project team will be created to collect information on major existing initiatives, process improvement activities, non-routine tasks above a specified resource, proposed plant modifications and actions planned in response to internal and external commitments. A screening procedure will be utilized to categorize and prioritize identified work items. Results will be submitted to a management forum for review and approval. Items not meeting the predetermined benefit/priority threshold will be deleted or delayed. Delayed items will be incorporated into the integrated plant business planning process. Emergent issues will be similarly categorized and prioritized until P^2EP Action Plan 2.2 is completed.

5.1 ACTION PLAN ACTIVITY

Define a project team that consists of members from each major department. Obtain management concurrence.

Estimated Duration (in days)	4 Days
Required Completion if Applicable	April 4, 1994
Resources Required with estimated manhours	2 MH (one person) - NECO Operations Radiological Svs Maintenance Systems Engg Outage Planning JJFremeau 2 MH - An NPad representative will be requested to provide oversight. 2 MH - DJMalone

Priority of Activity 1

Responsible Individual: DJMalone

5.2 ACTION PLAN ACTIVITY

Collect information from all departments on: major existing initiatives (eg, Palisades Performance Enhancement Plan), process improvement activities, non-routine tasks above a specified resource, proposed plant modifications, actions planned in response to internal and external commitments.

Estimated Duration (in days)	7 Days
Required Completion if Applicable	April 6, 1994
Resources Required with estimated manhours	8 MH (one person) - NECO Operations Radiological Svs Maintenance Systems Engg Outage Planning JJFremeau 8 MH - An NPad representative will be requested to provide oversight. 8 MH - DJMalone

Priority of Activity 1

Responsible Individual: DJMalone

5.3 ACTION PLAN ACTIVITY

Identify existing commitments for activities identified in step 2.

Estimated Duration (in days)	8 Days
Required Completion if Applicable	April 7, 1994
Resources Required with estimated manhours	2 MH (one person) - NECO Operations Radiological Svs Maintenance Systems Engg Outage Planning JJFremeau 2 MH - An NPad representative will be requested to provide oversight. 2 MH - DJMalone

Priority of Activity 1

Responsible Individual: DJMalone

5.4 ACTION PLAN ACTIVITY

Utilize the screening procedure utilized in TJP94*003 (shown below) to categorize and prioritize all identified work items from Step No.2. Revise the screening procedure as determined necessary by the Project Team to support prioritization. Results shall be submitted to the management forum for review and approval.

Must Complete: These are activities such as regulatory commitments and projects with due dates which are considered non-negotiable.

Should Continue: These activities typically will remedy programs/processes in need of significant efforts (i.e. reengineering).

Deferable: These activities support areas needing improvement (i.e. streamlining), but do not contain significant weakness.

Cancel/Drop: The benefit of these activities is not sufficient to warrant further action or administrative action tracking the activity. Consideration must be given to the time the action has been carried, but not undertaken.

Estimated Duration (in days)	3 Days
Required Completion if Applicable	April 8, 1994
Resources Required with estimated manhours	8 MH (one person) - NECO Operations Radiological Svs Maintenance Systems Engg Outage Planning JJFremeau 8 MH - An NPad representative will be requested to provide oversight. 8 MH - DJMalone

Priority of Activity 1

Responsible Individual: DJMalone

5.5 ACTION PLAN ACTIVITY

For items not meeting the determined benefit/priority threshold for work in the near term, develop a strategy for deletion or delay. Delayed items should be incorporated into the integrated plant business planning process being developed through Palisades Performance Enhancement Plan action 2.2.

Estimated Duration (in days)	4 Days
Required Completion if Applicable	April 13, 1994
Resources Required with estimated manhours	2 MH (one person) - NECO Operations Radiological Svs Maintenance Systems Engg Outage Planning JJFremeau 2 MH - An NPad representative will be requested to provide oversight. 2 MH - DJMalone
Priority of Activity	1
Responsible Individual:	**DJMalone**

5.6 ACTION PLAN ACTIVITY

Communicate the results of the interim prioritization effort to all stakeholders including plant staff, supporting contractors, the NRC, INPO, and/or the State of Michigan as appropriate. The communication vehicle to plant staff shall be in the form of a singular list of prioritized activities. This communication shall include the reasons for deletion or delay of issues.

Estimated Duration (in days)	4 Days
Required Completion if Applicable	April 12, 1994
Resources Required with estimated manhours	Licensing Dept support for formal commitments. MASavage for employee communications. DWRogers, Lead

Priority of Activity 1

Responsible Individual: DJMalone

5.7 ACTION PLAN ACTIVITY

Continue prioritization communication
(Input from 2.2 - Phase I)

Estimated Duration (in days)	90 Days
Required Completion if Applicable	N/A
Resources Required with estimated manhours	104 MH - 2 people for 2 MH every 2 weeks

Priority of Activity 1

Responsible Individual: DJMalone

5.8 ACTION PLAN ACTIVITY

A management forum consisting of all major plant department managers and a NECO management representative will meet biweekly to categorize and prioritize emergent issues identified in step 4 until Palisades Performance Enhancement Plan action 2.2 is completed. An NPAD representative will be requested to attend each meeting.

Estimated Duration (in days)	191 Days
Required Completion if Applicable	Implementation of Palisades Performance Enhancement Plan action 2.2
Resources Required with estimated manhours	4 MH (one person) - NECO Operations Radiological Svs Maintenance Systems Engg Outage Planning JJFremeau 4 MH - An NPad representative will be requested to provide oversight. 2 MH - DJMalone
Priority of Activity	1
Responsible Individual:	**DJMalone**

5.9 ACTION PLAN ACTIVITY

Perform validation and verification that plant staff are working on appropriate activities as determined by the prioritization effort.

Estimated Duration (in days)	Ongoing until 2.2 Phase I implemented
Required Completion if Applicable	Implementation of Palisades Performance Enhancement Plan action 2.2.
Resources Required with estimated manhours	2 MH - Two Project Team meetings

Priority of Activity 1

Responsible Individual: DJMalone

5.10 ACTION PLAN ACTIVITY

Transition Performance Enhancement Plan 2.1 action and output into Performance Enhancement Action Plan 2.2

Estimated Duration (in days)	2 months prior to P^2EP 2.2 implementation
Required Completion if Applicable	N/A
Resources Required with estimated manhours	DJMalone

Priority of Activity 1

Responsible Individual: DJMalone

6.0 DELIVERABLES

6.1 DELIVERABLE

Initial work list of tasks and programs by department

6.2 DELIVERABLE

Aligned work list with tasks and programs department including:
a) short term priority
b) responsible individual
c) committed completion date

6.3 DELIVERABLE

Two week look ahead of aligned task & program list

6.4 DELIVERABLE

Transition plan to AP 2.2 including required overlap

6.5 DELIVERABLE

Disseminate interim administrative guideline and train applicable personnel

6.6 DELIVERABLE

Results of validation and verification

7.0 LESSONS LEARNED

8.0 REFERENCES

9.0 PERFORMANCE INDICATORS

9.1. Total number of actions completed during the monitoring period

Start Date:	May 8, 1994
Frequency:	Monthly
Responsible:	Planning Manager

9.2 Percentage of commitments met by due date relative to those with due dates during the monitoring period.

Start Date:	May 8, 1994
Frequency:	Monthly
Responsible:	Planning Manager

9.3 Percentage of commitments with due date extensions relative to those with due dates during the monitoring period.

Start Date:	May 8, 1994
Frequency:	Monthly
Responsible:	Planning Manager

10.0

P²EP
ACTION PLAN
VERIFICATION CHECKLIST

ACTION PLAN NO. 2.1

ACTION PLAN DESCRIPTION	APS	P²EP	
1.0 Objective Description		✓	
2.0 Priority		✓	
3.0 List of Specific Activities Necessary to Accomplish Objective (including V&V and closure.)		✓	
4.0 List of Specific Deliverables		✓	
5.0 Duration for each Activity in Days		✓	
6.0 Resources Identified for each activity by Individual or Type and Estimated Manhours to Accomplish Activity		✓	
7.0 Required Due Date (if Applicable) by Activity		✓	
8.0 Sequence, Dependencies Inter-Relationships Identified (Action Plan Logic Sequence and Inter-Relationships Between Action Plans)		✓	
9.0 Industry References		None @ this time ✓	

RDF 4/5

11.0 CLOSEOUT

APPENDICES

Action Plan Activity Table

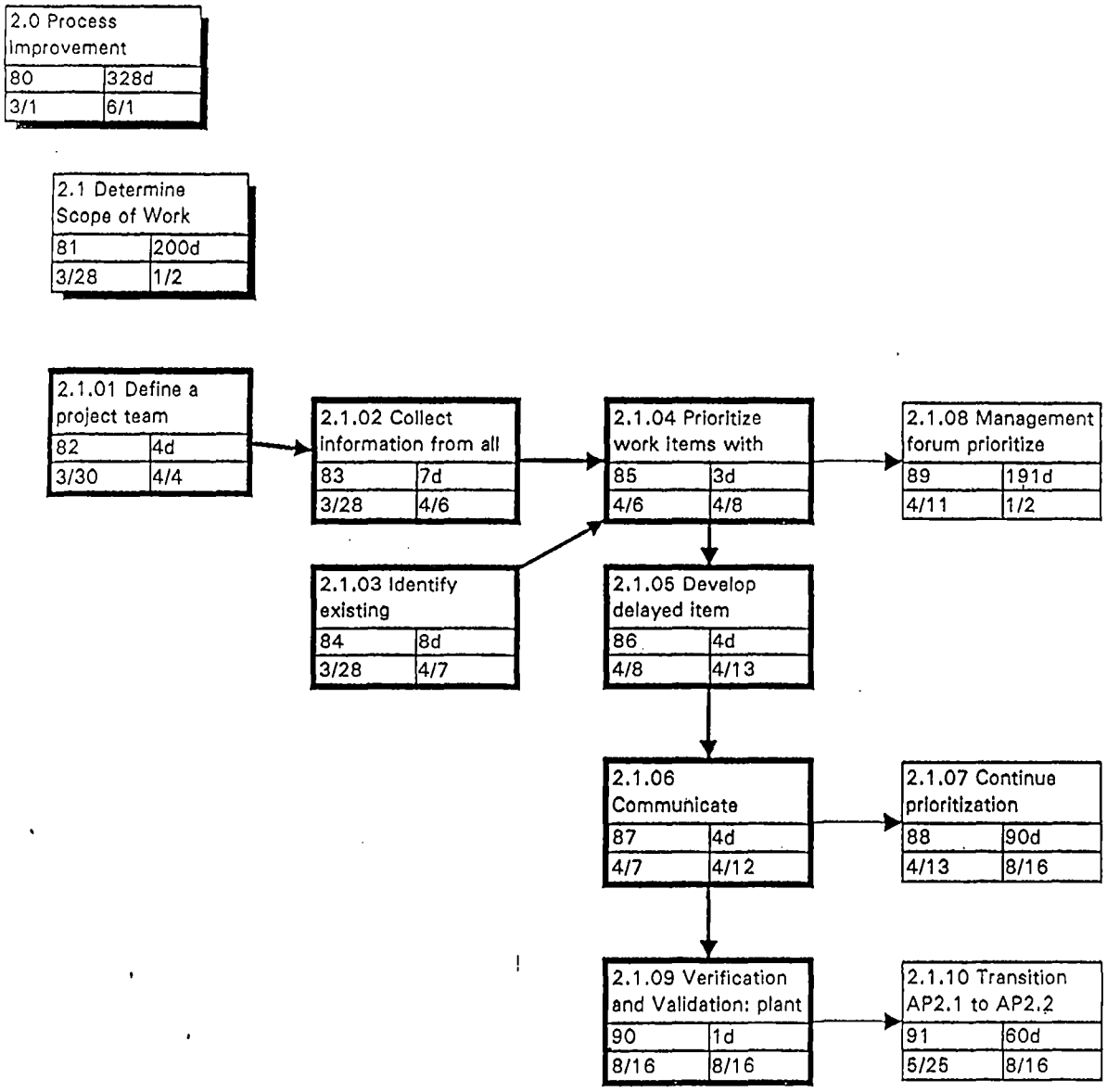
Action Plan Activity Bar Chart

Action Plan Logic Diagram

Action Plan Resource Table by Activity

Resource Histogram

ID	Name	Scheduled Start	Duration	Scheduled Finish
81	2.1 Determine Scope of Work	3/28/94 5:00pm	200d	1/2/95 5:00pm
82	2.1.01 Define a project team	3/30/94 8:00am	4d	4/4/94 5:00pm
83	2.1.02 Collect information from all departments	3/28/94 5:00pm	7d	4/6/94 5:00pm
84	2.1.03 Identify existing commitments for activities	3/28/94 5:00pm	8d	4/7/94 5:00pm
85	2.1.04 Prioritize work items with TJP94*003	4/6/94 8:00am	3d	4/8/94 5:00pm
86	2.1.05 Develop delayed item strategy	4/8/94 8:00am	4d	4/13/94 5:00pm
87	2.1.06 Communicate prioritization to stakeholders	4/7/94 8:00am	4d	4/12/94 5:00pm
88	2.1.07 Continue prioritization communication	4/13/94 8:00am	90d	8/16/94 5:00pm
89	2.1.08 Management forum prioritize emergent issues	4/11/94 8:00am	191d	1/2/95 5:00pm
90	2.1.09 Verification and Validation: plant staff working priorities	8/16/94 8:00am	1d	8/16/94 5:00pm
91	2.1.10 Transition AP2.1 to AP2.2	5/25/94 8:00am	60d	8/16/94 5:00pm


2.0 Process Improvement
80
328d
3/1
6/1
2.1 Determine Scope of Work
81
200d
3/28
1/2
2.1.01 Define a project team
82
4d
3/30
4/4
2.1.02 Collect information from all
83
7d
3/28
4/6
2.1.03 Identify existing
84
8d
3/28
4/7
2.1.04 Prioritize work items with
85
3d
4/6
4/8
2.1.05 Develop delayed item
86
4d
4/8
4/13
2.1.06 Communicate
87
4d
4/7
4/12
2.1.07 Continue prioritization
88
90d
4/13
8/16
2.1.08 Management forum prioritize
89
191d
4/11
1/2
2.1.09 Verification and Validation: plant
90
1d
8/16
8/16
2.1.10 Transition AP2.1 to AP2.2
91
60d
5/25
8/16

APPENDIX B

OBJECTIVE MATRIX

PERFORMANCE ENHANCEMENT PLAN FOCUS AREAS, GOALS AND OBJECTIVES - July 8, 1994

FOCUS AREA	GOAL	OBJECTIVES
LEADERSHIP AND MANAGEMENT NOD Management has not successfully translated and communicated the NOD/Palisades Vision down through the organization. Management has not clearly established appropriate and consistent standards and expectations. Roles and responsibilities are not aligned and clearly established or communicated. NOD in general and Palisades specifically are not "learning" organizations and do not solicit or welcome outside criticism or perspectives. A contributing cause includes lack of appropriate skills and experience.	Management provides a clear vision and sets direction throughout NOD for sustained Palisades Plant performance improvement. Expectations and roles and responsibilities are clearly communicated and foster an atmosphere where functional alignment, individual accountability, and organizational understanding are achieved and performance goals are met. Management knowledge and skills are state-of-the-art and the community and regulator fully value Palisades performance.	**1.1 Establish Strategic Direction** Establish the vision, values, and strategic focus for the organizations that perform work in support of Palisades so that they are aligned and consistent with the corporation's vision, values, and strategy. [Input from Objective 4.1]
		1.2 Establish Clear Roles and Responsibilities Clearly establish the roles and responsibilities for those individuals performing work in support of the Palisades Nuclear Plant. Align the organizational roles and responsibilities and adjust the organizational structure, if necessary, to clarify understanding and improve performance. Communicate the roles and responsibilities and monitor employee understanding.
		1.3 Establish Aligned Management Expectations and Standards Clearly establish in a standard format NOD Management's expectations and standards for organizations that perform work in support of Palisades. Communicate these expectations and standards with periodic re-emphasis and monitoring of employee understanding. Ensure that safety is first over cost and schedule and that this principle is established, understood, and practiced.
		1.4 Establish a Management Development Program Establish a leadership and management development program for personnel in positions of authority, from first line supervisors to the department managers. Include an initial assessment of the incumbent's skills and abilities, a tailored management skills improvement program, a standardized leadership and management development program, and a formalized set of performance expectations for each managerial position. Succession/rotation and hiring plans should be established that are consistent with corporate strategy and that have the capability to recognize the need to augment existing organizations with outside resources at *all* levels.
		1.5 Define Management Information Needs Establish a common set of performance indicators to support effective performance monitoring. Determine the information needs necessary to monitor performance and to track and trend actions, events, and issues affecting plant performance from the worker level through the executive level. [This Objective supports Objective 2.5]

FOCUS AREA	GOAL	OBJECTIVES
		1.6 Enhance Control of Contractors & Non-NOD CP Organizations Enhance CPCo control of the quality of work performed in support of Palisades by outside contractors and non-NOD CPCo organizations (i.e., work by personnel outside NOD). Clearly establish and communicate expectations for the control of work performed by outside persons for both the NOD personnel overseeing the outside work and for the outside employees themselves. Develop training guidelines to ensure contractors and others receive orientation and training, as applicable to the specific work being performed, on Palisades' policies, procedures, and practices important for performing error-free, quality work.
		1.7 Enhance Communications with Stakeholders Establish plans for stakeholder communications. In particular, establish a Regulatory Communications Plan that supports clear interactions with regulatory organizations to ensure that they fully value the performance of Palisades.
		1.8 Enhance Community Involvement Establish a Community relations program that ensures that Palisades' employees are actively engaged in and supporting the surrounding communities. Communicate with organizations within the surrounding communities to ensure that Palisades' role in the community is fully valued.

FOCUS AREA	GOAL	OBJECTIVES
PROGRAMMATIC IMPROVEMENT Certain processes are not effective in achieving desired results. The process concerns range from ineffectiveness through implementation difficulties as follows: 1. NOD lacks an integrated cohesive process for the functions of strategic planning, issue management, resource allocation, scheduling, completion of work, closeout, and performance monitoring. Emerging issues are not handled well; and 2. The Corrective Action Program is not well utilized and needs to be improved; root and common cause analysis is not consistently used as part of the corrective action process; and 3. The Modification process is not user-friendly and is too complex; and 4. Information systems are not effective in supporting the monitoring and trending of performance indicators; and 5. The effectiveness of the process used to make operability determinations and communicate potential issues is weak and not effectively implemented.	Processes are clear, user-friendly, and achieve desired results throughout the organization. The processes feed into an overall formal planning and prioritization process that integrates strategic planning, budgeting, and scheduling to effectively utilize plant resources. Management has easy access to the information necessary to monitor plant performance.	**2.1 Determine Scope of Work** Identify all existing issues, actions, and projects above a specified resource threshold. Prioritize and rank these items. Develop and implement a manageable subset of these activities to be included in the current scope of work. Important activities that do not attain a high enough priority will be considered for future years' work; activities below a specified priority will be abandoned. [This Objective supports 2.2]
		2.2 Establish an Improved Planning and Prioritization Process Define and establish an NOD Integrated Planning Process (IPP) that uses the best practices of other business units within CMS Energy and other utilities for the management of work performed at or in support of the Palisades Nuclear Plant. The purpose of establishing the IPP is to effectively manage resources in accordance with business plan objectives and station performance goals. The IPP must evaluate, prioritize, plan, and link issues to station performance and available resources to reach effective and efficient issue closure. [Input from Objective 2.1]
		2.3 Improve Corrective Action Process Improve the Palisades Corrective Action Process to make it more effective in identifying, trending, and monitoring corrective actions. Lower the threshold for including events in the corrective action program so that non-consequential events are captured, analyzed, and trended. Provide clear criteria for performing human performance evaluations and root cause analyses. Provide explicit guidelines on the timeliness of corrective action implementation and for verifying the effectiveness of actions taken to prevent recurrence.

FOCUS AREA	GOAL	OBJECTIVES
		2.4 Implement an Enhanced Modification Process Implement the plant modification process improvement program. By employing user feedback, adjust the process to address concerns and thereby enhance overall usefulness and acceptance.
		2.5 Establish a Management Information System Develop and implement a management information system to provide management the capability to monitor and feedback information appropriate to each management level. Develop and implement tracking and trending mechanisms that provide look-ahead information, exception reporting, and adverse trend data for problems, actions, events, and other issues affecting the plant's performance. A consolidated Action Tracking and graded management reporting function should be a key part of this system. [Input from Objective 1.5]
		2.6 Enhance the Operability Determination Process Enhance the Operability Determination Process to ensure it is clearly defined so that safety issues are promptly and aggressively evaluated and appropriate individuals are aware of potential operability issues as they arise. Perform a performance and compliance based focused review that results in specific procedure revisions and associated training for applicable Palisades Technical Staff. [Input from Objectives 5.1, 5.2, 5.3, 6.1, 6.2]
		2.7 Establish a Root/Common Cause Process Develop a Root/Common Cause program, including resources necessary for effective implementation. Provide clear criteria for performing human performance evaluations and Root/Common Cause analyses. Enhance the overall effectiveness of the Palisades HPES program to reduce the number of recurring human performance events. Evaluate the existing resources to ensure effective implementation, formality of process and methodology. [Input from Objectives 2.3, 5.3]
HUMAN PERFORMANCE There is no overall plan (such that called for in SOER 92-01) to address human performance issues. Facilities are not adequate to support the quality of work expected and are an impediment to job performance.	All employees are committed to maximizing performance and meeting expectation. All NOD employees have appropriate facilities, tools, and processes to maximize performance and meet expectations.	**3.1 Enhance Employee Knowledge and Skills** Improve the professionalism, leadership and technical training to provide our employees the skills necessary to maximize performance and meet expectations.
		3.2 Improve Site Facilities Implement the approved Site Facilities Program to include the major Service Building addition, major renovations to existing facilities, and the major Support Building addition.
		Objectives 1.2, 1.3, 1.4, 4.1, 4.2 also address human performance related issues

PERFORMANCE ENHANCEMENT PLAN FOCUS AREAS, GOALS AND OBJECTIVES - July 8, 1994

FOCUS AREA	GOAL	OBJECTIVES
CULTURE Palisades has not established and nurtured a strong nuclear safety culture that encourages a questioning attitude, welcomes critical self assessment, values raising problems, is sensitive to stringent protection of the design basis, stresses procedural compliance, and makes conservative decisions without undue impact from cost and schedule considerations. The culture does not encourage, recognize, or reward teamwork in the day-to-day work place nor does it support an appropriately high level of job satisfaction and quality of work life.	An environment exists where all NOD employees know and demonstrate that safety (nuclear, personnel, and radiological) is paramount, is everyone's responsibility, and that teamwork and job satisfaction are necessary for achieving superior performance.	**4.1 Define and Communicate the NOD Nuclear Safety Philosophy** Establish and nurture a strong nuclear safety culture by providing clear standards and expectations that nuclear safety and quality is a preeminent value at Palisades. This includes a strong sense of professionalism, a questioning attitude, critical self-assessment down to the worker level (self-checking), the need for continuous improvement, the need for procedure compliance, and a welcoming and accepting attitude toward outside support. Recognize and reward conservative actions and decisions. Develop and promulgate a nuclear safety philosophy statement that will provide visible reenforcement of these expectations and standards. [This Objective supports 1.1]
		4.2 Establish a Strong Sensitivity to the Plant's Design Basis Establish clear ownership and responsibility for maintenance of the plant design basis documentation. Increase management and employee awareness and understanding of the plant's design and licensing bases, Technical Specifications, reportability and operability requirements, and quality assurance requirements. Clearly establish and communicate the design authority for the plant. Instill a greater sense of importance for configuration control to ensure the integrity of the Palisades' Design Basis.
CRITICAL ASSESSMENT There is a lack of critical self-assessment at Palisades. Management is not visible in the plant monitoring and overviewing plant activities. Supervisors do not spend enough time supervising activities at work sites. The independent assessment function has not identified significant programmatic and technical issues and has been ineffective in escalating findings to obtain resolution from Senior/Executive Management.	Self- and independent assessments are used as performance improvement tools and to anticipate and avoid significant problems.	**5.1 Establish Critical Self-Assessment as a Norm for Line Organizations** The independent assessment function has not identified significant programmatic and technical issues and has been ineffective in escalating findings to obtain resolution. Integrate supervisory and management oversight activities, peer group inspection activities, multi-disciplinary review team efforts, and other assessment activities by personnel and organizations performing work for or at the plant in order to fully establish an environment that encourages undiluted input and feedback. Improve the self-assessment effectiveness of organizations and communicate self-assessment expectations (i.e.; questioning attitude, self-critical nature, zero rework, timeliness of corrective action, root cause analysis) at the NOD, Palisades, and department levels. Provide training in self-assessment, human performance evaluation and root cause analysis techniques. Input should be obtained from outside organizations, including evaluating and benchmarking high-performing organizations.
		5.2 Enhance the Quality of NPAD Assessments Enhance the technical and assessment skills of NPAD personnel. Seek development and training opportunities through assignments with outside organizations. Obtain critical feedback from assessed organizations. Ensure that assessments are focused on true performance issues by benchmarking against industry leaders.

FOCUS AREA	GOAL	OBJECTIVES
		5.3 Improve the Effectiveness of the Assessment Function Define, clarify, and strengthen the role of NPAD. Adopt the "Four Levels of Defense of Quality" model as an aid in understanding and communicating the role of independent assessment in testing and probing the programmatic aspects of the organization. Integrate the NPAD activities with the new Management Safety Review Committee Charter, as applicable. Strengthen the approach for resolving NPAD issues.
PLANT CONDITION There are material condition, equipment problems, and technical issues that continue to occur in the plant as it matures. Issues need to be addressed to continue to identify, maintain and improve the plant material condition.	Plant systems and components are in conformance with the design basis, maintained in good working order, readily and safely accessible, and operator workarounds are at a minimum.	**6.1 Establish a Program to Improve Plant Design Margin** Identify, prioritize and schedule material condition issues, design margin issues, and long-standing equipment problems that create operator workarounds or accessibility problems. Ensure that input is received from all levels of the organization.

APPENDIX C

P^2EP

ACTION PLAN

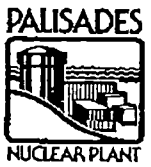
INDEX

Palisades Performance Enhancement Plan Action Plan Index	
Action Plan #	**Action Plan Title**
0.0	CPCo Response to NRC DET and P^{2}EP Development and Implementation
1.1	Establish Strategic Direction
1.2	Establish Clear Roles and Responsibilities
1.3	Establish Aligned Management Expectations and Standards
1.4	Establish a Management Development Program
1.5	Define Management Information Needs
1.6	Enhance the Control of Contractors & Non-NOD CP Organizations
1.7	Enhance Communications with Stakeholders
1.8	Enhance Community Involvement
2.1	Determine Scope of Work
2.2	Establish an Improved Planning and Prioritization Process
2.3	Improve Corrective Action Process
2.4	Implement an Enhanced Modification Process
2.5	Establish a Management Information System
2.6	Enhance the Operability Determination Process
2.7	Establish a Root/Common Cause Process
3.1	Enhance Employee Knowledge and Skills
3.2	Improve Site Facilities
4.1	Define and Communicate the NOD Nuclear Safety Philosophy
4.2	Establish a Strong Sensitivity to the Plant's Design Basis
5.1	Establish Critical Self-Assessment as a Norm for line Organizations
5.2	Enhance the Quality of NPAD Assessments
5.3	Improve the Effectiveness of the Assessment Function
6.1	Establish a Program to Improve Plant Design Margin

APPENDIX D

GENERIC

ACTION PLAN TEMPLATE



PALISADES NUCLEAR PLANT

PERFORMANCE ENHANCEMENT ACTION PLAN

OBJECTIVE:

SPONSOR:

PRIORITY (of Objective):

COMPLETION DATE:

July 8, 1994

Revision 1

Management Sponsor: _____

P²EP-Manager: _____

Plant General Manager: _____

Director NOD Services: _____

1.0 FOCUS AREA - Issue Summary

2.0 GOAL

3.0 FOCUS AREA - Specific Issue Statement(s)

4.0 OBJECTIVE :

4.1 RELATED OBJECTIVES

5.0 ACTION PLANS

5.1 ACTION PLAN ACTIVITY

Estimated Duration (in days)
Required Completion if Applicable
Resources Required with estimated manhours

Priority of Activity

Responsible individual:

5.2 ACTION PLAN ACTIVITY

Estimated Duration (in days)
Required Completion if Applicable
Resources Required with estimated manhours

Priority of Activity

Responsible individual:

5.3 ACTION PLAN ACTIVITY

Estimated Duration (in days)
Required Completion if Applicable
Resources Required with estimated manhours

Priority of Activity

Responsible individual:

5.4 ACTION PLAN ACTIVITY

Estimated Duration (in days)
Required Completion if Applicable
Resources Required with estimated manhours

Priority of Activity

Responsible individual:

5.5 ACTION PLAN ACTIVITY

Estimated Duration (in days)
Required Completion if Applicable
Resources Required with estimated manhours

Priority of Activity

Responsible individual:

6.0 DELIVERABLES

6.1 DELIVERABLE

6.2 DELIVERABLE

6.3 DELIVERABLE

6.4 DELIVERABLE

6.5 DELIVERABLE

6.6 DELIVERABLE

7.0 LESSONS LEARNED

8.0 REFERENCES

9.0 PERFORMANCE INDICATORS

9.1.

Start Date:
Frequency:
Responsible:

9.2

Start Date:
Frequency:
Responsible:

9.3

Start Date:
Frequency:
Responsible:

9.4

Start Date:
Frequency:
Responsible:

9.5

Start Date:

10.0

P²EP
ACTION PLAN
VERIFICATION CHECKLIST

ACTION PLAN NO.

ACTION PLAN DESCRIPTION	APS	P²EP	
1.0 Objective Description			
2.0 Priority			
3.0 List of Specific Activities Necessary to Accomplish Objective (including V&V and closure.)			
4.0 List of Specific Deliverables			
5.0 Duration for each Activity in Days			
6.0 Resources Identified for each activity by Individual or Type and Estimated Manhours to Accomplish Activity			
7.0 Required Due Date (if Applicable) by Activity			
8.0 Sequence, Dependencies Inter-Relationships Identified (Action Plan Logic Sequence and Inter-Relationships Between Action Plans)			
9.0 Industry References			

11.0 CLOSEOUT

APPENDICES

Action Plan Activity Table

Action Plan Activity Bar Chart

Action Plan Logic Diagram

APPENDIX E

DEPARTMENT MASTER ACTION PLAN TEMPLATE

PALISADES NUCLEAR PLANT

PERFORMANCE ENHANCEMENT

DEPARTMENT MASTER ACTION PLAN

DEPARTMENT NUMBER:

DEPARTMENT NAME:

MANAGER:

July 8, 1994

Revision 1

Action Plan Sponsor: _____

Department Manager: _____

P²EP-Manager: _____

1.0 SUMMARY OF DEPARTMENT FUNCTIONS AND RESPONSIBILITIES

2.0 DEPARTMENT MISSION

3.0 DEPARTMENT SPECIFIC ISSUES

4.0 ISSUE SOURCE REFERENCES

4.1 FOCUS AREA: *LEADERSHIP AND MANAGEMENT*

A. Objective 1.1, Establish Strategic Direction

1. Communicate revised 1994 Business Plan to department staff.
2. Communicate consistent vision, values, and strategic focus to department staff.

B. Objective 1.2, Establish Clear Roles & Responsibilities

1. Attend management training workshops.
2. Communicate roles and responsibilities to department staff and monitor employee understanding.

C. Objective 1.3, Establish Aligned Management Expectations & Standards

1. Develop department Expectations & Standards document.
2. Communicate expectations and standards to department staff through the conduct of semi-monthly stand-down meetings.
3. Periodically monitor employee understanding of management expectations and standards.
4. Address department performance issues in department action plan.

D. Objective 1.4, Establish a Management Development Program

1. Develop a personal management development plan for department supervisors.

E. Objective 1.5, Define Management Information Needs

1. Communicate management information system performance indicator data to department staff.

F. Objective 1.6, Enhance Control of Contractors & Non-NOD CP Organizations

1. Communicate control of contractor process to department staff.

G. Objective 1.7, Enhance Communications with Stakeholders

1. Implement external communications standard.

H. Objective 1.8, Enhance Community Involvement

1. Implement departmental expectations for participation in community based activities.

4.2 FOCUS AREA: *PROGRAMMATIC IMPROVEMENT*

A. Objective 2.1, Determine Scope of Work

1. Communicate results of interim prioritization effort to department staff.

2. Department managers, NECO representative and NPAD representative meet bi-weekly to categorize and prioritize emergent issues.

B. Objective 2.2, Establish an Improved Planning and Prioritization Process

1. Instruct department staff in interim work management process.

2. Provide department workload input to interim work management process.

3. Attend management meeting to validate inputs and resource estimates.

4. Attend management meeting to disposition current workload and excess work.

5. Managers and supervisors attend weekly meetings to manage the interim work management process.

6. Managers attend monthly meetings to validate process.

C. Objective 2.3, Improve the Corrective Action Process

1. Communicate improved Corrective Action Process to department staff.

2. Implement improved corrective action process.

D. Objective 2.4, Implement an Enhanced Modification Process

1. Communicate enhanced modification process to department staff.

2. Train appropriate department staff in enhanced modification process.

E. Objective 2.5, Establish a Management Information System

1. Provide functional feature input for management information system.

2. Participate in analysis of trend data.

F. Objective 2.6, Enhance the Operability Determination Process

1. Train appropriate staff on Generic Letter 91-18.

2. Train appropriate department staff on operability determination process

G. Objective 2.7, Establish a Root/Common Cause Process Using HPES Program as a Basis

1. Train appropriate department staff on root/common cause process.

4.3 FOCUS AREA: *HUMAN PERFORMANCE*

A. Objective 3.1, Enhance Employee Knowledge and Skills

1. Maintain appropriate department staff fully trained to perform job specific tasks.

B. Objective 3.2, Improve Site Facilities

4.4 FOCUS AREA: *CULTURE*

A. Objective 4.1, Define and Communicate the NOD Nuclear Safety Philosophy

1. Communicate nuclear safety philosophy to department staff.

2. Recognize and reward conservative actions and decisions.

B. Objective 4.2, Establish a Strong Sensitivity to the Plant's Design Basis

1. Train appropriate department staff on design basis, safety margins, and design basis control.

C. Objective 4.3, Establish a Strong Sense of Teamwork

1. Foster teamwork and team development amongst department staff.

D. Objective 4.4, Enhance Job Satisfaction

1. Communicate the Job Well Done Program to department staff (includes on-the-spot recognition and/or rewards).

2. Communicate achievements of department staff.

3. Discuss with each employee their performance semi-annually.

4.5 FOCUS AREA: *CRITICAL ASSESSMENT*

A. Objective 5.1, Establish Critical Self-Assessment as a Norm for Line Organizations

1. Communicate and implement Self-Assessment Program within department.

2. Train appropriate department staff in self-assessment techniques.

B. Objective 5.2, Enhance the Quality of NPAD Assessments

C. Objective 5.3, Improve the Effectiveness of the Assessment Function

1. Communicate role and responsibilities of NPAD to department staff.

4.6 FOCUS AREA: *PLANT CONDITION*

A. Objective 6.1, Establish a Program to Improve Plant Design Margin

1. Provide input for plant design margin improvement.

B. Objective 6.2, Enhance the Quality of Design Basis Documentation

1. Communicate Design Basis Documentation expectations to department staff.

5.0 ACTION PLAN WORK SCOPE STATEMENTS

5.1 PROJECTS

5.2 PROGRAMS

5.3 LEVEL OF EFFORT

6.0 DEPARTMENT PERFORMANCE INDICATORS

6.1

Start Date:
Frequency:
Responsible:

6.2

Start Date:
Frequency:
Responsible:

6.3

Start Date:
Frequency:
Responsible:

6.4

Start Date:
Frequency:
Responsible:

6.5

Start Date:
Frequency:
Responsible:

APPENDIX F

P^2EP

ACTION PLAN

SUMMARY DESCRIPTIONS

AND

TASK LISTING

P^2EP

ACTION PLAN

SUMMARY DESCRIPTIONS

I. OVERVIEW

The following are Action Plan Summaries for the Palisades Performance Enhancement Plan (P^2EP). Each Action Plan identifies a single individual, usually a Senior/Executive Manager, who has the responsibility and authority to assure the issues identified in the Action Plan are addressed by accomplishing the tasks in the Action Plan. Each Action Plan Manager also has the responsibility to verify and validate that the issues have been resolved and the Objectives in the Action Plan are being realized. Once this verification and validation activity has been accomplished, each Action Plan manager will present their findings to Senior/Executive Management for final review and appraisal.

ACTION PLAN 0.0 - *Response and Close-Out of DET*

Action Plan 0.0, *Response and Close-Out of DET*, has been assigned to the Diagnostic Evaluation Team Manager.

A DET Response Team was organized to coordinate with the Diagnostic Evaluation Team (DET) and provide tracking and response to the DET's requests for information (RFIs) and diagnostic evaluation observations(DEOs). The Palisades Performance Enhancement Plan (P^2EP) has been developed which identifies areas for performance enhancements and Focus Areas, Goals, and Objectives for each of these areas and an Action Plan will be developed for each Objective. A root/common cause analysis will be prepared for the DEOs to ensure the resulting issues are captured within the scope of the Objectives.

The final NRC report on the DET evaluation will be reviewed, issues will be identified and classified and evaluated for root and common cause and issues will be dispositioned through either the P^2EP or other appropriate integrated tracking system such as the Corrective Action System. A response to the DET Report will be prepared, including a matrix of DET issues versus P^2EP Action Plans. The Palisades Performance Enhancement Plan will be reviewed and revised as necessary to address key issues from the root and common cause analysis and the DET Report. Verification and assessment activities will be completed to ensure that Action Plan implementation is progressing, that none of the DET issues have been missed, and that the results meet management expectations.

II. FOCUS AREA 1 - *Leadership and Management*

ACTION PLAN 1.1 - *Establish Strategic Direction*

Action Plan 1.1, *Establish Strategic Direction*, has been assigned to the Vice President of Nuclear Operations.

The Nuclear Operations Department (NOD) strategic direction, as conveyed in the Business Plan and CPCo/NOD guide, will be reviewed and revised by the Vice President of NOD. The draft revision will be subject to review and comment by the direct reports to the Vice President of NOD to assure buy-in of the vision, values, strategies, and focus areas by the Palisades Management Team. The revised strategic direction will be communicated to NOD employees, Non-plant CPCo employees, contractors and vendors. Verification and validation will occur on an ongoing periodic basis to assure alignment is maintained and is consistent with CPCo corporate vision.

ACTION PLAN 1.2 - *Establish Clear Roles and Responsibilities*

Action Plan 1.2, *Establish Clear Roles and Responsibilities*, has been assigned to the Palisades Plant General Manager.

Existing role and responsibility data from plant departments and external sources will be collected and analyzed. This information will be used to propose revised organizational functions, accountabilities, and responsibilities for NOD management approval. Organizational changes will be communicated and implemented, including revised administrative procedures. Employee understanding, acceptance and support of organizational changes will be measured.

ACTION PLAN 1.3 - *Establish Aligned Management Expectations and Standards*

Action Plan 1.3, *Establish Aligned Management Expectations and Standards*, has been assigned to the Director of Nuclear Services.

NOD management and department management expectations and standards for improved performance in nuclear operations will be developed. The standards and expectations will be communicated to NOD employees through meetings and booklets. Surveys will be conducted to assess employee understanding and compliance with the expectations and standards.

ACTION PLAN 1.4 - *Establish a Management Development Program*

Action Plan 1.4, *Establish a Management Development Program*, has been assigned to the Vice President Staff Assistant.

A model of management competencies and characteristics will be developed to be used as a basis for reviewing individuals in management and key technical positions. A review of individuals reporting to Vice President of Nuclear Operations, Palisades Plant General Manager and key technical positions will be completed to determine extent to which these individuals meet requirements of their current positions. An assessment of all managers, supervisors and key technical persons will be completed using the Management Model.

Individual development needs of supervisors, managers and key technical persons will be identified and personal development plans generated. A managerial and key technical position curriculum to identify the expected progression of training and development activities for management and key technical positions will be developed.

ACTION PLAN 1.5 - *Define Management Information Needs*

Action Plan 1.5, *Define Management Information Needs*, has been assigned to the Director of Nuclear Information Management.

A set of performance indicators will be developed. Plans for broadcasting the performance indicator data will be developed and implemented.

ACTION PLAN 1.6 - *Enhance the Control of Contractors and Non-Nuclear Operations Department Consumers Power Organizations*

Action Plan 1.6, *Enhance the Control of Contractors and Non-Nuclear Operations Department Consumers Power Organizations*, has been assigned to the Project Management Construction and Testing Manager.

A NOD directive and corresponding implementing document will be developed to provide single point accountability of contractors and non-NOD CPCo organizations performing work at Palisades. A stand-alone document for guidance on control of contractors and non-NOD CPCo organizations will be established. Technical staff training to re-enforce Plant Management expectations relative to Service Coordinators and non-NOD CPCo organizations will be implemented. Service Coordinators will be required to develop project specific goals and objectives which directly support Palisades results areas of safety, quality, reliability and economic performance. Input from other utilities industries will be used to enhance the quality of the process.

ACTION PLAN 1.7 - *Enhance Communications with Stakeholders*

Action Plan 1.7, *Enhance Communications with Stakeholders*, has been assigned to the Plant Safety and Licensing Director.

A communications plan will be developed and implemented. A process for monitoring communications will be developed, including monitoring of frequency of contacts, feedback from NRC, and reporting to the Vice President of NOD or the Plant General Manager. A daily report on management and licensing issues will be developed and issued to key management and supervisory personnel.

ACTION PLAN 1.8 - *Enhance Community Involvement*

Action Plan 1.8, *Enhance Community Involvement*, has been assigned to the Senior Public Information Specialist.

Opportunities for CPCo personnel to participate in community activities will be identified, and an on-going dialogue between Palisades and local officials will be created to facilitate regular meetings and foster closer ties. A citizens advisory board will be created. An outreach program for CPCo employees to provide educational presentations will be developed.

III. FOCUS AREA 2 - *Programmatic Improvement*

ACTION PLAN 2.1 - *Determine Scope of Work*

Action Plan 2.1, *Determine Scope of Work*, has been assigned to the Palisades Plant General Manager.

A project team will be created to collect information on major existing initiatives, process improvement activities, non-routine tasks above a specified resource, proposed plant modifications and actions planned in response to internal and external commitments. A screening procedure will be utilized to categorize and prioritize identified work items. Results will be submitted to a management forum for review and approval. Items not meeting the predetermined benefit/priority threshold will be deleted or delayed. Delayed items will be incorporated into the integrated plant business planning process. Emergent issues will be similarly categorized and prioritized until P^2EP Action Plan 2.2 is completed.

ACTION PLAN 2.2 - *Establish an Improved Planning and Prioritization Process*

Action Plan 2.2, *Establish an Improved Planning and Prioritization Process*, has been assigned to the Director of Nuclear Services.

NOD planning needs will be determined and a planning/prioritizing model will be developed. An work management process will be implemented that includes work management, priority setting, collection of work as either level of effort (LOE) or greater than LOE, and 'cost accounting' (time-sheets). Management will be provided with performance reports and periodic management review meetings to discuss the work management system. An information technology application will be selected and implemented to support a long term implementation of the work management system.

ACTION PLAN 2.3 - *Improve Corrective Action Process*

Action Plan 2.3, *Improve Corrective Action Process*, has been assigned to the Plant Safety and Licensing Director.

The existing NOD Corrective Action Process will be evaluated and revised based on organizational feedback, relevant internal and external issues, and processes used by other utilities.

ACTION PLAN 2.4 - *Implement an Enhanced Modification Process*

Action Plan 2.4, *Implement an Enhanced Modification Process*, has been assigned to the Manager Nuclear Engineering and Construction.

A process improvement team will be established to create an understandable process for designing and controlling plant modifications which assures a quality product and eliminates non-value added activities. A modification process improvement plan will be developed which addresses: 1) consolidation and streamlining of existing modification processes, revising affected procedures, verification and validation, and providing training on new processes and procedures; 2) mechanisms to allow for automation of the enhanced modification process; and 3) modifications performance measurement program to track and trend specific indicators. A retired-in-place procedure will be developed which defines the controls and evaluation methodology that allows in-place retention of retired equipment versus physical removal of the equipment.

ACTION PLAN 2.5 - *Establish a Management Information System*

Action Plan 2.5, *Establish a Management Information System*, has been assigned to the Outage Planning and Scheduling Manager.

A management information system will be developed and implemented to provide the capability to monitor and feedback information to all levels of the Palisades and NOD organizations.

ACTION PLAN 2.6 - *Enhance the Operability Determination Process*

Action Plan 2.6, *Enhance the Operability Determination Process*, has been assigned to the Plant Safety and Licensing Director.

A uniform process for operability determination will be developed based upon the processes used at other plants and an analysis of relevant Palisades issues. Training will be provided on operability determinations and the new process as necessary.

ACTION PLAN 2.7 - *Establish a Root/Common Cause Process*

Action Plan 2.7, *Establish a Root/Common Cause Process*, has been assigned to the Plant Safety and Licensing Director.

This Action Plan will be developed in concert with Action Plan 2.3. An analysis will be performed to determine why Root Cause/Common Cause/HPES activities have not been effective. Based upon this analysis, a revised process will be developed. Training will be developed and implemented for management, technical staff, and other identified staff.

IV. FOCUS AREA 3 - *Human Performance*

ACTION PLAN 3.1 - *Enhance Employee Knowledge and Skills*

Action Plan 3.1, *Enhance Employee Knowledge and Skills*, has been assigned to the Director of Nuclear Training.

Management and technical training will be provided for Palisades personnel. Management development changes will be incorporated into the Maintenance Supervisor and Shift Supervisor accredited training programs. The Engineering Support Staff training program will be completed and advanced technical training will be provided. The abilities of the Training Department staff will be enhanced. Verification and validation will be provided through maintaining INPO accreditation in all twelve accredited training programs and post training effectiveness surveys.

ACTION PLAN 3.2 - *Improve Site Facilities*

Action Plan 3.2, *Improve Site Facilities*, has been assigned to the Administrative Manager.

The site facility expansion project will add 33,000 square feet to the Service Building and will improve the existing Service Building and Administration Building. Space for a dedicated Technical Support Center (TSC) with space for Shift Supervisors and Auxiliary Operators to perform desk work will be provided.

V. FOCUS AREA 4 - *Culture*

ACTION PLAN 4.1 - *Define and Communicate the NOD Nuclear Safety Philosophy*

Action Plan 4.1, *Define and Communicate the NOD Nuclear Safety Philosophy*, has been assigned to the Vice President of Nuclear Operations.

The Vice President of NOD will review and revise the current vision, strategy and objectives regarding the safety philosophy at Palisades. The direct reports to the Vice President of NOD will communicate the safety philosophy.

ACTION PLAN 4.2 - *Establish a Strong Sensitivity to the Plant's Design Basis*

Action Plan 4.2, *Establish a Strong Sensitivity to the Plant's Design Basis*, has been assigned to the Manager of Nuclear Engineering and Construction.

Design Basis authority, roles and responsibilities will be defined and related work procedures will be revised. Training will also be completed on design basis, safety margins and design basis control.

V. Focus Area 5 - *Critical Assessment*

ACTION PLAN 5.1 - *Establish Critical Self-Assessment as a Norm for Line Organizations*

Action Plan 5.1, *Establish Critical Self-Assessment as a Norm for Line Organizations*, has been assigned to the Palisades Maintenance Manager.

Self-assessment processes from other nuclear utilities and from within Consumers Power Company will be reviewed. Good practices from these programs will be incorporated into the revised self-assessment program. Implementation will be achieved through an administrative procedure which defines levels of self-assessment and provides a schedule for self-assessing, a reporting plan, management expectations for critical self-assessment and a self-assessment checking technique. Training will be provided on the new self-assessment programs. Verification and validation will be performed through periodic surveys of self-assessment activities and comparison with industry leaders.

ACTION PLAN 5.2 - *Enhance the Quality of Nuclear Performance Assessment Department*

Action Plan 5.2, *Enhance the Quality of Nuclear Performance Assessment Department*, has been assigned to the Director of Nuclear Performance Assessment.

Actions will be taken to improve the skills and enhance the qualifications of Nuclear Performance Assessment Department (NPAD) personnel. The job descriptions, qualification criteria, and training will be upgraded. Actions will also be taken to improve the Nuclear Performance Assessment Department assessment process. Assessment standards, verification and validation and trend analysis will be implemented. The Nuclear Performance Assessment Department product survey program will be revised to obtain critical feedback from assessed organizations.

ACTION PLAN 5.3 - *Improve the Effectiveness of the Assessment Function*

Action Plan 5.3, *Improve the Effectiveness of the Assessment Function*, has been assigned to the Director of Nuclear Performance Assessment Department.

A Management and Safety Review Committee has been formed to provide an outside perspective in the assessment function. Assessment function roles and responsibilities will be clearly defined and communicated to the Nuclear Operations Department. Root/common cause analysis skills will be improved and a tracking system will be established at Palisades. Periodically the Nuclear Performance Assessment Department will be self-assessed to determine the effectiveness of the critical assessment function.

TASK LISTING

Palisades Nuclear Plant - Performance Enhancement Action Plan
Name
Palisades Performance Enhancement Plan
7/13/94

Palisades Nuclear Plant - Performance Enhancement Action Plan

Name
0.0 CPCo Response to NRC DET
0.0.00 Start of AP0.0
0.0.A Palisades Informed of DET
0.0.01 Organize and staff a DET response Team
0.0.02 Perform a Self Assessment to identify areas of performance enhancement
0.0.03 Develop focus areas, goals and objectives
0.0.C NRC DET First Site Visit
0.0.04 Perform a Root Cause/Common Cause Analysis on DEO's
0.0.05 Review results from root cause/common cause analyses
0.0.D Second NRC DET Site Visit
0.0.E NRC DET Exit Meeting
0.0.F NRC DE Report Issued to CPCo
0.0.06 Develop action plans to define the steps, resources, durations and inter-relationships
0.0.07 Develop and provide a tracking system for monthly progress
0.0.J Rev 0 Action Plans in place
0.0.08 Evaluate NRC DET Report
0.0.09 Distribute results of review
0.0.10 Draft initial response cover letter for Sr. Management
0.0.11 Plant senior and executive management review of letter
0.0.12 Update the PEP with revised and new action plans
0.0.13 Action plan sponsors and NOD Steering Committee review PEP
0.0.14 Revise transmittal letter and submit to the NRC
0.0.15 DEPRT Team perform verification and assessment of PEP

Palisades Nuclear Plant - Performance Enhancement Action Plan
Name
1.0 Leadership and Management

Palisades Nuclear Plant - Performance Enhancement Action Plan

Name
1.1 Establish Strategic Direction
1.1.00 Start of AP1.1
1.1.01 Review and Revise CPCo/NOD Guide as Needed
1.1.02 Distribute to Direct Reports for Review and Comment
1.1.03 Incorporate Comments
1.1.04 Print up New Booklets
1.1.05 Develop Communication Schedule
1.1.06 Implement Communications
1.1.07 Perform Verification and Validation
1.1.08 Review Results and Make Changes as Necessary

Palisades Nuclear Plant - Performance Enhancement Action Plan

Name
1.2 Establish Clear Roles and Responsibilities
1.2.00 Start of AP1.2
1.2.01 Collect and Analyze Existing Role and Responsibility Data
1.2.02 Propose Organizational Structure, Functions, Authorities, Roles, Responsibilities, Accountabilities
1.2.03 Communicate & Implement the Organizational Changes
1.2.04 Verify and Validate Individual Employee Understanding, Acceptance and Support

Palisades Nuclear Plant - Performance Enhancement Action Plan

Name
1.3 Establish Aligned Management Expectations and Standards
1.3.00 Start of AP1.3
1.3.01 Write NOD-level Management Expectations and Standards booklet
1.3.02 VP-NOD conduct NOD Management Stand-down Meeting
1.3.03 Publish and distribute NOD Management E&S Booklet
1.3.04 Write and distribute template for department-level standards and expectations document
1.3.05 Write Department level E&S documents
1.3.06 Conduct Dept. Standdown Meetings semi-monthly
1.3.07 Publish and distribute Dept.-level E&S Booklet(s)
1.3.08 Conduct employee survey annually beginning 1/95 (V&V)

Palisades Nuclear Plant - Performance Enhancement Action Plan

Name
1.4 Establish a Management Development Program
1.4.00 Start of AP1.4
1.4.01 Develop a Management Competency Model (MCM)
1.4.02 Conduct an review of all EA&P using the Professional Competency Model
1.4.03 Develop a management and key Technical Postion Curriculum
1.4.04 Create a V&V measure and implement

Palisades Nuclear Plant - Performance Enhancement Action Plan

Name
1.5 Define Management Information Needs
1.5.00 Start of AP1.5
1.5.01 Draft a list of Common Performance Indicator
1.5.02 Obtain concurrence of final performance indicator list
1.5.03 Place priority on Corr. Action & Work Orders Indicators
1.5.04 Define Sources of data to generate indicators
1.5.05 Review resource issues with the associated Dept. Manager
1.5.06 Uniquely identify each data owner and process owner
1.5.07 Conduct the departmental meeting to communicate purpose
1.5.08 Develop an information broadcast plan
1.5.09 Develop a strawman Project/Programs Report
1.5.10 Obtain Plant management concurrence for project/program report
1.5.11 Collect available information from project/program engineers
1.5.12 Manually assemble the initial report
1.5.13 Load at least one year of data into the database
1.5.14 Implement the broadcast plan and the performance indicator reports
1.5.15 Obtain user input to modify indicators after three months

Palisades Nuclear Plant - Performance Enhancement Action Plan

Name
1.6 Enhance Control of Contractors
1.6.00 Start of AP1.6
1.6.01 Issue directive to Control non-NOD CPCo groups
1.6.02 Define accountability/ownership for contractors and non-NOD CPCo groups
1.6.03 Define guidance for control of contractors and non-NOD CPCo groups
1.6.04 Enhance the existing lesson plan & continue implementation of training
1.6.05 Contractors develop project specific goals
1.6.06 Prepare Contractor Report Card for Refout 95
1.6.06a Issue Post EOC-11 (Outage) Report Card
1.6.07 Seek input from other utilities & industries
1.6.08 Verification and Validation Contractor Performance

Palisades Nuclear Plant - Performance Enhancement Action Plan

Name
1.7 Enhance Communications with Stakeholders
1.7.00 Start of AP1.7
1.7.01 Develop draft communication plan and obtain alignment from Sr. VP
1.7.02 Brief Department Managers and implement
1.7.03 Create processes for facilitating and monitoring communications
1.7.04 Create a validation verification measure and implement
1.7.05 Implement Monitoring Process
1.7.06 Develop daily report
1.7.07 Develop and implement a plan for improving communications with INPO

Palisades Nuclear Plant - Performance Enhancement Action Plan

Name
1.8 Enhance Community Involvement
1.8.00 Start of AP1.8
1.8.01 Identify opportunities for CPCo personnel to participate in community activities
1.8.02 Create departmental expectations for participation in community based activities
1.8.03 Create an ongoing dialogue between Palisades and local officials to facilitate regular meetings
1.8.04 Create a citizens advisory board
1.8.05 Establish a local charitable event for CPCo sponsorship
1.8.06 Prepare Verification and Validation reports

Palisades Nuclear Plant - Performance Enhancement Action Plan

Name

2.0 Process Improvement

Palisades Nuclear Plant - Performance Enhancement Action Plan

Name
2.1 Determine Scope of Work
2.1.00 Start of AP2.1
2.1.01 Define a project team
2.1.02 Collect information from all departments
2.1.03 Identify existing commitments for activities
2.1.04 Prioritize work items with TJP94*003
2.1.05 Develop delayed item list, strategy
2.1.06 Communicate prioritization to stakeholders
2.1.07 Continue prioritization communication
2.1.08 Management forum prioritize emergent issues
2.1.09 Verification and Validation: plant staff working priorities
2.1.10 Transition AP2.1 to AP2.2

Palisades Nuclear Plant - Performance Enhancement Action Plan

Name
2.2 Establish an Improved Planning and Prioritization Process
2.2.00 Start of AP2.2
2.2.01 Prepare the 1995-97 NOD Operating Plan
2.2.02 Establish a Work Management System
2.2.03 Establish a prioritization system and procedure
2.2.04 Transfer the P2EP 2.1 workload into the WMS
2.2.05 Institute a Palisades time reporting procedure
2.2.06 Provide reports to Mgmt and conduct periodic Mgmt review meeting (V&V)
2.2.07 Select and implement information technology

Palisades Nuclear Plant - Performance Enhancement Action Plan

Name
2.3 Improve the Corrective Action Process
2.3.00 Start of AP2.3
2.3.01 Evaluate the NOD Corrective Action Process
2.3.02 Determine future direction of the CA System & develop a draft Project Plan
2.3.03 Revise the CAPIPP based on Palisades org. feedback
2.3.04 Identify and review internal and external source documents
2.3.05 Identify & review CA process systems which have been obtained from other utilities
2.3.06 Define a modified CA process flowchart based on best industry practice and Palisades needs
2.3.07 Prepare and present to Palisades Mgt.
2.3.08 Develop Implementation Action Plans for implem. the revised CA process

Palisades Nuclear Plant - Performance Enhancement Action Plan

Name
2.4 Implement an Enhanced Modification Process
2.4.00 Start of AP2.4
2.4.01 Establish a Process Improvement Team
2.4.02 Develop an Implementation Plan
2.4.03 Develop/validate PRS Document
2.4.04 Incorporate various improvements
2.4.05 Provide mechanisms to allow for automation of the enhanced mod process
2.4.06 Establish a modification performance measurements program
2.4.07 Establish a Verification and Validation function
2.4.08 Develop Retire-in-Place guidance

Palisades Nuclear Plant - Performance Enhancement Action Plan

Name
2.5 Establish a Management Information System
2.5.00 Start of AP2.5
2.5.01 Develop a database to facilitate graph sponsor data entry and security
2.5.02 Develop an automated graphing system
2.5.03 Implement and Integrate with site databases
2.5.04 Facilitate a managers level meeting for analysis of trend data
2.5.05 Develop a milestone/status report database
2.5.06 Identify long term support requirements to maintain database
2.5.07 Verification and Validation

Palisades Nuclear Plant - Performance Enhancement Action Plan

Name
2.6 Enhance the Operability Determination Process
2.6.00 Start of AP2.6
2.6.01 Prepare interim guidelines to define a uniform process
2.6.02 Communicate interim guidelines to all plant supervisory personnel
2.6.03 Conduct Training session for supervisory personnel
2.6.04 Collect information about operability
2.6.05 Provide training in Generic letter 91-18
2.6.06 Integrate the interim process from root cause
2.6.07 Provide training on Procedure revisions
2.6.08 Perform a V & V & Revise and Reissue any Procedures as required

Palisades Nuclear Plant - Performance Enhancement Action Plan

Name
2.7 Establish a Root/Common Cause Process using HPES program as a basis
2.7.00 Start of AP2.7
2.7.01 Perform a Root Cause Analysis using HPES
2.7.02 Develop an interim guideline
2.7.03 Establish an interim committee to address Root/Common Cause/HPES analysis
2.7.04 Improve trending by having MRB perform cause coding
2.7.05 Implement common cause analysis of corrective action
2.7.06 Implement improved computer software to facilitate the revised process
2.7.07 Implement Graded Root Cause Analysis and Revise AP 3.03
2.7.08 Upgrade Staff on Root Cause Analysis
2.7.09 Establish Departmental experts in Root Cause Analysis and HPES
2.7.10 Integrate Modification Prioritization into the CAS Process
2.7.11 Develop a trending report
2.7.12 Verification and Validation

Palisades Nuclear Plant - Performance Enhancement Action Plan

Name

3.0 Human Performance

Palisades Nuclear Plant - Performance Enhancement Action Plan

Name
3.1 Enhance Employee Knowledge and Skills
3.1.00 Start of AP3.1
3.1.01 Evaluate PEP against SOER 92.01 Actions
3.1.02 Provide Mgt. & Technical Training for Palisades personnel as directed by NOD Sr Mgt.
3.1.03 Incorporate Mgt. development changes into the Maint. Super. & Shift Super.
3.1.04 Complete the Engineering Support Staff training program
3.1.05 Define the role of the Training Curriculum Committees
3.1.06 Enhance the abilities of the Training Department Staff
3.1.07 Provide mock-ups Maintenance Dept. Personnel training
3.1.08 Maintain accreditation in all 12 accredited training programs (V&V)
3.1.09 Perform post training effectiveness surveys (V&V)

Palisades Nuclear Plant - Performance Enhancement Action Plan

Name
3.2 Improve Site Facilities
3.2.00 Start of AP3.2
3.2.01 Evaluate site requirements for added management personnel
3.2.02 Construct Service Building addition and perform improvements to existing
3.2.03 Improve Admin. Building office areas
3.2.04 Improve the TSC
3.2.05 Complete V&V of timely and cost effective additions and improvements

Palisades Nuclear Plant - Performance Enhancement Action Plan

Name

4.0 Culture

Palisades Nuclear Plant - Performance Enhancement Action Plan

Name
4.1 Define and Communicate the NOD Nuclear Safety Philosophy
4.1.00 Start of AP4.1
4.1.01 Develop Safety Standards and List of Expectations
4.1.02 Direct Reports Review and Validate Expectation
4.1.03 Incorporate Comments from Direct Reports
4.1.04 Incorporate into NOD Strategic Direction
4.1.05 Schedule Meetings
4.1.06 Convey Communication Expectations to Direct Reports
4.1.07 Direct Reports Incorporate Expectations into Applicable Docs
4.1.08 Review Direct Report Communication Schedule
4.1.09 Implement Actions as Required
4.1.10 Perform Verification and Validation Dept. by Dept. vs Actions
4.1.11 Review Verification and Validation Implement Changes

Palisades Nuclear Plant - Performance Enhancement Action Plan

Name
4.2 Establish a Strong Sensitivity to the Plant's Design Basis
4.2.00 Start of AP4.2
4.2.01 Identify DB Owners, User Groups, Roles & Responsibilities
4.2.02 Achieve DB Familiarization and Sensitivity
4.2.03 Issue DB Control Procedure/Revise Work Related Proc.
4.2.04 Complete Training on DB, Safety Margins and DB control
4.2.05 Conduct Verification and Validation of Design Basis of CAD's

Palisades Nuclear Plant - Performance Enhancement Action Plan

Name
5.0 Critical Assessment

Palisades Nuclear Plant - Performance Enhancement Action Plan

Name
5.1 Establish Critical Self-Assessment as a Norm for Line Organization
5.1.00 Start of AP5.1
5.1.01 Identify and collect current Self-Assessment processes from other utilities
5.1.02 Define Self-Assessment in terms to be understood by all levels
5.1.03 Develop new Self Assessment program
5.1.04 Develop & implement training following creation of New self assessment program
5.1.05 Perform Verification and Validation Self Assessment activities

Palisades Nuclear Plant - Performance Enhancement Action Plan

Name
5.2 Enhance the Quality of NPAD Assessment
5.2.00 Start of AP5.2
5.2.01 Improve the Skills and qualifications of NPAD personnel
5.2.01.A Reassess the current NPAD job descriptions
5.2.01.B1 Improve the NPAD training and qualification program
5.2.01.B2 Implement NPAD qualification program
5.2.01.C Conduct a competency review of existing NPAD personnel
5.2.01.D Develop a NPAD Career Planning Policy
5.2.02 Improve the NPAD Assessment process
5.2.02.A Revise the NPAD Integrated Assessment Plan
5.2.02.B Develop standards for preparing/conducting monitoring, surveillance and audits
5.2.02.C Develop Annunciator Panel Trend Analysis Program
5.2.03 Revise NPAD product survey program to obtain critical feedback
5.2.04 Perform Verification and Validation

Palisades Nuclear Plant - Performance Enhancement Action Plan

Name
5.3 Improve the Effectiveness of the Assessment Function
5.3.00 Start of AP5.3
5.3.01 Include Sr Management involvement and outside in the assessment function
5.3.02 Clarify role and responsibilities
5.3.03 Communicate role and responsibilities
5.3.04 Integrate Management Safety Review Committee role and NPAD role
5.3.05 Improve the Independent Safety Review process
5.3.06 Revise NPAD Open Issues Tracking Process
5.3.07 Periodically Self Assess the effectiveness of NPAD (ongoing)

Palisades Nuclear Plant - Performance Enhancement Action Plan

Name

6.0 Plant Condition

Palisades Nuclear Plant - Performance Enhancement Action Plan

Name
6.1 Establish a Program to Enhance Plant Design Margin
6.1.00 Start of AP6.1
6.1.01 Review Past evaluations of system design margins & determine which would provide max benefit
6.1.02 Provide the list of System Mods to Mgt. for approval
6.1.03 Incorporate all approved system mods into dept. work plans
6.1.04 Incorporate PRA techniques, evaluate and prioritize margin enhancement projects
6.1.05 Determine Safety System Design Margins
6.1.06 Identify and prioritize margin recovery efforts for all necessary Safety Systems
6.1.07 Verification and Validation

ATTACHMENT 4

Consumers Power Company
Palisades Plant
Docket 50-255

MATRIX OF CPCo-IDENTIFIED ROOT CAUSES AND COMMON CAUSES, SHORT-TERM ACTIONS, AND PPEP ACTION PLANS

August 11, 1994

The following matrix identifies the root causes and common causes identified by CPCo's DET Response Team (DEPRT), Nuclear Performance Assessment Department (NPAD), and Failure Prevention, Inc. (FPI). For each of these root causes and common causes, the matrix identifies 1) relevant sections from the Attachment 1, which describes CPCo's short-term actions for achieving improvements in performance at Palisades, and 2) relevant PPEP Action Plans. As this matrix demonstrates, each of the root causes and common causes is subject to a short-term action or PPEP Action Plan.

References in this matrix to Attachment 1 are to section numbers. References to the PPEP are to Action Plans (two digit numbers; e.g., 2.7) in the PPEP.

ROOT CAUSE/COMMON CAUSE COMPARISON

SUBJECT OF ROOT CAUSE/COMMON CAUSE	DEPRT	NPAD	FPI	ATTACHMENT 1	PPEP
1. Standards and expectations / roles and responsibilities / prioritization, planning & scheduling / teamwork & communications	X	X	X	2.1.3, 2.3.1	1.2, 1.3, 2.2, 4.1
2. Sensitivity to safety issues / procedure adherence / operator professionalism	X	X	X	2.1.3, 2.3.1	1.3, 4.1
3. Oversight of work activities	X	X	X	2.1.2, 2.1.4, 2.3.1	1.4
4. Sensitivity to factors affecting human performance / technical expertise	X	X	X	2.1.3, 2.3.4	2.7, 3.1
5. Management skills / succession planning	X	X	X	2.1.4	1.4
6. Independent and self-assessments / role and expertise of NPAD	X	X	X	2.3.1	5.1, 5.2, 5.3
7. Corrective action system, root cause analyses, and effectiveness of corrective actions	X	X	X	2.3.2	2.3, 2.7
8. Valuation of input from industry and regulatory sources	X	X	X	2.1.1, 2.1.2, 2.3.5	4.1
9. Adequacy and effectiveness of procedures	X			2.3.4	
10. Effectiveness of programs and processes	X	X	X	Many	Many
11. Completeness and Accuracy of information needed to make quality decisions	X		X	2.1.3	1.5, 2.5

ATTACHMENT 5

Consumers Power Company
Palisades Plant
Docket 50-255

MATRIX OF DET FINDINGS AND ROOT CAUSES, SHORT-TERM ACTIONS, AND PPEP ACTION PLANS

August 11, 1994

The following matrix quotes or paraphrases each finding and root cause in the DET Report with generic or programmatic implications. For each finding, the matrix identifies 1) relevant sections from Attachment 1, which describes CPCo's short-term actions for achieving improvements in performance at Palisades, 2) relevant PPEP Action Plans, or 3) other relevant actions to improve performance. As this matrix demonstrates, each of the findings in question is subject to a short-term action, PPEP Action Plan, or other action.

References in this matrix to Attachment 1 are to section numbers. References to the PPEP are to Action Plans (two digit numbers; e.g., 2.7) in the PPEP. Some of the findings are not currently addressed by Attachment 1 or PPEP, but instead by other planned or completed actions. These actions are identified in the last column of the matrix. The column does not generally identify relevant Department Master Action Plans (DMAPs), if the issue is adequately addressed by a PPEP Action Plan. Additionally, several of the PPEP Action Plans which address general management concerns are not generally referenced for every issue in the table unless the DET issue is specifically related to that concern.

As discussed above, this matrix lists the DET findings that are programmatic in nature or have generic applicability. More specific findings (e.g., findings applicable to a particular component, procedure, or design) are not listed in this matrix and instead are being tracked separately for corrective action. Closure packages for these findings will be available for NRC review at the site.

The matrix lists findings identified in Sections 2.0 and 3.0 of the DET Report. The matrix does not separately list the findings in the executive summary or the transmittal letter for the DET Report, because those findings are duplicates of the findings in Sections 2.0 and 3.0. Similarly, the matrix does not separately list the findings in the introductory paragraphs throughout Section 2.0 that duplicate the findings in the body of Section 2.0.

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
2.1 OPERATIONS AND TRAINING			
2.1.1 Poor Planning and Direction by Operations Management			
a. Operations management poorly planned or directed various plant evolutions, process controls, and job assignments.	2.1.3, 2.1.4, 2.3.1	1.4	
b. During 1993 control room operators (CO) began periodically switching their CO-1 and CO-2 roles, and in 1991-92 licensed auxiliary operators (LAOs) began periodically performing CO-2 duties. Operations management failed to compensate through additional training, coaching or supervisory oversight for these personnel performing unfamiliar licensed duties.	2.1.4, 2.3.1	1.4	
2.1.2 Occasionally Poor Onshift Supervisory Oversight and Direction			
a. Onshift supervisors provided poor oversight and direction.	2.1.4, 2.3.1	1.4, 5.1	
b. The three onshift supervisors did not fully understand their job responsibilities. The Operations Support Supervisor and Shift Engineer were not fully staffed on each shift. The resulting delineation of roles and responsibilities among the three positions was not clear, especially the Shift Engineer position.	2.1.4	1.2, 1.4	Control Room Supervision was restructured to include a Shift Supervisor, Control Room Supervisor, and Shift Engineer. Roles and responsibilities are being addressed by the Operations DMAP.
c. Onshift supervisors received limited supervisory training and coaching.	2.1.4	1.4, 3.1	
d. Operations management overburdened onshift supervisors with collateral duties that potentially distracted them from their licensed responsibilities.	2.1.4	1.2	Reorganization and additional staffing of support groups has relieved collateral duties from on-shift personnel

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
e. The location of a food preparation area in the control room was disruptive to onshift duties and the Shift Supervisor's (SS's) cognizance of control room activities. Also, the noise produced by the control room ventilation was distracting to control room personnel.			The kitchen and other distractions have been removed from the control room. A new sensitivity has been planned upon potentially distracting activities, which has resulted in the removal of unnecessary activities/traffic in the Control Room area. A condition report, C-PAL-94-260, has been issued to resolve the noise produced by the HVAC.
f. In several instances shift supervision performed only cursory reviews of surveillance test results. They did not verify that all the acceptance criteria were met. Consequently, test failures went unidentified for several days.	2.1.4	1.4, 4.1, 5.1	Shift Supervision (primarily the Shift Engineer) reviews surveillance test results to verify acceptance criteria are met.
2.1.3 Low Expectations of Performance by Operations Management			
a. Operations management established low or incomplete standards and expectations for operators and did not reinforce established standards and expectations including procedure adherence and procedure quality, control of extraneous material within containment, control of transient equipment, involvement in operability decisions, material deficiency reporting by auxiliary operators, and log keeping practices.	2.1.3, 2.1.4, 2.3.1, 2.3.3, 2.3.4	1.3, 2.3, 2.6, 4.1	
b. Operators occasionally mispositioned safety-related components and damaged equipment. Also they routinely failed to maintain configuration control due to a lack of adherence to procedures and process controls. Furthermore, Operations management did not foster an environment of procedural adherence.	2.1.3, 2.3.1, 2.3.4	1.3, 4.1, 4.2	

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
c. The procedure change process was ineffective and not integrated. Controls over operator data sheets did not include any independent review and approval. Responsibility for revising some of the procedures and operator data sheets was assigned to onshift supervision as a collateral duty. Consequently, procedures and operator data sheets were occasionally incomplete or incorrect.	2.1.4, 2.3.4		The Operations DMAP includes a provision to improve the control and maintenance of operator data sheets.
d. There were substantial amounts of unrestrained and extraneous material within the containment. Containment tours by Operations management at the conclusion of and after the 1993 refueling outage never recognized or identified the inadequate containment closeout inspections. The written guidance on containment housekeeping contained vague criteria.	2.2.4	5.1	Walkdowns were performed to identify the potential for dislodged items and clogging of the sump. The Operations DMAP includes a project to raise performance standards for what is acceptable to be left in the containment.
e. Operations supervision and personnel were generally unaware of administrative controls involving transient equipment within the facility. Consequently, the DET identified numerous examples of unrestrained transient equipment that had been present at power.	2.2.4		Walkdowns were conducted to verify that equipment is appropriately restrained. Admin Procedure (AP) 1.01 has been revised to clarify requirements for restraining equipment.
f. Operations management expectations regarding operability decisions were inconsistently implemented and incomplete. Occasionally, Operations management made operability decisions without consulting or informing shift supervision. Also, operability decisions were not documented because Operations management did not delineate that as an expectation.	2.3.3	2.3, 2.6	

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
g. AOs did not critically assess plant material conditions during their rounds partially due to the lack of management standards and expectations relative to their identifying and documenting such deficiencies.	2.1.4, 2.3.2	1.3, 1.4, 2.3, 4.1	Periodic meetings are being conducted between the Operations Superintendent and each operating crew to communicate expectations.
h. Onshift personnel routinely omitted required events and information from logs. Operations management routinely read the logs but did not correct log keeping deficiencies or reinforce the established expectations.	2.1.4, 2.3.1,	1.4, 5.1	Improvements in log keeping are being coached by Operations Management as deficiencies are noted.
2.1.4 Repetitive Problems with Protective Tagging			
a. There were repetitive problems with personnel protective tagging. Operators hung tags on the wrong components, prepared deficient switching and tagging orders (STOs) for the work performed, failed to perform required independent verifications, and made unauthorized changes to STOs. Contributory to these repetitive problems was the poor process established by Operations management for equipment tagging and a lack of rigorous adherence by operators to procedures.	2.3.4	1.3, 4.1, 5.1	A memo was issued clarifying the expectations on the tagout process, and training will be provided on tagging.
b. Occasionally, Operations management did not provide enough details in the STOs of the work to be performed. During the midnight shift when STOs were prepared, maintenance personnel most cognizant of the upcoming work activity were not present to discuss the activity or the tagging boundaries.			The Operations DMAP has assigned resources to develop a Personnel Tagging Program
c. There were inconsistencies between the Power Control Department's tagging procedure used in the switchyard and the stations' tagging procedure used in the rest of the facility. Power Control Department's tagging procedure did not include review and approval of STOs for switchyard work by control rom supervisors. Thus, AOs wrote tags for the switchyard based on verbal instructions from COs without supervisory review before hanging the tags.			The Operations DMAP has assigned resources to develop a Personnel Tagging Program.

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
2.1.5 Poor Support to Operations			
2.1.5.1 Engineering Support Problems			
a. Occasionally, Engineering did not provide to Operations correct operability recommendations, effective or timely solutions to design or material condition deficiencies, and well written and technically correct surveillance procedures. Also, Engineering did not always communicate to Operations safety insights from the Palisades Individual Plant Examination (IPE) for power operation or inform Operations when emergency operating procedure revisions were needed.	2.1.3, 2.2.3, 2.3.3	2.2, 2.6, 3.1, 4.2, 6.1	The Safety and Licensing DMAP includes a project to present and explain the results of the IPE to Operations. The establishment of System Engineering roles and responsibilities will emphasize providing operability recommendations.
2.1.5.2 Training Support Problems			
a. Select areas of licensed operator training were poor or ineffective. Also, training for some duties not strictly covered by the licensed program were poor.			The Operations DMAP includes provisions for responsibility clarification and personnel development training.
b. Supervisory training and coaching for Operations supervisors was limited, which contributed to poor supervisory oversight and directions.	2.1.4	1.4, 3.1	
c. Onshift Operations supervision received limited root cause and event investigation training even though they investigated the majority of the operational deviation reports.		2.7	The Operations DMAP includes provisions for root cause training of Operations personnel.

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
d. Operators received limited training and written guidance on NRC notification requirements, which contributed to operators not recognizing events that should be reported to the NRC.		3.1	The Safety & Licensing DMAP includes a project to clarify definition of reporting responsibilities and development of training programs on reporting requirements to NRC.
2.1.5.3 Licensing Support Problems			
a. Licensing provided poor support to Operations in the areas of technical guidance and NRC reporting. The combination of customized technical specifications (TS) and the supplementary technical guidance was complex and occasionally made conservative operating decisions by operators more difficult. Also, the combined technical guidance was occasionally incomplete.		2.6	The Safety & Licensing DMAP includes a project to convert the Palisades TS to the Standard TS format.
b. Plant and Operations management did not take aggressive action to fully resolve the problem with the TS. Licensing management only assigned one person to the improvement effort and his collateral duties only allowed half his time to be spent on improving the TS.			The allocation of one licensing engineer to this task is appropriate given its low safety significance. The revision to the Standard TS format is currently scheduled to be submitted by January 1996.
c. Also, due to the limited knowledge of NRC reporting requirements and guidance, Operations relied to a significant extent on recommendations from Licensing. These recommendations were occasionally nonconservative.	2.1.3	1.3, 4.1	See No. 2.1.5.2(d)
2.1.6 Weak Operations Self Assessment and Corrective Action			

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
a. Operations self assessment as well as corrective actions to problems identified by these self assessments were weak. Contributing causes included (1) limited training of Operations staff in event evaluations and root cause analysis, (2) the lack of independent reviewers for the problem (onshift supervisors originally involved in the problem generally dispositioned corrective action system reports as a collateral duty), (3) the failure to use multiple disciplines or departments on complex problems and events, (4) operators not understanding the threshold between the plant-wide corrective action system and the lower level Operations Department's Operations Information Report (OIR) system, and (5) the lack of necessary resources and feedback mechanisms to effectively support the OIR program.	2.1.4, 2.3.1, 2.3.2	2.3, 2.7, 5.1, 5.3	The Operations DMAP includes provisions for root cause training of Operations personnel and added an Operations Liaison Position to support self-assessments, root cause analysis, and evaluation of industry experience.
b. Operators documented some events in the OIR system that should have been documented in the plant wide corrective action system. Therefore, these events received a less rigorous review, were not communicated outside of Operations, were not captured in the site's corrective action trending program, and corrective action completion was not confirmed.	2.3.2	2.3	The OIR process has been terminated. The revised corrective action system has taken its place.
c. Consecutive audits by Operations of safety tagouts in 1993 identified repetitive omissions of numerous independent valve and breaker position verifications, indicating the lack of effective corrective actions.	2.3.2	2.3, 2.7	The Operations DMAP includes resources to develop a Personnel Protective Tagging Program.
d. The team identified that as of March 1994, 40% of the 1993 OIRs needed to be dispositioned. One Operations supervisor, the OIR program originator, dispositioned the OIRs as a collateral duty. This individual, who had been transferred to the Nuclear Performance Assessment Department in February 1994, was still trying to disposition the 1993 OIRs because Operations management had not appointed a new person.	2.1.4	1.2, 2.3	See also No. 2.1.6(a). The OIR process has been terminated. The revised corrective action system has taken its place.

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
e. The dispositioned OIRs were not readily available for review by plant operators to allow them to improve their performance and sensitize them to the kinds of problems being identified.	2.3.2	2.3	The OIR process has been terminated. The revised corrective action system has taken its place.
2.2 MAINTENANCE AND TESTING			
2.2.1 Some Component Testing Was Weak			
a. Weaknesses were noted in the licensee's testing program for demonstrating equipment operability. For example, some acceptance criteria in test procedures did not agree with the TS, poor root cause evaluations were performed for some test failures, and there were questionable testing practices. The licensee did not demand strict procedural compliance. These weaknesses resulted in questionable operability determinations and a failure to identify potentially degraded equipment.	2.3.3, 2.3.4	1.3, 2.6, 2.7, 4.1, 4.2	
b. Root cause evaluations performed by Maintenance and Engineering for slow diesel generator (DG) start times were superficial.	2.3.2	2.7	The Management Review Board (MRB) has created a more questioning attitude in addressing the evaluation, root causes, and corrective actions.
2.2.2 Pump and Valve Testing Weaknesses			
2.2.2.1 Acceptability of Some Inservice Pump Test Parameters and Results Not Confirmed			
a. Some Inservice Test (IST) pump flow testing parameters and results were not confirmed to be acceptable because of potentially inaccurate standards or reference values.			An ISI/IST Program Enhancement Action Plan has been developed.
b. Several discrepancies, which the licensee had not reconciled, also existed between vibration readings recorded during IST and predictive maintenance data.			An ISI/IST Program Enhancement Action Plan has been developed.
2.2.2.2 Motor-Operated Valve (MOV) Inservice Testing Weaknesses			

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
a. Engineering did not effectively pursue the root cause(s) (not specifically required by Section XI, but a good practice) of many MOVs which experienced highly varying stroke times for several months, although the valves did not reach the alert range.	2.3.2	2.3, 2.7	An ISI/IST Program Enhancement Action Plan has been developed.
b. The IST group was unaware of a modification which changed operator gear ratios on some High Pressure Safety Injection (HPSI) MOVs.		2.4, 4.2	An ISI/IST Program Enhancement Action Plan has been developed.
c. There was not a defined and clearly documented relationship between the safety analyses and the valve stroke times.	2.2.1	4.2	An ISI/IST Program Enhancement Plan has been developed.
d. The MOV trending database was incomplete and not integrated. Engineering could not easily determine from the trending data when a recorded stroke time was performed to document a new reference test or when increased testing had been performed. Trend data also did not indicate whether the alert or action ranges had been exceeded.			The MOV testing program has been reviewed and will be revised clarify the program, improve trending data and other record keeping.
2.2.2.3 Air-Operated Valve (AOV) Testing Weaknesses			
a. The licensee did not have a coordinated plan for the maintenance and testing of AOVs.			An AOV Program Plan has been developed. A comprehensive AOV strategy is scheduled to be implemented currently by 12/15/94.
b. For those AOVs that were tested in the IST program, the licensee indicated that there was not a defined and clearly documented relationship between the safety analyses and AOV stroke times.	2.2.1	4.2	An ISI/IST Program Enhancement Action Plan has been developed.
2.2.2.4 Incomplete Relief Valve Testing Data			
a. Extensive information regarding relief valve design and testing was developed by the licensee in 1992, but the licensee was unable to recover this data. As a result, the licensee did not have a basis to ensure that safety-related relief valves were properly set, maintained and tested.		4.2	An ISI/IST Program Enhancement Action Plan has been developed

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
2.2.2.5 Instances of Check Valve Testing and Maintenance Scope Weaknesses			
a. Check valves in the reactor cavity drain lines and in the Auxiliary Feedwater (AFW) and DG rooms were shown on drawings, but none had equipment ID numbers, or were included in the Check Valve Program. Debris prevented full seating of valves in reactor cavity drain lines. No preventive maintenance (PM) or testing had been done on these valves to ensure their continued reliability or to verify that they would function as designed. The licensee also identified that the DG floor drain check valves were not previously tested.	2.2.1	4.2	An ISI/IST Program Enhancement Action Plan has been developed.
2.2.2.6 Many Important Manual Valves Not Periodically Tested			
a. Seventeen manual valves that were relied on in Emergency Operations Procedures (EOPs) were not tested to verify they would function.		4.2	An ISI/IST Program Enhancement Action Plan has been developed.
2.2.3 Weak Maintenance Work Practices			
a. Oversight of maintenance activities by supervisors and managers through observing in-process work was consistently low. This contributed to procedural adherence problems by personnel performing maintenance activities and a failure to acquire engineering assistance to evaluate problems in some instances.	2.1.2, 2.1.3, 2.3.1, 2.3.4	1.3, 1.4, 4.1, 5.1	

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
b. Poor support from Engineering contributed to inadequate maintenance work procedures and poor root cause evaluations.	2.2.3, 2.3.2, 2.3.4	2.3, 2.7	AP 5.01 has been revised significantly to include the guidance for addressing root cause in the summary of work performed. Training for Maintenance Department employees has been conducted in AP 5.01. System Engineers are being involved in root cause determinations. Additionally, ownership of the maintenance procedures is being transferred to the maintenance department.
2.2.4 Some Material Condition Deficiencies Not Identified and Documented			
a. Several material deficiencies existed due, in part, to not communicating performance standards and expectations.	2.1.3, 2.3.2	1.3, 2.3, 4.1	
b. The licensee did not fully implement work processes, the corrective action program, and the Maintenance policy guidance requiring area walkdowns.	2.3.4	1.3, 2.3, 4.1	
c. There were multiple hanger deficiencies including loose or missing hanger fasteners, loose base plate bolts, cracks in a wall caused by embedded support bolts, and missing fasteners on large structural supports in the Component Cooling Water (CCW) room.	2.2.4	1.3, 2.3	Refer to 2.2.4.d.

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
d. Some spring can hanger supports were loose, did not have cold and hot settings marked on the can, or appeared improperly set.	2.2.4	1.3, 2.3	The Safety Related Piping Reverification Program (and a follow on program for small bore piping) is being conducted to identify piping deficiencies. Additionally, a training program will be conducted to increase the sensitivity of plant personnel to identify such deficiencies.
e. The Vendor Information Program did not ensure that updated vendor information was routinely requested, evaluated, or incorporated into maintenance activities.			Training was provided to engineering on procedural requirements on the need to complete formal reviews of vendor information per AP 9.45. Also, AP 3.16 has been revised to require Systems Engineering to control vendor recommendations, vendor information from trip reports, phone calls, and other vendor information.
2.2.5 Poorly Controlled Warehouse Storage of Safety-Related Material			
a. Numerous fundamental weaknesses were identified regarding material control and supply of parts from the warehouse because of a lack of adequate management oversight of the warehouse facility.	2.1.2, 2.3.1	1.4, 5.1	The Maintenance Department DMAP provides for enhancements to material control including preparation of a new material storage and control procedure.

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
b. The licensee did not properly segregate and secure safety-related, nonsafety-related, and nonconforming items, including clearly identifying the latter items.			The Maintenance Department DMAP provides for an improved process for storage and control of safety-related material. The new "Material Storage and Control procedure will: - clearly describe the use of tags to segregate material, - provide guidance for packaging and storage, and - define use of physical segregation. A walkdown has been conducted of storeroom to identify or repackage improperly protected electrical and electronic items.
c. The licensee did not dispose of components at the end of their shelf life, did not specify shelf life of certain components, and did not perform engineering evaluations to extend the shelf life of other components.			The Maintenance Department DMAP provides for development of a shelf life program. A new procedure, "Shelf Life Control," has been drafted and will be implemented. A review of DET shelf life issues did not reveal specific safety concerns.

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
d. The licensee did not correctly store components in the warehouse, including allowing protective packaging to be breached and inappropriately protecting components to ensure foreign material was excluded.			The Maintenance Department DMAP provides for the formalization of material control and storage. An evaluation of the material control program has been conducted by an outside contractor. The resolution of their comments and the DET issues have been incorporated in the storeroom work procedures and activities. Interim actions were taken to walkdown, identify, clean and repackage if necessary storeroom material. Long term corrective actions are prescribed on Corrective Action System documents.

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
e. The licensee did not properly control material control tags prior to use or when material was returned to the warehouse.			The Maintenance Department DMAP provides for the development and implementation of procedures to control the use of tags to control and segregate safety related material. Uncontrolled material tags have been removed from storeroom and salvage material. Safety-related material has been verified to be properly tagged. Weekly storeroom tours are conducted to verify the proper use of tags.
f. Three different computer databases and a hard copy manual process were used to access requested information regarding stocked items, purchase order items, and shelf life concerns.			The Maintenance Department DMAP provides for combining logs and information systems into a single database.
g. Inaccuracies were also noted between actual stock inventories and database information.			The Maintenance Department DMAP provides for improvements in inventory accuracy. Inventories are continually monitored through the company inventory process and daily on "stock-out" sheets.

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
h. Replacement part unavailabilities resulted in several temporary modifications remaining installed for extended periods, and work order (WO) planning delays.			The Maintenance Department DMAP provides for longer term maintenance planning (13-15 weeks) and an improved PPAC program. Engineering support to the maintenance planning work will be provided by System Engineers to assist procurement in obtaining acceptable replacement parts.
2.2.6 Poor Support for Preventive Maintenance Impacted Equipment Performance			
a. Poor support for PM activities was evidenced by identified equipment problems and lack of control of the licensee's program. The licensee's program lacked the rigor needed to prevent future similar problems. Several failures or degraded conditions, a number of them recently identified, occurred because PM was not performed on the equipment or the PM performed was ineffective.			A preventive maintenance optimization will be performed on three pilot systems, focusing on defining Maintenance Rule system functions. An evaluation of the effectiveness of PM Optimization will be performed before proceeding with optimization on other Maintenance Rule scoped systems. See also 2.2.6(b)

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
b. The Periodic and Predetermined Activity Control (PPAC) program experienced significant weaknesses because of insufficient management support including: (1) about one-third of the PM activities were not formally controlled within the PPAC program, which included approximately 50 percent of "Q-List" components, (2) certain PPAC PMs which were not performed while their deletion was pending, (3) many Instrumentation & Control (I&C) PPAC PMs which did not have an established interval, (4) PPAC PMs which were deferred and deleted without system engineer and Operations concurrence, (5) PPAC PMs which were not accomplished on schedule, resulting in regular reliance on performing the PPAC PM within the 25% grace period, (6) vendor information which was not routinely incorporated, and (7) the lack of management reporting of PM status. The licensee had not evaluated the need for periodic pump disassembly and inspection, and had not included several DG support system components in its PM program. Additionally, some PPAC durations did not have sufficient supporting information.	2.1.3	2.5	A PPAC Enhancement Action Plan is being implemented as part of the Maintenance Department DMAP. Additionally, AP 5.14 has been revised to provide better direction and greater control in the areas of weakness identified by the DET. Training on the above has been conducted.
2.2.7 Weak Maintenance Work Order Tracking and Reporting			
a. The licensee's work control process exhibited weaknesses in tracking and reporting. In some instances, these weaknesses were caused by undefined or poorly defined program elements and unclear procedure guidance.	2.1.3, 2.3.4	1.5, 2.2, 2.5	New performance indicators have been developed to portray work order backlog.
b. Some work requests were not entered into the Advanced Maintenance Management System (AMMS) in a timely manner as required.		2.5	Reviews were performed to ensure that work requests were entered into the system. AP 5.01 has been revised to provide more direction on when a work request can be used and to require prompt notification to the Systems Engineer when a Work Request is initiated.

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
c. More than two-thirds of the WO backlog (approximately 1650) were not ready to be worked. Until requested by the team the licensee had not made an overall safety/reliability assessment of the maintenance backlog.	2.1.3, 2.2.4, 2.4	1.3, 2.2, 2.5	A multi-discipline team will conduct quarterly reviews of the safety significance of work orders. A 13-week rolling maintenance schedule is to be used to provide visibility to upcoming and past-due work.
d. The number of PM activities was actually lower than identified in the management information system because the licensee considered many corrective maintenance (CM) activities on degraded (but not failed) equipment as PM. This resulted in a more favorable PM-to-CM ratio that what was actually occurring.		2.5	Recent revisions to AP 5.01 have defined AMMS work types. Performance Indicators have been developed to clarify and focus management on key WO backlogs. One of the new indicators measures "Ratio of PPAC Work Orders to Total Maintenance Man-Hours, Actual."
2.3 ENGINEERING AND TECHNICAL SUPPORT			
a. The roles and responsibilities of the two onsite engineering organizations and the interfaces between them were not well defined. Authority was not clear and accountability was not maintained. Some system engineers assumed total ownership of their systems, while others exercised very little. Standards and expectations were not effectively developed and communicated.	2.2.1,	1.2, 1.3, 4.1, 4.2	
2.3.1 Plant Support from Engineering Often Weak			
a. Causes of weak plant support by Engineering were historically incomplete design basis information, and a tendency to perform evaluations and institute administrative controls as corrective actions instead of correcting plant hardware deficiencies.	2.1.3, 2.2.1, 2.2.3, 2.2.4, 2.4	1.3, 4.1, 4.2, 6.1	

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
2.3.1.1 Evaluations in Support of Operability Determinations Untimely and of Poor Quality in Several Instances			
a. Factors which contributed to poor engineering evaluations were a poorly defined operability process and engineers' lack of understanding of the design bases. Many engineering personnel had only recently become aware of their roles in determining equipment and system operability. Some engineering managers had only recently become familiar with NRC guidance on operability determinations contained in Generic Letter 91-18. There was a general weakness at all levels concerning training of engineers in evaluating degraded equipment for operability.	2.2.3, 2.3.3	2.3, 2.6, 3.1, 4.2	
2.3.1.2 Root Cause Analyses Often Weak or Untimely			
a. Multiple repeat failures of safety-related equipment often occurred before the root cause was identified. In some cases, several attempts at corrective action were not effective because the root cause was not determined. A lack of training on root cause analyses and a lack of emphasis and resource allocation by management were contributing causes for weak or untimely root cause analyses.	2.3.2	2.2, 2.3, 2.7	
2.3.1.3 Poor Support for Procedures and Instructions			
a. Engineering support for revising the plant operating and maintenance procedures was poor. Management expectations on procedural compliance and reporting of inadequate procedures were unclear and inconsistent.	2.2.3, 2.3.4	1.3, 4.1	Responsibility for the maintenance procedures are to be transferred to the Maintenance Department to provide more appropriate control of the contents.
b. The engineering controls for assuring that operating procedures were appropriately revised following plant modifications were weak. Certain modifications were installed and placed in service without the development of the associated operating procedures.	2.2.2	2.4	

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
2.3.1.4 Poor Contractor Control by Engineering			
a. There was often poor oversight over contractors' work, including ineffective technical reviews of their work products. A lack of training for engineers on contractor control was a cause for these problems.	2.2.3	1.6, 3.1	
2.3.2 Resolution of Some Equipment and System Problems Untimely and Ineffective			
a. Engineering was often slow to evaluate problems, recognize their safety significance and effectively resolve them. In some cases, even after the safety significance was recognized, engineering was slow to act.	2.2.3	1.3, 2.3, 2.7, 4.1 4.2	
b. Management standards and expectations were not well defined or enforced, barriers to resolving problems existed in the corrective action process, there was an ineffective prioritization process, and there was weak training of Engineering personnel in the operability determination process.	2.1.3, 2.2.2, 2.3.2, 2.3.3	1.3, 2.2, 2.3, 2.6, 4.1, 4.2	
c. Current plant operating conditions and some postulated accident scenarios were not reflected in the licensee's Individual Plant Examination (IPE).			The Safety & Licensing DMAP requires the resolution of these issues in the IPE.
2.3.3 Over-Reliance on Operator Actions to Compensate for Some Design Conditions			
a. There was an over-reliance on operator actions to meet design basis accident requirements in some cases. The DET found instances in which Engineering did not provide a balanced view to plant management and endorse modifications when they believed that a modification was the most effective way to resolve a problem.	2.1.3, 2.2.3	1.3, 2.4, 4.1, 4.2, 6.1	
2.3.4 Control and Quality of Plant Modifications Sometimes Deficient			
a. The design, implementation and control of plant modifications were sometimes deficient, which occasionally resulted in modifications that did not achieve the intended result.	2.2.2, 2.2.3	2.4, 3.1, 4.2	

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
b. The causes for the weaknesses in the modification process included a historical lack of design basis information, lack of clearly defined roles and responsibilities between NECO and System Engineering, ineffective technical reviews (quality verification), and an ineffective process to assure documents, processes, and activities affected by the modification were appropriately revised.	2.2.1, 2.2.2, 2.2.3	1.2, 2.4, 4.2	
c. There were instances where the temporary modification process should have been used but was not.	2.2.2	1.3, 4.1, 4.2	
2.3.5 Ineffective Configuration Control by Engineering			
a. Weaknesses existed in the configuration control program. Insufficient management attention, and lack of attention to details, contributed to these performance problems.	2.1.2, 2.2.2	2.4, 4.2, 5.1	
b. The DET noted several weaknesses in the implementation of the licensee's program to control electrical load growth.	2.2.2	2.4, 4.2, 6.1	Plant procedures will be evaluated to improve load growth control.
c. The licensee's fuse control program was found to have several weaknesses and was still incomplete. The weaknesses included incorrect fuse types and labelling, lack of design basis short circuit calculations for DC circuits, and lack of control of vendor supplied fuses inside vendor supplied cabinets (e.g., inverter).	2.2.1	2.2, 4.2	A plan will be developed to determine the scope of fuses which need calculations to support size and types. Administrative Procedures will be revised to clarify control of fuses inside vendor equipment.
d. Weak control and maintenance of vendor manuals (VM) caused problems while performing plant work. Probable causes for these deficiencies were attributed to weaknesses in: Engineering procedural requirements, Engineering work practices regarding maintenance and use of vendor manuals, and understanding of expectations by Engineering personnel for use of controlled information.	2.2.3	1.3	A new vendor manual control procedure (AP 9.45) has been issued and is being implemented.

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
e. The Vendor Information Program did not ensure that updated vendor bulletins were routinely requested. Approximately 70 DG vendor bulletins which were informally received by the DG system engineer were not formally reviewed for site-specific applicability or introduced into the Operating Experience Review (OER) program for review.			The 70 plus EDG Bulletins are being evaluated per the Industry and Experience review process. An investigation intended to identify additional unreviewed vendor information has been performed. Revised vendor manual control (AP 9.45) and Industry Experience (AP 3.16) procedures have been issued.
f. The OER program did not require NECO be involved in decisions regarding applicability of vendor recommendations.			An action has been established in the Safety and Licensing DMAP to ensure the appropriate level of NECO involvement in decisions regarding vendor recommendations.
2.4 MANAGEMENT AND ORGANIZATION			
2.4.1 Ineffective Management Oversight and Control			
a. Management oversight and control was ineffective because of a lack of integrated programs and processes and clearly defined roles and responsibilities. Fragmented systems, poorly defined programs, and lack of or conflicting expectations prevented successful implementation of performance improvement initiative.	2.1.2, 2.1.3, 3.0	1.1, 1.2, 1.3, 4.1, 5.1	PPEP in general addresses this issue.
b. Managers failed to maintain a broad perspective and accept recommendations from outside sources, which obstructed good performance at Palisades.	2.1.1, 2.1.2, 2.3.5	4.1, 5.1	
c. Managers often did not recognize broader performance issues and associated consequences. Many events were caused or exacerbated by a lack of guidance and clear direction from all levels of management.	2.1.1, 2.1.2, 2.1.4, 2.3.1	1.3, 1.4, 1.5, 2.5, 4.1	

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
d. Management addressed tagging errors as individual personnel performance issues and did not recognize that repetitive tagging problems resulted in overall configuration control issues.		1.3, 2.7	See No. 2.1.4(a). Operations DMAP will address tagging issues.
e. Management did not consider the cumulative effect of multiple design and equipment deficiencies on system operability, plant performance and degraded safety margins.	2.2.3, 2.4	1.3, 2.6, 6.1	See also No. 2.2.7(c)
f. There were numerous examples of degraded material conditions and poor housekeeping.		5.1	See Nos. 2.1.3(d) and 2.2.4(a), (b), (c), (d)
g. There was a lack of outside perspective. Useful information and recommendations from outside industry and regulatory groups had often not been accepted and utilized at Palisades. A somewhat confrontational relationship existed between CPCo personnel and these outside groups.	2.1.1, 2.1.2, 2.3.5	1.3, 4.1	
2.4.1.1 Lack of Integrated Programs and Processes			
a. Fragmented systems or processes in planning, corrective actions, configuration control, and management information systems (MIS) coupled with poor communication produced a lack of functional integration between departments which resulted in poor performance and a lack of teamwork.	2.1.2, 2.1.3, 2.2.2, 2.3.2, 3.0	1.3, 1.5, 2.2, 2.4, 2.5, 4.2	PPEP in general addresses this issue.
b. Poorly defined programs and policies resulted in plant operations and events that challenged safety systems and equipment. In several instances, managers did not completely plan and develop programs and processes, nor fully train plant staff, before implementation.	2.1.2, 2.1.3, 3.0	1.1, 1.3, 1.4, 2.2, 4.1	PPEP in general addresses this issue.

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
c. The licensee had not integrated many site activities into an organized plan; to scope, schedule, and resource load these activities; to provide for overall oversight and control; to accomplish activities to a recognized time table; and to require follow up, closeout reporting and accountability. Each department had a separate listing of planned or proposed activities. Accomplishment of these activities was dependent on available resources, which fluctuated because of emergent work and changing priorities in response to external influences. This situation fostered a station-wide reactive approach to planning and resulted in significant delays and in some cases, incomplete or abandoned projects and corrective actions.	2.1.2, 2.1.3, 3.0	1.1, 2.2	PPEP in general addresses this issue.
d. Lack of an integrated configuration control process resulted in significant engineering issues and events. For example, poor programmatic guidance resulted in operating procedures, plant drawings and vendor manuals that were not properly updated following modifications and changes to safety-related systems and components.	2.2.2	2.4	
e. The licensee failed to appropriately address long-standing equipment tagging problems which resulted in configuration control issues and contributed to numerous events.		1.3	See No. 2.1.4(a). Operations DMAP will identify improvements in tagging.
f. MISs were not integrated and lacked compatibility. Each department maintained its own MIS and associated data base.	2.1.3	1.5, 2.5	
g. Communication problems were widespread. Both vertical and horizontal communication were ineffective and were previously identified as a root cause of poor performance by the licensee.	2.1.3, 2.1.4	1.3	CPCo is developing a communications strategy to improve internal communications.

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
h. Only one paragraph in Administrative Procedure 3.03, "Corrective Action," gave guidance for operability determinations. Operations personnel were expected to make an immediate operability determination; however, in some cases, Operations managers were not aware of operability concerns until a corrective action document was presented at the Corrective Action Review Board (CARB) meeting. Operations rarely documented operability decisions or the basis for these decisions. Engineering personnel performed the analyses; however, Licensing personnel performed the final review. During CARB meetings, Licensing arguments often prevailed over engineering and safety performance concerns.	2.1.3, 2.3.3	1.3, 2.3, 2.6, 4.1	
i. Frequently, managers did not completely plan and develop programs and processes, nor fully train plant staff, before implementation.	3.0	1.4, 2.2	PPEP in general addresses this issue.
j. The licensee often did not transfer ownership of the task force's solution back to the line organization. Thus, some action items and recommendations produced by task forces were not acted on when the task force was completed or disbanded.		1.2, 1.3, 2.2	

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
2.4.1.2 Lack of Clearly Defined Roles and Responsibilities			
a. Lack of clearly defined roles and responsibilities coupled with ineffective communication and conflicting expectations led to poor performance and unsuccessful implementation of performance improvements.	2.1.3	1.1, 1.2, 1.3, 4.1	See also No. 2.4.1.1(g)
b. Confusion regarding the role of NPAD resulted in weak assessments that were directed at minor industrial safety and schedular conformance issues, rather than uncovering existing program and process deficiencies, human performance problems, and safety concerns.	2.3.1	1.2, 5.2, 5.3	
c. Unclear guidelines and expectations concerning the roles and responsibilities between System Engineering and NECO resulted in issues generated by design basis document reviews, such as the increase in DG fuel oil consumption, remaining unresolved.	2.2.3	1.2	
d. System engineers did not communicate effectively with NECO engineers, whose input was often not sought when needed.	2.1.3, 2.2.3	1.3	See No. 2.4.1.1.(g)
e. Management communicated conflicting expectations. Consequently, attention to safety was weak in some cases. Management's stated objective was safety; however, personnel performance evaluations were based on meeting financial and schedular goals. Front line supervisors often recounted during interviews with the team that management gave highest priority to meeting schedules.	2.1.3	1.3, 1.4, 4.1	
2.4.1.3 Problems During Normal Operations Continued Through Outage Periods			
a. Ineffective communication, coordination, scheduling, planning, supervisory oversight, project management, and poor implementation of lessons learned, along with weak oversight of work performed by contractors and CPCo organizations, contributed to the problems during normal operations and outages. Problems during normal operations that continued under outage management included procedure adherence, lack of configuration controls, human performance issues, and lack of a questioning attitude.	2.1.2, 2.1.3, 2.1.4, 2.2.2, 2.3.1, 2.3.2, 2.3.4	1.1, 1.3, 1.4, 1.6, 2.2, 2.3, 2.4, 2.7, 4.1, 4.2, 5.1	See also No. 2.4.1.1(g)

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
b. The competing requirements of Outage and Operations roles caused a span of control problems which was recognized by licensee senior management.	2.1.1, 2.1.4	1.2	
c. The position of Outage Manager remained unfilled as of April 1994. Consequently, planning for the 1995 outage was behind schedule.	2.1.1		
d. NPAD audit found that the licensee missed the broader root cause for the poor plant and corporate reviews of the weld procedure specification that affected welding parameters and examinations. The broader issue was a potential programmatic change to ensure appropriate reviews were performed on corporate procedures and used at Palisades.	2.3.2	2.7	NECO reviews corporate weld procedure specifications for use at Palisades.
e. Lack of supervisory control over onsite contractor activities caused many problems and events, particularly when the contractors did not comply with site procedures and practices. For example, contractors missed procedural hold points and double verifications incorrectly used load cells to lift the upper guide structure during refueling, incorrectly installed some pipe hangers, ineffectively accomplished technical calculations, and improperly terminated wires. The licensee did not complete corrective actions, which included training responsible contract project mangers in contractor oversight. The licensee last performed training in this area in August 1992.	2.3.4	1.6	
f. The licensee did not formally implement outage management guidelines to increase the defense-in-depth and reduce risk during outages. The documents describing the licensee's program contained numerous undefined terms and conditions which were subject to interpretations. The licensee had not fully executed an outage shutdown risk program, and had not addressed all of the findings from its own 1993 self-assessment of the outage shutdown risk program.		2.2	Formal written guidelines are being prepared for shutdown risk management.

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
2.4.1.4 Poor Resource Allocation and Utilization			
a. The poor planning, allocation, and utilization of resources and a lack of succession planning and defense-in-depth resulted in strained staffing and large backlogs in some key areas. MIS and budget processes did not provide Mangers with effective decision-making tools to adjust resources. Staffing shortages in several areas were not addressed despite indications of performance degradation. The lack of staff in corrective actions and human performance evaluation areas impeded effective implementation of these programs.	2.1.3, 2.1.4, 2.3.1	1.1, 1.4, 1.5, 2.2, 2.3, 2.5, 2.7	PPEP in general addresses this issue.
b. Strained staffing and management's failure to recognize the problems with large procedure change backlogs resulted in several examples of deficient and confusing operating procedures. Operations procedure writers routinely postponed non-emergency changes to coincide with required biennial reviews because of heavy work loads resulting from excessive collateral duties. Operations supervisors were also assigned procedure revision responsibilities requested procedure changes, some more that 2 years old, were not incorporated.	2.1.4, 2.3.4	1.2	
c. A large safety-related work request backlog was awaiting planning. Some work requests had awaited planning since 1989 and a few high priority work requests from 1990 had yet to be planned.	2.1.3, 2.2.4	2.1, 2.2	A work order reduction program will be developed. Implementation of a 13-week rolling maintenance schedule will provide visibility to upcoming and past due maintenance activities.
d. Management did not plan for the replacement of some key personnel, which delayed resolution of safety concerns. Vacancies existed in key program oversight positions, or experienced supervisors were replaced with junior or marginally qualified personnel.	2.1.1	1.4, 3.1	

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
2.4.2 Inadequate Attention to Human Performance			
a. Plant management failed to address and correct human performance problems.	2.1.2, 2.1.3, 2.3.1	1.3, 1.4, 2.3, 2.7, 3.1, 4.1, 4.2	
b. The licensee's implementation of the Human Performance Evaluation System (HPES) had neither identified the underlying causes for repetitive human errors nor directed senior management's attention and resources on reducing the organizational barriers to enhance performance.		2.7	
c. The effectiveness of HPES was constrained by the assignment of a large number of evaluations without a commensurate increase in staffing or resources. A single HPES Coordinator was assigned to complete a steadily increasing number of evaluations which substantially reduced the amount of time being spent to review and analyze each event and decreased the quality of the evaluation.		2.7	
d. Management did not appreciate the importance of clearly written procedures, and did not encourage taking immediate corrective action when a procedure did not support the required task. Operators and technicians stated that they were given the latitude to compensate for procedural inadequacies if they understood the intent and were able to comply with the objectives. Therefore, plant personnel routinely substituted individual knowledge, skill-of-the-craft, and training for poorly worded or inaccurate procedural steps. Consequently, procedural adherence continued to be a problems at Palisades and resulted in numerous events.	2.3.4		Resolution of other DET issues includes provisions to revise and upgrade procedures and processes.

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
e. Management and supervisory skills had not been methodically taught or formally developed despite the occurrence of numerous events where weak management skills were identified as a direct or contributing causal factor. The problem was particularly acute in the Operations Department. Few Operations personnel had taken any management or supervisory courses after their initial shift supervisory training.	2.1.4	1.4	
f. The IPE model did not reflect the heavy reliance on operator actions to compensate for degraded equipment or weaknesses in plant design.			The Safety & Licensing DMAP includes a project to resolve NRC comments on the IPE.
2.4.3 Ineffective Corrective Action Process			
a. The licensee established a high threshold for identifying deficiencies.	2.3.2	2.3	
b. The licensee did not recognize and document problems, performed shallow root cause analysis, and performed ineffective or untimely corrective actions.	2.3.1, 2.3.2	2.3, 2.7, 5.1, 5.2, 5.3	
c. Many conditions that met the procedural criteria for the site-wide deficiency reporting system were never reported under this system. Several departments had separate deficiency reporting systems that were intended to track problems that did not meet the threshold of the deficiency report (DR). Supervisors throughout the organization frequently did not elevate deficiencies into the site-wide corrective action tracking system.	2.3.2	2.3	
d. Several interviewees stated that when they identified a problem, they were assigned the responsibility to correct the identified problem. As a result, operators stated that there was a general reluctance to report problems unless they resulted in equipment damage or were discovered by Operations supervisors.		1.3, 2.3	

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
e. Even after problems were identified, management occasionally did not recognize the safety significance of issues. Additionally, the CARB did not facilitate problem identification or resolution. Plant Safety and Licensing personnel often dispositioned identified problems by making restrictive and nonconservative interpretations of the current license bases without stating or considering the safety bases for their conclusions. Plant management facilitated and encouraged this situation.	2.1.1, 2.1.3, 2.3.2	1.3, 1.4, 2.3, 2.7, 3.1, 4.1, 4.2	
f. Root cause analysis efforts often did not distinguish the underlying causes of events and deficiencies. The root cause sections of the corrective action reports were often superficial and contained only cursory insight into the underlying causes of the performance deficiency. Root cause determinations were limited to shallow descriptions of events or individual errors and often failed to provide insights to station mangers regarding programmatic weaknesses and human performance hindrances. Root cause evaluators had often not completed formal training and as a result, conducted event investigations inconsistently or ineffectively.	2.3.2	2.7	
g. Senior management did not have a conservative perspective on the limited safety margins in the original design. Many of the problems that were identified by the team and discussed in other sections of this report were directly related to previous modifications and early decisions that were not well conceived or poorly designed.	2.1.1, 2.1.3, 2.2.1	1.3, 2,4, 4.1, 4.2, 6.1	
2.4.4 Ineffective Quality Oversight and Self Assessment			
a. NPAD and departmental self assessment groups often did not perform detailed, effective technical assessments.	2.3.1	5.1, 5.2, 5.3	
b. Persons in certain key positions within NPAD were marginally qualified in the area being assessed.	2.1.1, 2.3.1	5.2	

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
c. Even when NPAD and departmental assessments contained insightful findings, line mangers frequently did not respond effectively to the observations and recommendations.	2.1.1, 2.1.3, 2.3.1	5.1, 5.2, 5.3	NPAD is developing a trend program to focus management attention to issues. Management and the Management Safety Review Committee (MSRC) will review these trends. The MSRC will provide feedback to Corporate Management on these trends and other critical issues.
d. The methods of measuring performance were subjective and ill-defined, in some cases.	2.1.3	1.5, 2.5	
e. Many of the NPAD assessments lacked the depth, detail and insight required to fulfill the quality oversight role. Many NPAD assessors made findings and observations that were primarily focussed on issues that had little, if any, safety significance.	2.3.1	5.2	
f. NPAD assessors lacked the experience and background necessary to evaluate plant operations, which resulted in minimal findings.	2.3.1	5.2, 5.3	NPAD has three individuals with current or former operator's licenses.
g. NPAD was ineffective in raising problems and concerns to the appropriate managers to ensure adequate resolution.	2.3.1	5.2, 5.3	
h. Managers often did little to resolve assessment findings in such key areas as weak human performance, poor adherence to work instructions, policies and plant practices, and loss of skilled plant personnel without trained replacement.	2.1.1, 2.1.3, 2.3.1, 2.3.2, 2.3.4	1.3, 1.4, 2.3, 2.7, 4.1, 5.1, 5.2, 5.3	
i. The Operations Department performed limited and ineffective self assessments. The Maintenance and site Engineering Departments had not recently performed self assessments.	2.1.4, 2.3.1	5.1, 5.3	

DET STATEMENT	ATTACHMENT 1	PPEP	OTHER ACTIONS
j. The quality verification (QV) program was not uniformly integrated except within the Maintenance Department. QV was inconsistently implemented in the Operations and Engineering Departments where operators and plant personnel often incorrectly completed QV activities.	2.3.1	5.1, 5.3	The NPAD DMAP will include an action item for developing QVP requirements and methodology for the site.
k. The measurement and analysis of performance indicators was inconsistent and potentially misleading. Consequently, site managers were not fully cognizant of actual daily performance trends and lacked the information needed to assess and resolve problems.	2.1.3	1.5, 2.5	
l. Some corrective maintenance activities were incorrectly reported as preventive maintenance.			Work types and backlog reporting categories have been redefined. Additionally, a review and application of all existing WO work types will be performed. The goal will be to reduce the number of work types and eliminate the possibilities of deficiencies being reported as preventative maintenance.
m. NPAD did not have valid performance indicators to verify yearly goals and objectives were met.		1.5, 2.5, 5.2	

	DET ROOT CAUSE	ATTACHMENT 1	PPEP	OTHER ACTIONS
3.1	**Acceptance of Low Standards of Performance**			
a.	Prior to Spring 1994 most managers and staff at Palisades had been long-term employees of CPCo and did not have commercial nuclear experience outside the company. In addition, neither corporate nor site management encouraged the review of industry programs and performance standards and comparison of those to Palisades. Consequently, managers did not have or use outside perspectives to judge plant performance.	2.1.1, 2.1.2, 2.3.5	4.1	
b.	The effects of low performance standards were evident throughout the organization. Operations management failed to recognize or accepted lack of rigorous adherence to procedures, inconsistent procedure quality, test results that did not always meet acceptance criteria, and poor material condition of the plant. Site and Engineering management failed to recognize or accepted poor timeliness and quality of engineering evaluations and support to the plant, and recurring lack of control of engineering contractors. Maintenance management failed to recognize or accepted poor maintenance practices.	2.1.3, 2.1.4, 2.2.3, 2.3.1, 2.3.4	1.3, 1.6, 2.3, 3.1, 4.1, 4.2, 6.1	
3.2	**Failure to Integrate Processes and Clarify and Communicate Roles and Responsibilities**			
a.	Management did not clearly identify and communicate to plant staff and department heads the roles and responsibilities of organizational components. This, coupled with a lack of integrated programs and processes across the organization, resulted in confusion and lack of ownership of problems.	2.1.3, 2.2.3	1.2 PPEP in general	
b.	Lack of clearly defined roles and responsibilities between Nuclear Engineering and Construction Organization (NECO) engineers and system engineers often resulted in weak support of Operations and Maintenance in resolving operational problems and evaluating degraded plant conditions. Also, NECO's responsibility for this important function was unclear and sometimes was abrogated to Systems Engineering or engineering contractors.	2.2.1, 2.2.3	1.2, 4.2	
c.	The unclear roles and responsibilities of the Nuclear Performance Assessment Department (NPAD) relative to the line organization resulted in problems not being identified by either organization in many instances.	2.3.1	1.2, 5.1, 5.2, 5.3	
d.	When problems were identified, they were not always acted upon by the line organization, nor were they rigorously tracked by NPAD to ensure that they were satisfactorily resolved.	2.3.2	2.3, 5.2	

	DET ROOT CAUSE	ATTACHMENT 1	PPEP	OTHER ACTIONS
e.	Certain groups and individuals heavily influenced decisions without plant management's providing effective oversight and challenging the soundness of those decisions.	2.1.2, 2.3.2	1.3, 1.4, 2.1, 2.2 4.1,	
3.3	**Failure to Ensure Effective Self Assessment and Quality Oversight**			
a.	Self assessment by the line organization was ineffective for several reasons. Site management did not promote a questioning attitude among the staff, accountability at many levels of the organization was weak, and implementation of the self checking and independent verification functions under the Quality Verification Program (QVP) was inconsistent within and among several departments.	2.1.3, 2.3.1	1.3, 4.1, 5.1, 5.3	
b.	Independent quality oversight by NPAD was ineffective because its interface with the line organization and its role were not clearly defined by site management.	2.3.1	1.2, 5.2, 5.3	
c.	NPAD was staffed with individuals not well qualified in the development and conduct of performance based technical audits and assessments, which resulted in poor quality findings.	2.3.1	5.2	
d.	NPAD did not assert itself to require accountability by the plant to respond to its findings, and site management did not fully endorse NPAD's role to ensure that this occurred.		5.2, 5.3	
3.4	**Failure to Develop and Implement an Effective Corrective Action Program**			
a.	The corrective action process was ineffective because of weaknesses in problem identification, resolution, and corrective action implementation.	2.3.2	2.3	
b.	The high threshold for problem identification, the frequent assignment of problem resolution to the individual who identified it, and the lack of rigorous corrective action implementation management in some cases provided a message to the staff that management did not want to find and resolve problems.	2.3.2	1.3, 2.3 4.1	
c.	The high threshold for problem identification also resulted in the development and use of fragmented department-level corrective action systems that used different databases and priorities and which were not integrated into the plant-wide system.	2.3.2	2.3	

DET ROOT CAUSE		ATTACHMENT 1	PPEP	OTHER ACTIONS
d.	Problems were not effectively resolved in many instances because management did not promote a questioning attitude in the staff.	2.1.3, 2.3.1, 2.3.2	1.3, 2.3, 4.1, 2.7	
e.	Plant staff was provided limited training in root cause analysis and event investigation techniques, resulting in many instances of poor quality root cause determinations.		2.7	
f.	Corrective actions were not rigorously tracked and prioritized across the plant because site management had not developed and implemented an integrated corrective action system.	2.3.2	2.3	
g.	Management information systems were not designed and appropriately reviewed by management to provide useful feedback on the status of implementation of corrective actions.	2.1.3	1.5, 2.5	

ATTACHMENT 6

Consumers Power Company
Palisades Plant
Docket 50-255

ACRONYMS

August 11, 1994

ACRONYMS

AFW	Auxiliary Feedwater
AMMS	Advanced Maintenance Management System
AOV	Air Operated Valve
AP	Administrative Procedure
CARB	Corrective Action Review Board
CCW	Component Cooling Water
CM	Corrective Maintenance
CO	Control Room Operator
CPCo	Consumers Power Company
DEPRT	DET Response Team
DET	Diagnostic Evaluation Team
DG	Diesel Generator
DMAP	Department Master Action Plan
DR	Deficiency Report
EOP	Emergency Operating Procedure
FPI	Failure Prevention, Incorporated
HPES	Human Performance Evaluation System
HPSI	High Pressure Safety Injection
I&C	Instrumentation and Controls
ID	Identification
IPE	Individual Plant Examination
ISI	Inservice Inspection
IST	Inservice Test
LAO	Licensed Auxiliary Operator
MAG	Management Advisory Group
MIS	Management Information System
MOV	Motor Operated Valve
MRB	Management Review Board
MSRC	Management Safety Review Committee
NECO	Nuclear Engineering and Construction
NPAD	Nuclear Performance Assessment Department
NRC	Nuclear Regulatory Commission
OER	Operating Experience Review
OIR	Operations Information Report
PM	Preventive Maintenance
PPAC	Periodic and Predetermined Activity Control
PPEP	Palisades Performance Enhancement Program
QV	Quality Verification
QVP	Quality Verification Program
SALP	Systematic Assessment of Licensee Performance
SS	Shift Supervisor
STO	Switching and Tagging Order
TS	Technical Specifications
VM	Vendor Manual
WO	Work Order