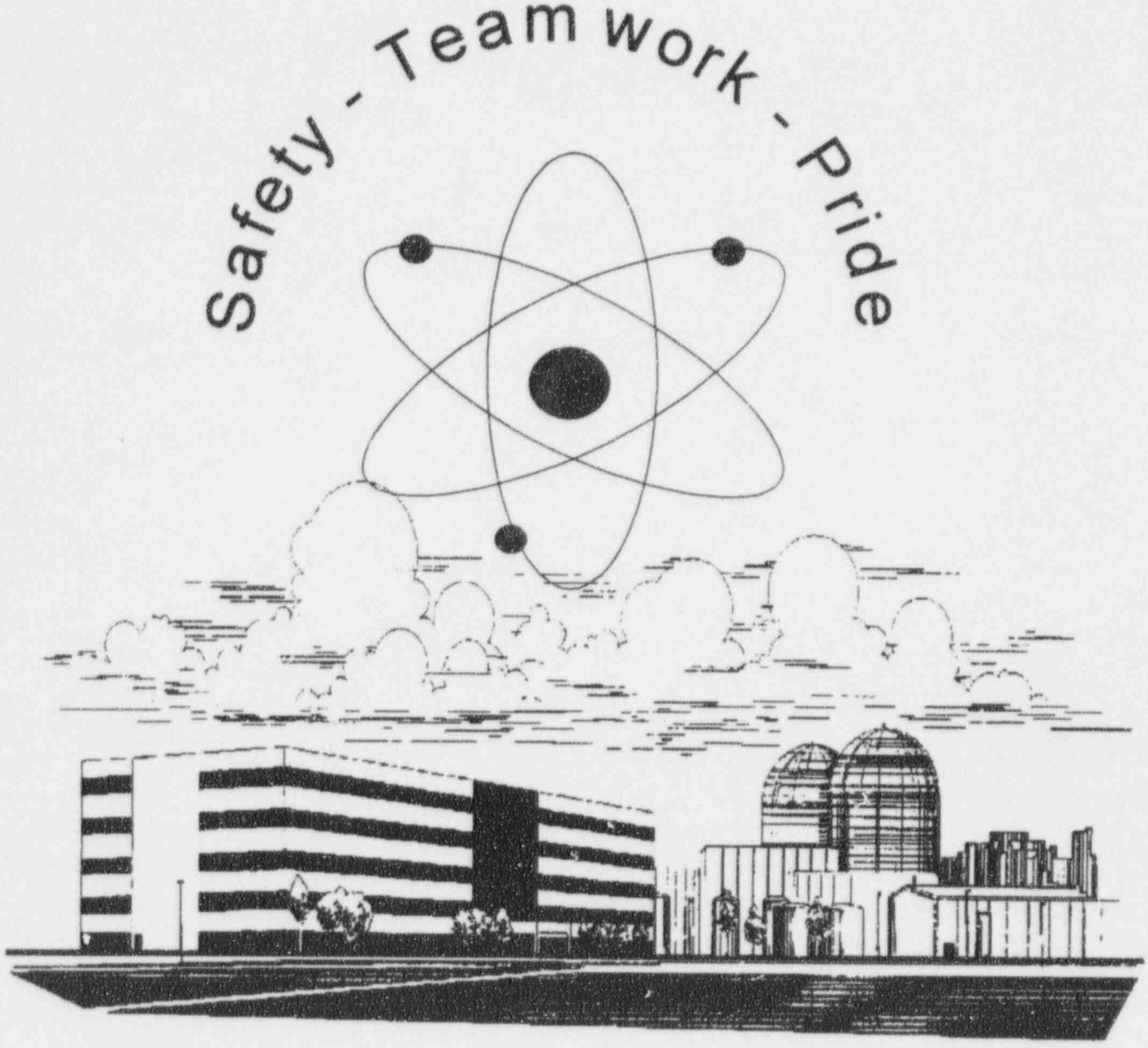

SOUTH TEXAS PROJECT

ENGINEERING SELF ASSESSMENT

Final Report

October 14 - 24, 1996

ENGINEERING SELF-ASSESSMENT

EXECUTIVE SUMMARY

An Engineering Self-Assessment was conducted October 14 - 24, 1996. The self-assessment evaluated Engineering activities in accordance with the guidance provided in NRC Inspection Procedure 37550, "Engineering", the objective of which states, "Evaluate the licensee's engineering activities, particularly the effectiveness of the Engineering organization to perform routine and reactive site activities, including the identification and resolution of technical issues and problems".

The Self-Assessment Team was comprised of 14 senior level STP personnel from Engineering, Quality Assurance, Licensing, Operations, and Maintenance and two industry peers (a Design Engineering Supervisor from Palo Verde, and an Engineering Programs Supervisor from Diablo Canyon) both with recent experience in performing similar assessments.

The assessment team was divided into two sub-teams to support using both a horizontal and vertical approach.

The horizontal approach evaluated the effectiveness of Engineering support, processes and programs in the following areas:

- Operations Support
- Maintenance Support
- Systems Engineering
- Design Engineering
- Engineering Programs
- Industry Events Analysis

The vertical approach evaluated the quality of selected Engineering activities and products through a review of the following systems:

- Class IE 125 VDC Power System
- Essential Chilled Water System
- Condensate System (including Condensate Polishing)

Problems or issues identified during the assessment were addressed using the station Corrective Action Program (CAP). A total of 68 Condition Reports were written throughout the assessment. No significant conditions adverse to quality (SCAQ) were identified during the assessment. Four were identified as station level conditions adverse to quality (CAQ-S), 26 department level conditions adverse to quality (CAQ-D), and 38 conditions not adverse to quality (CNAQ). No concerns were identified which adversely affected equipment operability.

The assessment team concluded that the Engineering organization is effective at performing routine and emergent work activities, identifying and resolving technical issues and problems in support of safe plant operation.

The following is a summary of the strengths:

- Interviews with on-shift Operations personnel, Maintenance and Planning personnel, and Operations management indicate Engineering support, particularly for emergent

work, is excellent.

- A strong Engineering management team that is sensitive to plant needs is viewed as a strength.
- Effective communication with and support of plant operations are excellent.
- Engineering's support of corrective and preventive maintenance activities, system/material condition, and communications with Maintenance personnel is excellent.
- Engineering support is a key element contributing to successful outage planning, scheduling, and execution.
- The Temporary Modification Program is characterized by high quality products that are effectively implemented and managed.

The following is a summary of the more significant areas for improvement:

- The quality of the Systems Engineering walkdowns and the use of walkdown reports could be enhanced by Operations and Maintenance personnel participating in the System Engineering walkdowns; using the walkdown reports as a tool to provide management focus on system material condition issues; and increased sensitivity by the System Engineers to potential Operator impacts.
- The effectiveness of the Systems Engineering Health Reports could be improved by issuing the reports more frequently; and using the health reports as a tool to provide increased visibility and management focus on system material condition issues and Engineering recommendations.
- A review of documents and databases within the Configuration Management Program identified incorrect Setpoint Index values, inaccuracies and incompleteness of setpoint basis references in the Electrical Setpoint Databases, and overly restrictive tolerances in the Instrument Setpoint Document.
- Management's expectations on the use of the Design Basis Documents as a reference or source document were unclear and require improvement.
- Several Design Basis Documents do not reflect the current plant design or configuration and have a number of unincorporated amendments.
- The modification process could be improved by establishing guidance and reinforcing management expectations with respect to the level of detail contained in design change/modification packages, the criteria for minor changes, and work package closure.

Condition Report 96-15668 has been generated to track the above summary results and their associated action plans. Condition Report 96-15668 also tracks the recommended enhancements which are identified within the text of this assessment.

ENGINEERING SELF-ASSESSMENT

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ENGINEERING SELF-ASSESSMENT

INTRODUCTION

OBJECTIVES

The purpose of the self-assessment was to evaluate Engineering activities at the South Texas Project (STP) in accordance with the guidance provided in NRC Inspection Procedure 37550, "Engineering". The objectives of the self-assessment were:

Evaluate the effectiveness of Engineering programs and activities;
Identify strengths and areas for improvement;
Develop corrective actions, as required;
Enhance Engineering self-assessment capabilities.

APPROACH AND SCOPE

The Engineering Self-Assessment was conducted October 14 - 24, 1996. The Self-Assessment Team was comprised of 14 senior level STP personnel from Engineering, Quality Assurance, Licensing, Operations, and Maintenance and two industry peers, a Design Engineering Supervisor from Palo Verde, and an Engineering Programs Supervisor from Diablo Canyon both with experience in performing similar assessments. The assessment used a horizontal and vertical approach and the team was divided into two sub-teams to support this approach.

The horizontal approach evaluated the effectiveness of Engineering support, processes and programs in the following areas:

- Operations Support
- Maintenance Support
- Systems Engineering
- Design Engineering
- Engineering Programs
- Industry Events Analysis

The horizontal team reviewed these functional areas for effective performance of the following:

- Customer Support
- Emergent Work Support
- Weekly Maintenance Schedule Support
- Permanent / Temporary Modifications
- Walkdown / System Health Reports
- Configuration Management
- Engineering Workload Management
- Use of Industry and In-house Operating Experience
- Preventative Maintenance Program
- Maintenance Rule
- Probabilistic Risk Assessment

The vertical approach evaluated the quality of selected Engineering activities and products through an in-depth review of the following systems:

- Class IE 125 VDC Power System
- Essential Chilled Water System
- Condensate System (including Condensate Polishing)

The systems were selected by Engineering management based on one or more of the following criteria:

- Safety related
- Designed by the architect / engineer with licensee involvement
- Significance to probabilistic safety assessment
- No previous or recent Safety System Functional Assessment-type review
- Input from Plant Operations personnel

The Design Basis Documents (DBDs) were used to establish the minimum boundaries of the vertical review systems. An exception to this was the addition of the 120 VAC Class IE Vital System to the review of the 125 VDC Class IE System due to previous issues with the inverters.

The vertical team reviewed the systems for effective implementation in the following areas:

- Design Basis
  - Design Criteria / Design Bases Documents
  - UFSAR and Commitments
  - Technical Specifications
  - Design Changes
  - Safety Evaluations
- Operational Readiness
  - Operability Assessments
  - System / Material Condition
  - Operator Impact
  - System Performance
  - Corrective / Preventive Maintenance
  - Maintenance and Surveillance Testing
  - Performance Monitoring
- Problem Identification/Issue Resolution
  - Operating Experiences
  - Engineering Evaluations
  - System Trends
- Communications
  - Management Involvement
  - Timeliness / Frequency of Communications with Operations and Maintenance
  - System Health Reports

PROCESS OVERVIEW

The following provides a summary of the self-assessment process steps:

- Perform horizontal and vertical reviews
- Integrate the results of both reviews
- Identify strengths, deficiencies, and areas for improvement
- Document deficiencies and areas for improvement utilizing the station Corrective Action Program, Condition Report process
- Develop corrective actions in accordance with the Corrective Action Program

TEAM MEMBERS

To perform an effective self-assessment, an assessment team made up of highly qualified individuals was established. The participants consisted of STP employees and other industry personnel who have taken part in self-assessment projects of a similar nature. Collectively, these individuals possess significant engineering experience, knowledge of the self-assessment process, and an integral knowledge of the systems and processes at STP.

The following is a listing of the assessment team members and the team they were assigned to:

John M. Gruber - Team Leader	Horizontal Team
Mark E. Kanavos - Asst. Team Leader	Vertical Team
Kenneth R. Cope (Design Engineering)	Vertical Team
William M. Dowdy, Jr. (Operations)	Horizontal Team
Stanley J. Eldridge (Quality Assurance)	Horizontal Team
Duane E. Gore (Nuclear Fuel & Analysis)	Vertical Team
Albon W. Harrison, Jr. (Licensing)	Vertical Team
Gary A. Hunt, Sr. (Systems Engineering)	Vertical Team
Mike Momsen (Systems Engineering)	Vertical Team
Craig A. Murry (Technical Support Engineering)	Vertical Team
Anil P. Pathak (Systems Engineering)	Horizontal Team
Richard L. Prater (Quality Assurance)	Vertical Team
Lee B. Taylor (Maintenance)	Horizontal Team
William G. Wellborn (Design Engineering)	Vertical Team
Karen Holland - Admin. Assistance	Vertical Team
Sandra Meyerdirk - Admin. Assistance	Horizontal Team
Don Shelley - Diablo Canyon Power Plant	Horizontal Team
Michael Hodge - Palo Verde Power Plant	Vertical Team

OPERATIONS

1. Operations Support

Engineering support of plant operations and communications with Operations personnel is a strength. Interviews with on-shift Operations personnel, Maintenance and Planning personnel, and Operations management indicate Engineering support, particularly for emergent work, is excellent. This strength is characterized by:

- Technical Support Engineering attendance at Operations Shift Turnovers

- System Engineers' presence in the field including discussions of System Walkdown Status Reports with on-shift Control Room personnel. A Shift Supervisor noted the System Engineer provided him with good feedback of his system and noted there appeared to be more Engineers in the plant walking down systems. An Operations Manager indicated Operations normally sees engineers in the plant performing walkdowns and other activities.

- A strong Engineering management team that is sensitive to plant needs. Effective communication, responsiveness, and support received from both Systems Engineering and Design Engineering as noted by:

  Support provided by the Reactor Coolant System engineer in response to identification and repair of a Reactor Coolant System leak in Unit 2. (Condition Report 96-12608 documents the specific material failure.)

  Engineering's support of long-term initiatives is also good and the tools in place such as the Plant Change Committee, the Two and Five Year Modification Plan, the Equipment Issues List, and other presentations provided in the Daily Communication & Teamwork Meeting help to keep long-term items in focus.

  Support provided by the Main Steam System engineer to resolve ongoing problem with the Steam Dump Valves.

  Engineering's support of significant issues or emergent work has shown significant improvement. Systems Engineering's up-front involvement with the Shift Supervisors and Maintenance is viewed as a plus.

Interviews with Operations Support personnel identified Engineering support and communications has improved. The Engineering backlog for Operations Support corrective actions is reviewed every two weeks for items that will be due within the next 30 days. These reviews identified that Engineering is seldom late and rarely extends actions through the Condition Review Group (CRG).

While communications and support of operations has been identified as a strength, some enhancements were identified. Consideration should be given to improving expectations and communications in the following areas:

- Improve the communications of Operability / Reportability Reviews. Consider providing updates to Operations throughout the Operability / Reportability Review evaluation as part of the Daily Communication & Teamwork Meeting.

- Provide written briefings to expand communications and continuity to the various operating crews when implementing action plans or providing problem resolutions. Operations personnel indicated action plans and issue resolution are not always effectively communicated from one shift to another. This was a general comment not directed specifically to Engineering. The example provided was the resolution of the failed fuse on the Unit 2, Class IE inverter, documented on Condition Report 96-12744.

- Support opportunities for operators to interface more with engineers to develop a better appreciation and working relationship with Engineering. Recently, a Unit 1 Reactor Operator "shadowed" some engineers during his Operations requal skip training week as part of an initiative to educate Operations personnel on Engineering duties. The operator indicated this experience proved quite valuable, and he learned a considerable amount about what Engineering does "behind the scenes". He would recommend it to other operators as well as offering engineers the same opportunity with Operations.

2. Operability / Reportability Reviews

Operability / Reportability Reviews were evaluated. Interviews with Operations personnel identified the quality of Engineering products as high. Several Condition Reports (CRs) were reviewed to evaluate the quality of Engineering products. The documents reviewed included:

- CR 96-9710 Operability Review - Reactor Containment Fan Coolers and Essential Cooling Water Systems will maintain the pressure boundary integrity and continue to perform their design functions following a LOOP.

- CR 95-11250 Reportability Review - Main Steam Safety Valve Lift Point found out of tolerance during testing.

- CR 95-10224 Reportability Review - Wiring associated with B1HEFIC9585 being less than 6" from non-class cable within Main Control Panel 22.

- CR 95-13376 Reportability Review - Control Room Envelope Cleanup Filter water intrusion.

The documentation was technically thorough and used conservative assumptions. The resulting conclusions were appropriate.

3. **Engineering Evaluations**

Several Condition Report Engineering Evaluations (CREEs) were reviewed to evaluate Engineering involvement in the resolution of technical issues and the quality of Engineering products. The documents reviewed included:

- CR 95-11962 Engineering Evaluation - Generic Implications of Pressurizer Safety Valve PSV 3452 found out of tolerance during 2RE04.
- CR 96-4223-2 Engineering Evaluation - Potential need to modify Main Turbine Governor Valve Test Light Circuitry and Indications based on valve drift anomaly following testing.
- CR 96-10009-3 Engineering Evaluation - Acceptability of minimum separation from combustible loading associated with temporary laundry facility trailers.
- CR 96-3327 Engineering Evaluation - Terry turbine droop feedback linkage thread engagement (10CFR Part 21 issues).
- CR 96-6757-2 Engineering Evaluation - Provide basis for 1-CC-0332 throttle positions.
- CR 96-4520-3 Engineering Evaluation - Deleting thrust bearing wear test trip from 0POP07-TM-0003.
- CR 96-6663-3 Engineering Evaluation - Associated with fast (dead-bus) transfer of 480 volt load centers.
- CR 95-10553 Engineering Evaluation - Demonstrated Train C operability with only the 150 ton chiller available during seal maintenance on the 300 ton chiller.
- CR 95-8788 Engineering Evaluation - The addition of the condensate fill lines to eliminate the water hammer problem in the Condensate System.
- CR 96-1847-2 Engineering Evaluation - Evaluated the downward drift of battery charger output voltage.
- CR 95-10698 Engineering Evaluation - Evaluated the increase in battery electrolyte level found in two new batteries.
- CR 96-5155-1 Engineering Evaluation - Provided justification for the deviation in the method used to measure resistance between battery cells and the description of acceptance criteria in the Technical Specification.

The documentation was technically thorough, and the conclusions were appropriate.

4. Temporary Modifications

The Temporary Modification Program is a strength, and the quality of temporary modifications meets station needs. Reports are provided by Technical Support Engineering that list all outstanding temporary modifications and temporary leak repairs. Actions and due dates to eliminate the T-Mod are discussed weekly in the Daily Communication & Teamwork Meeting. Reviews of the Control Room Temporary Modification Logs revealed up to date logs, accurate information, and the modifications directly support Operations and Maintenance. Several temporary modifications were reviewed to evaluate the quality of Engineering products. The temporary modifications reviewed included:

- Temporary Modification T1-CD-96-0003 provides an enclosure around leaking valve CD-0799. (This temporary modification is more of a tracking device since the Engineering Evaluation contained in CREE 96-789 is required.)

- Temporary Modification T1-CT-94-001 provides temporary demineralizer flow paths to conserve demineralized water.

- Temporary Modification T-2-DJ-89-021 jumpers Cell 46 of Battery E2B11 until the cell can be replaced.

- Temporary Modification TI-96-2285-3 energizes Battery Charger (1E 125 VDC) 3E231EBC047F by lifting leads and landing a temporary cable. Operations requires the battery charger to be energized while B Train is down for maintenance.

- Temporary Modification T2-96-10424-2 energizes Battery Charger (1E 125 VDC) 3E232EBC047F by lifting leads and landing a temporary cable. Operations requires the Battery Charger to be energized while B Train is down for maintenance.

- Temporary Modification T2-95-2159-3 provides a supplementary battery supply for 125 VDC non Class 1E Batteries while they are removed for cell replacement.

- Temporary Modifications T2-CH-94-0052, T2-CH-95-036, and T2-CH-96-298-4 provide temporary nitrogen connections to Essential Chilled Water expansion tanks.

While the descriptions, instructions, and modifications were technically adequate, an improvement to the Temporary Modification Procedure, 0PGP03-ZO-0003, was identified. The current procedure does not provide guidance for performing a fire hazards review. Temporary Modifications T1-96-2285-3 and T1-96-10424-2 both landed temporary cabling which added fire loading. The technical review / justification and the 50.59 screening did not mention a fire hazards review. Condition Report 96-13542 was generated for this condition.

5. Operator Impacts

The Daily Communication & Teamwork Meeting provides increased visibility to the evaluation, tracking, and resolution of operator impacts. Engineering items are resolved in a timely manner; however, the system reviews and walkdowns performed as part of this assessment identified the following items which indicate the need for the System Engineers to be more sensitive to infrequent or off-normal operator impact conditions:

- The Unit 2 Condensate Polishing sump light is mounted to a plate attached to the sump grating and is "hard wired". This requires a breaker tag out and de-termination of wires to remove the grating for sump entry or installation of portable sump pumps. Portable sump pumps are currently required any time there is a plant trip. Current configuration creates a "response time delay" for installation of the portable pump due to the installed lighting interference. Normally, this would not present a concern if the installed pumps were able to keep up with received drains. However, due to the existing design, the installed pumps can not be operated in parallel. This is viewed as a system design weakness, with minor or limited (non safety related) plant impact. Condition Report 95-3349 was previously issued and is addressing poor Condensate Polishing sump pump discharge line interface to improve the installed pumping capability. Condition Report 96-13348 was initiated during the Engineering Self Assessment to address the design/installation of Condensate Polishing sump light in Unit 2, which has the potential to delay operator actions during recovery from plant trips.

- Condensate Seal Water System has experienced several problems over the last few months with pump seal water check valves sticking (both open and closed or leaking by). This created some concerns over system performance and created operator impacts. This should be evaluated by the System Engineer for system impact and potential need for long term corrective actions. Condition Report 96-15672 was generated for this condition.

- Several Service Request tags were observed on the Unit 1 Condensate Polishing control board recorders. The impact of recorder availability was discussed with the operator present at Condensate Polishing control panel. He indicated the unavailable recorders had negligible impact on regeneration since manual samples could be taken for those points that were out of service. Service Request tags 350839 and 319738 were observed.

6. Outage Planning and Scheduling

Engineering support of outage planning and scheduling is considered a strength. This strength is characterized by:

- Senior Engineering Management participation in the Outage Management Team

- Engineering involvement in scope development, work performance, testing and inspection evaluation activities

- 24 hour per day coverage provided by Technical Support Engineers during outages

- The ownership and implementation of low power physics testing by Nuclear Fuel & Analysis Engineering

- The establishment of the Engineering Duty Manager (EDM) as the point-of-contact for Engineering support.

MAINTENANCE

1. Maintenance Activity / Material Condition Support

Engineering support of maintenance activities and system / material condition and communications with Maintenance personnel are strengths. Interviews with Maintenance personnel and Maintenance management indicate that Engineering support, particularly for emergent work, is excellent. This strength is characterized by:

- Engineering support of the Unit 2, A Train, Elgar Inverter Rectifier failure. Power was supplied through the battery charger and the still functioning inverter. (An LCO was not required as long as DC power was available.) Repair of the inverter was categorized as a Priority 2 work activity. The Engineering Duty Manager was informed of the problem shortly after 1:00 PM by the Unit Manager. The Technical Support Engineer was participating by 1:15 PM. Systems Engineers were in the Maintenance Shop before 2:00 PM actively working with Maintenance to develop a troubleshooting plan. Design Engineering was prepared to support commercial-grade dedication efforts should replacement parts be required. The rectifier failure was attributed to a faulty fuse. Systems and Technical Support Engineers were actively involved in the resolution of this problem. Although the observed Maintenance crews were very knowledgeable about the Elgar Inverter, Engineering input was well received. The Engineering and Maintenance team effectively and efficiently resolved the problem.

- Engineering support of the Unit 2, Emergency Diesel Generator (21) connecting rod inspection. System Engineers were at the jobsite as well as consultants from Cooper (engine manufacturer) and Beta (engine analysis equipment manufacturer). The inspection was an emergent activity conducted during the regularly scheduled diesel generator work window as a result of anomalies observed in the engine analysis traces. Evaluation of the traces indicated a potential loose connecting rod. Physical inspection of the connecting rod bolting identified no problems. Maintenance indicated that Engineering demonstrated ownership by readily supporting action plan development and implementation. The results of this inspection are documented in CR 96-12221.

- System Engineering support of the Unit 1, A Train Chilled Water flow problem which rendered the 150 ton chiller inoperable (flow is normally split between the 150 and 300 ton chillers). An action plan was developed and implemented. A gasket located at the divider plate was found displaced and was repaired.

- System Engineering ownership of material condition as identified by plant walkdowns and the lower number of significant items being identified. Examples are the improved condition of the Unit 1 and 2 Essential Chillers and the overall condition of the Unit 2 Condensate Polishing (CP) System. Both are attributed to the increased ownership shown by the System Engineers. Operations commented that the material condition of CP System has improved significantly. The System Engineer has been actively supporting increased on-line maintenance of CP System.

- Technical Support Engineers are the primary point-of-contact for Maintenance Planning and provide excellent support. Their customer focus and close proximity to the planners is a strength.

While communications and support of Maintenance is a strength, the following enhancements were identified:

- Involve Maintenance personnel in system walkdowns and in the development of a(1) to a(2) action plans related to the Maintenance Rule as a method to improve communications. Additional information is contained in the Systems Engineering Section of this report.

- Require System Engineers to carry pagers. Some System Engineers are difficult to contact because they are not issued pagers.

Condition Report 96-15668 has been generated to evaluate these enhancements.

2. Maintenance Schedule Support

Engineering support of corrective and preventive maintenance activities has improved. Engineering's use of a single point-of-contact for scheduling provides effective and efficient communication for the identification and resolution of work activity restraints and maintenance schedule development. This improvement is characterized by:

- Work Control personnel indicated Engineering's support of the Maintenance schedule is good and improving. Previous problems with Engineering rolling items from one work week or work window to the next have been resolved and currently there is very little movement in the schedule. Engineering meets their target dates and if not, it is due to a higher priority item.

- The Engineering Work Management (Schedule) Coordinator position is working very well. This position serves as a scheduling single point-of-contact and facilitates effective communication between planning, scheduling, and engineering personnel. This individual is responsible for reviewing the Unit 1 and 2 maintenance schedule to identify activities restrained by Engineering and requiring support. This individual attends the scheduling meetings, identifies Engineering restraints in the Work Order Database, and interfaces directly with the engineers to resolve problems.

While Engineering support of corrective and preventive maintenance activities has improved, the following area for improvement was identified:

- Reinforce the expectation for the System Engineer to be involved in the Work Control scheduling process. Work Control assumes that the scope of work for a given week is correct; however, feedback from the System Engineer on the scope and schedule would be helpful.

Condition Report 96-15668 has been generated to evaluate this area for improvement.

SYSTEMS ENGINEERING

1. Walkdowns / Walkdown Reports

The quality of the Systems Engineering walkdowns and the associated reports were reviewed. The Walkdown Reports met the requirements provided in the Systems Engineering Guidelines. Many of the System Walkdown Reports reviewed document discussions with Operations and Maintenance personnel and identify items of concern.

The Essential Chilled Water, Class IE 125VDC, and Condensate / Condensate Polishing were walked down as part of the self-assessment. A summary of the results of those walkdowns is provided:

Essential Chilled Water System

A walkdown of the Unit 2, Essential Chilled Water System (CH) was performed. This walkdown identified the following items:

- The drain nipples associated with valves 2-CH-0592 and 2-CH-0908 have stainless steel pipe caps installed. This condition does not meet the design criteria specified in plant procedure 5L019PS004 "WA Spec." for the Chilled Water System. Condition Report 96-12729 was generated for this condition.

- Valve 2-CH-0899 is missing its description identification (TPNS/DESC) tag. Condition Report 96-12730 was generated for this condition.

- The six inch flange connection on the Essential Chiller 21A ECW Return Line was found to have an insulating washer installed backwards. Condition Report 96-12740 was generated for this condition.

- A walkdown of the outlet throttle valves for Essential Chillers 22A, 22B, and 22C was performed for the following attributes:
  1) Valve position for compliance with 0POP02-CH-0001.
  2) Material condition.
  3) Compliance with current design documents.
  4) Proper plant labeling.

  The results of this inspection indicate the valves were properly positioned, appeared physically sound, and met current vendor and site configuration documents. It was noted that valve 2-CH-0598 failed to exhibit the red placard as found on the other trains that stated "NOTIFY SHIFT SUPERVISOR PRIOR TO OPERATING THIS VALVE". Condition Report 96-12738 was generated for this condition.

Class IE 125VDC / Class IE 120VAC Vital Systems

A walkdown of the Unit 1 and Unit 2, Class IE 125VDC (DJ) / Class IE 120VAC Vital (VA) Systems was performed. The material condition of the systems was satisfactory; however, the following conditions were identified:

- During conversations with the Unit 1 and Unit 2 Control Room staffs, it was determined that the Class IE Battery Charger Voltage Gauges on Control Panel (CP) 003 were used for information only and not for Technical Specification compliance. There is not a common expectation to dispatch an operator to the battery charger rooms to take local readings when the instruments on CP003 indicate less than the Technical Specification minimum of 129VDC. For example, the gauge for Battery Charger E1B11 on CP003 in Unit 1 read 128VDC at 0820 on October 17, 1996. The local digital gauge read 130.4VDC. Operators review battery charger output voltage locally from this digital gauge each shift and the Technical Specification surveillance is performed every seven days. However, since the Control Room staff does not take Technical Specification action below 129VDC as indicated on CP003, the voltage may drop below this minimum voltage, thus violating the Technical Specification minimum (and still be above the switchboard undervoltage relay alarm setpoint of 124VDC) without the operators' knowledge. Condition Report 96-12945 was generated for this condition.

- The Unit 1 Walkdown Report for September 3, 1996 notes a concern for Class 1E 125 VDC System voltage to drop below the Technical Specification limit of 129VDC without being detected. Currently, there are no alarms / annunciators available to alert the Control Room Operators of this condition. Condition Reports 95-14210 and 96-1281 were previously generated for this condition.

- During a walkdown of the Class IE 125VDC System and the instruments on Control Panel (CP) 003 in the Control Room, the following conditions were identified:

  The Class IE 125VDC Battery Charger voltage output gauges were color banded with the yellow band beginning (and decreasing) at 129VDC (Unit 1) and 118VDC (Unit 2). The Technical Specification minimum voltage is 129VDC. Having green bands for instruments in ranges that violate Technical Specification minimums is a potential human factors issue. Condition Report 96-12943 was generated for this condition.

  The vertical gauges which measure Class IE battery current on CP003 on the main control board are scaled 1-1000 amperes (in 100 amp intervals) and there is no indication on the gauges whether the batteries are charging or discharging. The normal switchboard current draw is less than 100 amperes per channel. Consideration should be given to adding charge / discharge indication to the gauges. Condition Report 96-12943 was generated for this condition.

Condensate / Condensate Polishing Systems

A walkdown of the Unit 1 Condensate (CD) / Condensate Polishing (CP) Systems was performed. The walkdown focused on the following areas: 1) 29' CP Operator Control Room; 2) 29' Condensate Polishing Pit including the Resin Regen and Storage Tanks; 3) 29' Cation and Mixed Bed Polisher Pits; 4) Condensate Pumps; and 5) the 55' Condenser Area.

- The results of this inspection showed that the general housekeeping in these areas met station standards. The equipment showed little degradation due to environmental conditions. Those items found leaking had compensatory actions by Operations (i.e. drip funnels or shields) to mitigate damage to adjacent equipment. The CP Sump showed extremely low levels of water intrusion due to inventory loss from the CP System. This would indicate that low levels of fluid are being sent to the Low Total Dissolved Solids Tank which is a significant cost savings to the site.

- During the walkdown of the CP Resin Regen and Storage Tank Pit, it was noted that numerous components located near the floor or adjacent to sampling points were showing evidence of corrosion. This concern was expressed to the System Engineer who indicated that Condition Report 96-4982 had already addressed this issue and is scheduled for work in 1997.

- The walkdown of the TGB-55' around the Main Condenser showed excellent housekeeping with material condition issues properly identified.

- The walkdown of the Condensate Pumps was performed. Pumps 11 and 13 were in service and 12 was in standby. During the walkdown, it was noted that a packing leak was present on Pump 13. Condition Report 96-13165 was generated for this condition. Additionally, it was discovered that the Closed Loop Cooling piping to the upper bearing oil reservoir for Pump 12 was improperly supported. Both the supply and return cooling lines had pipe support clamps attached to the pipe without any evidence of the remaining hardware. Condition Report 96-13130 was generated for this condition.

- The overall results of the walkdown for both the CD and CP Systems identified that system condition has significantly improved over the past two years and many deficiencies have been corrected. This is attributed to the increased level of effort by Maintenance, Operations, and Systems Engineering to assure the reliability of these systems. In October, a CP "Regeneration" was performed in the automatic mode for the first time in several years. This is indicative of the overall improvement in the system.

While the quality of the Systems Engineering walkdowns and the associated reports met the requirements of the System Engineering Guideline, consideration should be given to the following enhancements:

- Assemble teams to assist in periodic System Engineering walkdowns. Currently, the same engineer performs the walkdown and becomes familiar with the system material condition and operational characteristics. This may lead the engineer to develop "tunnel vision" and a tendency to overlook minor hardware deficiencies similar to those discovered during this self-assessment. A team with Operations and Maintenance personnel led by the Systems Engineer may improve the quality of the

walkdown by offering different perspectives and increase the communication between Engineering, Maintenance, and Operations on a routine basis.

- Expand the use of the walkdown reports. Currently, the walkdown reports are provided to the System Engineer's supervisor and manager and are normally discussed with on-shift Operations personnel. These reports could be a more effective tool to provide management focus on system material condition issues if their distribution included Operations, Maintenance, and Work Control. Consideration should be given to making these reports available on the computer (LAN) similar to the Engineering Quarterly Report.

- Reinforce management's expectation for participating in System Engineering walkdowns. Supervisors are expected to do walkdowns with System Engineers on a weekly basis. Division Managers are expected to do monthly walkdowns with System Engineers. Some supervisors do not always meet the expectation for performing walkdowns.

2. System Health Reports

Several System Health Reports were reviewed. System Health Reports are produced once a year and are a snapshot of the system with information about the past year's activities. The reports are not updated and may not represent the current system condition. However, based on a review of condition reports, work orders, walkdown reports and system health reports from various systems, the System Engineers appear to be proactive in championing System Health. The following is a summary of the reviews:

- Discussed System Health Report for Essential Chilled Water System with the System Engineer. The current issue is from December, 1995. The next health report is due in December, 1996, and will be published January, 1997. It was observed that the System Health Report identified the need to replace the oil heaters on 150 ton Chillers to prevent overheating of oil. The System Walkdown Inspection Report dated September 24, 1996 indicated all heaters had been replaced. It was also identified through the System Health Report and Walkdown Inspection Reports that the Chillers should be operated on a rotating basis (equalize the run time between the chillers to increase their reliability). The System Engineer stated that a rotation schedule was developed; however, it has not yet been implemented.

- The System Health Reports for Class IE 125VDC / Class IE 120VAC Vital Systems were reviewed. These reports were prepared in the standard format and were well written, concise, and accurate.

- The System Health Reports for the Condensate / Condensate Polishing Systems were reviewed. The reports accurately reflected the system condition at the time the reports were generated. Both systems were classified as "Good"; however, no clear definition of "Good" was found. Condition Report 96-15668 was generated for this condition. Also, both reports reviewed were written prior to implementation of the Maintenance Rule. System Health Reports written after July, 1996 should contain references to system status relative to Maintenance Rule Performance Criteria or Goals. The inclusion of Maintenance Rule information will insure objectivity and provide precise definition as to what constitutes a system in acceptable condition.

While the quality of the Systems Engineering Health Reports met the requirements of the System Engineering Guideline, the following areas for improvement have been identified:

- Expand the use of the System Health Reports. Currently, the health reports are provided to the System Engineer's supervisor and managers and are discussed in the Daily Communication & Teamwork meeting on a weekly basis. These reports could be a more effective tool to provide management focus on system material condition issues if their distribution included Operations, Maintenance, and Work Control. Since the report is a useful tool for communicating system health, consideration should be given to providing the reports more frequently (i.e. quarterly vice annually) and making these reports available on the computer (LAN) similar to the Engineering Monthly Report.

- Increased management attention and follow through for improvement activities identified in the health reports. For example, the Essential Chilled Water System Engineer identified the need to operate the chillers on a rotating basis to improve their reliability (seals dry out when not operating allowing air in leakage which causes problems during startup). Though a rotation schedule was developed by the System Engineer, it has not yet been implemented.

Condition Report 96-15668 has been generated to evaluate the above enhancements.

3. System Performance Trending

The Systems Engineering Performance Trending Program is a strength. This strength is characterized by:

- System Engineer review of Inservice Test Data on CH Pump 11A discovered as-found vibration data above alert range. Use of trend information enabled the System Engineer to identify an error on a previously performed Inservice Test resulting in an Licensing Event Report (Reference Condition Report 96-5146 & LER 1-96-002).

- Trending Condensate Polishing System performance includes maintenance trends and steam generator blowdown conductivity. Trending Condensate System performance includes pump oil sample analysis, pump vibration analysis, and maintenance trends. System Engineer review of maintenance trends, in conjunction with equipment history, identified a history of failures associated with the controllers for the Steam Generator Feed Pumps. This prompted an evaluation of digital controllers to replace the current analog controllers.

- The System Engineer for the Class IE 125VDC System trends parameters in accordance with the vendor recommendations and IEEE-450. In addition, the System Monitoring Program already meets the proposed guidelines being developed by EPRI. Trending information includes data obtained from performance tests, individual cell voltages, connection resistance, and specific gravity.

While the Trending Program is a strength, the following enhancement should be considered:

- Consider combining the trend data for similar safety and non-safety related components as a method to identify common mode failures. For example, a review identified 11 open Service Requests on chillers related to lube oil pressure trips. Of the 11 lube oil pressure trips, 10 were on similar units. Three were on safety related chillers and seven were on non-safety related chillers. Similar to industry operating

experience, this is additional in-house operating experience that is readily available. Condition Report 96-15668 has been generated to evaluate the above enhancements.

4. System Expert Program

The System Expert Program focuses on increasing the System Engineer's skill and background through specialized training such as root cause seminars, industry seminars, participation on special committees, and by participating in assistance visits to other nuclear facilities. While the System Expert Plans provide standards for levels of knowledge and expertise of the Systems Engineers, areas for improvement were identified. The areas for improvement are:

- Clarify management expectations with respect to completing the System Expert Plans. Interviews with System Engineers indicated some confusion on when individual plans need to be completed and how the plans will be closed out (report, presentation, or oral boards). Plan completion dates varied from 1996 through 1999. One Engineer stated that all of the actions for his 1996 System Expert Plan have been completed, but are not signed off. He added that the presentation at the end of plan was awaiting management decision.

- Clarify management expectations with respect to the System Expert Plans self-study goal. The System Expert Plans require the System Engineer spend four hours of self-study per week. Several System Engineers indicated that due to time and workload constraints, it is difficult to spend four hours per week on qualification duties as expected by management. A Systems Engineering Supervisor; however, indicated the four hours per week self-study should not be difficult to meet since meetings frequently provide the intended self-study of training. In addition, seminars and other off-site participation should also be counted as training against the individual's plan.

Condition Report 96-13194 was generated for these conditions.

5. Systems Engineering Work Load Management

Engineering work management has improved. Workload is managed by using the Corrective Action Program (CAP) database in conjunction with Schedule Publisher to assign, track, and schedule work. The work is prioritized depending upon its significance (i.e. SCAQ or CAQ-S versus CNAQ). In addition, supervisors and managers monitor their workload by using a series of plots, trending open items and closure performance on a regular basis. Sometimes the workload is shared with other sections to maintain stability. This allows Systems Engineering to manage their workload by shifting resources. The Nuclear Steam Supply System section has been heavily loaded with recent plant issues, so the Balance Of Plant section was assigned the review of out-of-tolerance notices for Technical Specification instrumentation.

DESIGN ENGINEERING

1. Configuration Management

The Configuration Management Program is an area for improvement. Discrepancies were identified in setpoint control, scaling, calculations, Design Basis Documents, the UFSAR, and the Master Equipment Database. The following is a summary of discrepancies:

Instrument Setpoint Index

Reviews of the Essential Chilled Water, Class IE 125VDC, and Condensate / Condensate Polishing Instrument and Electrical Setpoint Indexes were performed as part of the self-assessment. These reviews identified incorrect setpoint values in the Setpoint Index, inaccuracies and incompleteness of setpoint basis references in the Electrical Setpoint Databases, and overly restrictive tolerances in the Instrument Setpoint Document. The following is a summary of those reviews:

A sample of 15 Essential Chilled Water System instruments, with safety related and non-safety related setpoints, was selected and the individual instrument scaling documents were reviewed against the setpoint list. The following discrepancies were identified:

- A1CH-PSL-9474A - Setpoint List specifies a required reset value. The Unit 1 scaling document specifies "N/A". The Unit 2 scaling document specifies the correct reset value. Condition Report 96-12799 was generated for this condition.

- B1CH-TSL-9510 - Setpoint Index lists 30° F (decreasing) as the setpoint. The scaling document for this switch requires a 32.5° F setpoint. Condition Report 96-12796 was generated for this condition.

- N1CH-PSH-9612 (2) - Setpoint Index lists 24 PSIG (decreasing) setpoint. The scaling document requires a setpoint of 30 PSIG. Condition Report 96-12801 was generated for this condition.

As a result of the discrepancies identified during the self-assessment, Design Engineering is conducting a review of the Scaling Program. Condition Report 96-13152 was generated for this condition.

Electrical Setpoint Index

A review of the Electrical Setpoint Index for setpoints applicable for the Class IE 125VDC (DJ) System was performed against the design requirements contained in Electrical Calculation EC-5033, Class 1E 125V, Non-Class 1E 48V, 125V & 250VDC Breaker & Relay Settings. This review identified the Electrical Setpoint Index database does not list or reference Setpoint Basis Calculation EC-5033 or any of the calculation inputs containing setpoint bases for the following setpoints:

DC Undervoltage Switchboard Relay
Switchboard Time Delay Relay
Charger #1 AC Undervoltage Relay
Charger #1 Ground Sensor
Charger #1 DC Undervoltage Relay

Charger #1 Charger Failure Relay
Charger #1 DC Overvoltage Relay
DC Overvoltage Switchboard Relay

All of the above listed setpoint values were in agreement with Electrical Calculation EC-5033; however, the following discrepancies were also identified:

- The review associated with the two DC Overvoltage Relay setpoints also identified the notes section is punctuated differently for the same note associated with each setpoint. This lends to confusion as to whether the Design Basis Document (DBD) is referenced as a setpoint basis or as a reference for Measuring and Test Equipment (M&TE) accuracy. In either case, the DBD does not contain setpoint values or M&TE accuracy values associated with these setpoints. Condition Report 96-13347 was generated for these conditions.

- The maximum tolerance listed in the Electrical Setpoint Index for battery charger #1 DC Undervoltage Relay is listed as 118.7V. The value should be 118.17V for a 117V optimum setpoint +/- 1%. This same condition was also discovered earlier by the System Engineer and is documented on Condition Report 96-13014.

The Electrical Setpoint Index Database has improved. Interviews with Maintenance personnel indicate including more of the non-safety related setpoints and software enhancements would provide additional benefit to the station. These enhancements are identified in Condition Reports 95-9433, 96-1632, and 96-1633.

Scaling

The Scaling Program provides an accurate translation of plant system parameters into calibration data. Interviews with Work Control personnel indicate the Scaling Database has improved. It was noted the database is for single instruments and hard copy data sheets are required for loop scaling.

A review of six CD System scaling sheets with setpoints, and a comparison of the scaling to the Instrument Setpoint Index requirements, found no discrepancies. The scaling correctly implemented installation correction factors. A review of the associated computer generated calibration data sheets and the required min/max data, identified these documents contained the correct values for the assigned scaling tolerances. Three CD System loop scaling packages were reviewed and all of these packages were in accordance with the Station's prescribed loop scaling guidelines. The following issues were identified during the scaling reviews:

- The current practice for Air Operated Valve scaling data sheets is to specify actual valve performance data for benchset values rather than the manufacturer's specification. This results in database update each time a field adjustment is made. Design Engineering continually revises the values listed in scaling after maintenance is performed to accommodate the Maintenance Department valve calibration accuracy requirements. Design Engineering should list the manufacturer specified data in the scaling documents and Maintenance should have to adjust their calibration program requirements accordingly. These revisions occur quite frequently and are

resource intensive. It also appears that many scaling sheets specify benchset requirements when they are not necessary or supplied by the manufacturer.

- Switch N1CD-LSL-7004 provides a computer and Control Room annunciator alarm for Low Condenser Hotwell Level. This switch was correctly scaled per the Setpoint Index requirements with a required setpoint tolerance of +/- .6% which equated to a field setting tolerance per the scaling sheet of +/- 0.161 inches. Considering the size of the Hotwell, the tolerance prescribed by the Setpoint Index appears to be overly restrictive.

- The tight tolerance issues associated with N1CD-LSL-7004 prompted a review of the Preventive Maintenance (PM) requirements for this switch to maintain the required accuracy. Preventive maintenance task 95002436 provides the maintenance requirements for the level switch and requires a functional test every three years, but no calibration. The functional test actuates the switch with a simulated process and provides a very thorough inspection, however, considering the accuracy requirements described in the setpoint index, a functional test every three years does not appear adequate to maintain a mechanical switch accuracy of +/- .161 inches. Condition Report 96-13209 was generated for this condition.

Calculations

Reviews of the Essential Chilled Water and the Class IE 125VDC System design calculations were performed. While these reviews did not identify programmatic problems, the following discrepancies were identified:

- Mechanical Calculation MC-6429 (page 35) provides the conclusion that minimum ECW temperature is 40° F. This is predicated on one unit operating and "maximum effort to add load to the ECP." Procedures 0POP02-CH-0001, Essential Chilled Water System; 0POP02-EW-0001, Essential Cooling Water Operations; 0POP01-ZO-0004, Extreme Cold Weather Guidelines; and 0PGP03-ZV-0001, Severe Weather Plan; do not address this requirement. Condition Report 96-12860 was generated for this condition.

  A process is currently in place to help prevent a reoccurrence of this situation. The Engineering Calculation Procedure, OEP-3.07Q, Revision 4, Change Notice 2, requires that assumptions involving new, assumed, operator actions be approved by the Manager, Operations Support, and documented. The date of this procedure change is after the revision of this calculation.

- Mechanical Calculation MC-6412 (page 15) implies that a 30 minute operator action is required to shut down one train of Essential Chilled Water is required post-LOCA. This requirement is reflected in the Essential Chilled Water Operating Procedure, 0POP02-CH-0001. This requirement is not included in the Emergency Operating Procedure. Condition Report 96-12792 was generated for this condition.

- Mechanical Calculation MC-6429 (page 36) paragraph "F" states that it is unlikely a LOCA would require resetting chiller flow. This seems to contradict the above condition concerning operator actions post-LOCA. Condition Report 96-12860 was generated for this condition.

- Mechanical Calculation MC-5233 Essential Chilled Water System Network Analysis (page 4) Data Input #1 states all flow requirements used in the Network Analysis were from MC-5232. Mechanical Calculation MC-5232 was superseded by MC-6412 in January of 1994. It does not appear that MC-5233 was revised to identify any impacts as a result of MC-6412. Condition Report 96-12996 was generated for this condition.

- Mechanical Calculation MC-6412 (page 114) states "ESF pump room coolers [should] not exceed the 62.5 gpm design flow". The 62.5 gpm flow was for the sensitivity analysis. The calculation concluded that the flow should be restricted to 37-43 gpm. These values were included in Modifications 93049 and 93050 (see note on page 10 of calculation) and were inadvertently deleted in Revision 1 of MC-6412. Condition Report 96-12858 was generated for this condition.

- During a review of the closure documentation for Quality Assurance Safety System Functional Assessment, 93-03, on Essential Chilled Water, it was noted that Mechanical Calculations MC-5232, MC-5274, and MC-5275 should have been superseded. A review of the closing document, Station Problem Report 930910, and the calculations indicate these calculations have not been superseded. Condition Report 96-12763 was generated for this condition.

- Mechanical Calculation MC-6412 was reviewed for its relationship to earlier, still active, Mechanical Calculations MC-6429 and MC-5233. Mechanical Calculation MC-6429, Cold Weather Operation, is still valid. Mechanical Calculation MC-5233, the Essential Chilled Water Network Analysis used to size the pumps and motors is also still valid; however, it was last revised in May of 1986. The design basis of Essential Chilled Water appears to be spread through several calculations and several scenarios in those calculations. Consideration should be given to consolidating the design basis calculation for Essential Chilled Water into one document for ease of understanding. Condition Report 96-12858 was generated for this condition.

- Electrical Calculation EC-5008 (Class 1E Battery, Battery Charger, and Inverter Sizing) provides a detailed description of how the calculation results are translated to the values in UFSAR Table 8.3-6. However, the Channel I data presented in DCN 96-2365 written against EC-5008 for Channel I does not appear to agree with the results presented on Table 8.3-6 in CN-1961. Condition Report 96-12922 was generated for this condition.

Design Basis Documents

The Design Basis Documents (DBDs) are a useful tool and a valuable source of information. However, discrepancies were identified in management's expectations on the use of DBDs. Some DBDs are not reflective of current design, and some DBDs have a significant number of unincorporated amendments. The following is a summary of discrepancies:

Management's expectations on the use of the Design Basis Documents as a reference or source document are unclear.

- Management expects the DBDs be used as references or roadmaps and the engineer to use the source documents to determine actual design requirements. Interviews with engineers indicated this expectation was unclear. Some engineers indicated values could be used directly from the DBDs while others understood it was a reference or historical document to help locate design information.

- In addition, the Design Basis Documents supersede the Design Criteria and System Design Descriptions (SDD); however, the Design Criteria and SDDs have not been clearly designated as being superseded. Condition Report 96-13043 was generated for this condition.

Some Design Basis Documents do not reflect the current plant design or configuration. For example:

- The Electrical Auxiliary Building HVAC DBD contains 11 outstanding change documents. Two of the change documents were for upgrading to the Digital Toxic Gas Monitors. The Toxic Gas Monitors have been removed from the plant, yet no change document is posted against the DBD to document the removal. Condition Report 96-15668 was generated for this condition.

- The Essential Chilled Water DBD indicates the system can be operated from the Auxiliary Shutdown Panel. The system cannot be operated from the Auxiliary Shutdown Panel. Condition Report 96-12668 was generated for this condition.

Some Design Basis Documents have a significant number of unincorporated amendments. For example:

- The Emergency Diesel Generator DBD has forty-five outstanding change documents posted against it.

- The Condensate DBD has eight outstanding change documents posted against it.

- The Component Cooling Water DBD contains Revision 1, dated 1991, which is still not incorporated into the DBD itself. It is kept separate as Rev. 1 in front of the DBD book.

Condition Report 96-13013 was generated for these conditions.

UFSAR Review

A review of the UFSAR was performed for the Essential Chilled Water, Class IE 125VDC, and Condensate / Condensate Polishing Systems. It is important to note that only minor discrepancies between the UFSAR and operating procedures were identified. The following discrepancies were identified:

- Review of Operating Procedure 0POP02-CH-0001 for Essential Chill Water for conformance with UFSAR. Procedure steps 4.25 - 4.31 appear to impose actions in response to accident conditions. The POP02 normal operating procedures will be relatively low priority during an accident and the actions may not be taken. Condition Report 96-12792 was generated for this condition.

- The UFSAR indicates the Essential Chilled Water System can be operated from the Auxiliary Shutdown Panel. The system cannot be operated from the Auxiliary Shutdown Panel. Condition Report 96-12688 was generated for this condition.

- A comparison of the UFSAR to Plant Operating Procedures for Class 1E 125VDC and Class 1E 120VAC Systems was made. Editorial errors were identified in UFSAR Sections 8.3.2.1.1 and 10A.2.4 on page 10A-8 for the Class 1E 125V System. Both state the Class 1E 125V Battery Buses are energized by both chargers. This statement is contrary to actual plant operation and the remainder of the UFSAR. Also, Section 1.2.2.7.2 states the Class 1E 125VDC Systems consist of an inverter, battery, and battery chargers. Channels I & IV have two inverters each. Condition Report 96-12998 was generated for this condition. In addition, UFSAR question 430.37N's response is incorrect and doesn't fully answer the question. The first statement in the response states the Class 1E Power System Battery Chargers are not capable of supplying power to DC loads unless connected to a battery. The charger is capable of supplying the DC loads with the battery breaker open. The remainder of the response does not fully answer the question. Condition Report 96-13003 was generated for this condition.

- A comparison of the UFSAR to Plant Operating and Plant Chemical Procedures for Condensate and Condensate Polishing Procedures including operation and chemical injection was made. No discrepancies were noted.

- The ongoing Systems Engineering review of the UFSAR had already identified discrepancies in Tables 7.3-5 and 9.4-5.1, and Sections 9.2.6.1 and 9.[illegible].3.2 for Essential Chilled Water. Condition Report 96-8787 is tracking this action.

Master Equipment Database / Master Parts List

The condition of the Master Equipment Database/Master Parts List (MED/MPL) database has significantly improved. Design Engineering has been proactive in efforts to maintain the database current. Due to problems in being notified of field changes, Design Engineering implemented an automated system to update the MED/MPL in late June 1996. Master Parts List data changes are electronically transmitted via Automated Change Requests. This is done when Systems Engineering reviews the completed work package for equipment history and parts used before forwarding to Records Management.

While the addition of the automated updates is a significant improvement, additional enhancements with respect to the automated update process were identified:

- Consider establishing a threshold with regard to number of open MED/MPL items and length of time these items may be kept open. Performance should be monitored against these goals to avoid a backlog situation in the future.

- Provide communication to the Maintenance Planners on the initiative to add parts information to the Master Parts List. Interviews with Planning personnel indicated some Planners were unaware of the automated update initiative.

- Consider allowing Design Engineers access to the Master Equipment Database. Currently, access is restricted to those responsible for maintaining the MED. Design Engineers, particularly the Technical Support Engineers, must use the electronic change request process or generate a Design Change Package to update the MED.

Condition Report 96-13343 was generated for these conditions.

2. Design Change Program

The Design Change Program is effective. Positive aspects of the Design Change Program and modification process are:

- The Plant Change Committee provides excellent program management oversight and positive feedback to engineers.

- Modifications are effectively planned, budgeted, and implemented through the two and five year plans. Visibility of the program is provided through the Daily Communication & Teamwork Meetings.

- The modification process is sound. Design Change Procedures 0PGP04-ZE-0309, Design Change Package; 0PGP04-ZE-0310, Plant Modifications; 0PGP04-ZE-0311, Design Change Functional Test Implementation; and 0PGP04-ZE-0312, Design Change Implementation, provide a comprehensive, detailed process for implementing design changes.

- Plant Modifications & Project Implementation (PMPI) personnel indicated that Design Engineering personnel are very supportive of the implementation effort and in some cases go on shift to support field work. Design problems are quickly addressed.

While the modification process is effective, the following inconsistencies were identified:

- The level of detail contained in Design Change Packages (DCPs) or modification packages is not always suitable for all users. Interviews with PMPI personnel indicate Engineering products provide sufficient detail to support planning. In contrast, Maintenance Planning personnel indicate the Engineering products do not contain the level of detail necessary to support planning. For example, the RCP Bearing Oil Lift Pump wiring change, DCP 96-965-3, did not provide a layout of the conduit runs, the grounding details were not shown, and the post-modification test was listed only as a functional test. PMPI utilizes Field Engineers to plan their MOD installation packages. These Field Engineers are construction-type individuals familiar with the generic design implementation specification requirements (construction specifications) used to plan and install MODs. Maintenance Planners are preventive and corrective maintenance work order instruction writers who are less familiar with the use of construction specifications. Maintenance Planners attend the same technical training as the craft supervisors. Some internal training on the installation of anchor bolts, conduits and supports, etc. has been done, but Maintenance Planners don't normally plan modification packages so it is difficult for them to maintain their proficiency. In addition, the PMPI Engineers work with the Design Engineers throughout the design phase whereas the Maintenance Planners often start "cold" with the package (that is, when the design is complete). Condition Report 96-13190 was generated for this condition.

- The criteria for minor changes provided in procedure, 0PGP04-ZA-0002, Condition Report Engineering Evaluation Program, has not always been complied with. Examples of problems are:

  A Condition Report Engineering Evaluation was used to implement programmable logic controllers within the Condensate Polishing System. The design screening did not formally identify required operational procedure changes or operator training requirements.

  Contrary to the minor change program guidelines and criteria, minor changes have been implemented which require special resources or budget allocation, and have changed the plant configuration which requires upgrades to the simulator.

  In some cases, design change packages have been implemented (field work complete), but identified changes to operating procedures or ECO databases took several months to complete or are still outstanding.

  These problems were discussed at the October 22, 1996 Plant Change Committee meeting. The Plant Change Committee requested a presentation by Design Engineering concerning the minor change process. Condition Report 96-13216 was generated for these conditions.

- Station Management expectations for work package closure following field work completion are not clear. Inconsistencies in driving work packages to Status "65" which triggers changes to the design documents and operating procedures have resulted in systems returned to service without the appropriate documents updated. For example, the Unit 1 installation of DCP 95-3483 is complete, the system returned to service, and Design Documents have been updated to reflect the modification. In Unit 2 the installation is also complete and the system returned to service; however, the work package is still in closure (less than status 65) so the design documents and operating procedures have not been updated. The System Engineer verified the Key

Drawings in the Control Room have been "Red Lined" per the procedure. Condition Report 96-13220 was generated for this condition.

3. Safety Evaluations

The Safety Evaluation (50.59) Program is sound. Increased attention to detail in the following areas would improve the quality of the 50.59 products:

- The use of a procedural allowance for a "trivial" change is not clearly understood by some engineers. For example, Modification 91-051 to add a refrigerant clean up kit was determined to be a trivial change. Since the change is being done to safety related equipment, this change does not meet the definition of trivial. Condition Report 96-12921 was generated for this condition.

- Increased attention to detail in the following areas would improve the quality of the 50.59 products. Some 50.59 screening forms are inadequate as stand alone documents, indicate incorrect revisions, and provide justifications which are inadequate or contradictory. For example, the Preliminary and Final Screening Forms for MOD 87030 were reviewed. The Description of Change on Preliminary Screening states the change is to "Replace the transformers in Class-1E Channel I and IV battery chargers". The Technical Justification on the Final Screening states "Installing the upgraded transformers in the Channels I and IV battery chargers will provide capability to operate with only one charger connected to each of Channels I and IV". Two later revisions to the Screening Form were identified. The first revision, still marked as Rev. 0, was associated with MDCNs 87030-21 through 26 and a revised Design Summary Section. This revision did not revise the Change Description. The second revision, marked N/A, is associated with MDCN 87030-27 which changes the Modification Design Summary. This revision to the Screening Form provides justification for approval based on the original 50.59 and the MOD Package, which when reviewed, clearly excluded the intent of MDCN 87030-27. In addition, the original and first revision has question (1) checked "yes" which identifies a Technical Specification change is required; however, neither 50.59 identifies what Technical Specification change is required. Condition Report 96-13039 was generated for these conditions.

4. Design Engineering Work Load Management

The Design Engineering Department Work Management Program has improved. Workload is managed by using the Corrective Action Program (CAP) database in conjunction with Schedule Publisher to assign and schedule work. The methodology of using the CAP database and Schedule Publisher to track individual and group workload is an effective tool and well received by the engineers. The work is prioritized depending upon its level (i.e. SCAQ or CAQ-S versus CNAQ). Supervisors run a report at least once or twice a week to ascertain their workload. The Supervisors review trends (graphs) on a weekly basis. These are open actions, open conditions, actions / tasks received versus action / tasks closed, Condition Report extensions, etc. This provides a summary of the overall workload as well as an indication if any kind of backlog may be developing.

Managing the work in this manner has enabled Design Engineering to focus on long-term issues and improved management of the Engineering backlog. Tools in place such as the Plant Change Committee, the Two and Five Year Modification Plan, the Significant Issues List, and other presentations provided in the Daily Communication & Teamwork Meeting help to balance Engineering's support.

ENGINEERING PROGRAMS

1. Use of Industry and In-house Operating Experience

The evaluation and use of industry and in-house operating experience was reviewed. This review identified that the Industry Events Analysis (IEA) Group effectively screens, evaluates, and disseminates industry events. Positive aspects of the program are:

- Well executed programmatic controls. Procedure 0PGP03-ZX-0013, "Industry Events Analysis", provides a comprehensive process for the initial screening of new source documents, evaluating those applicable to STP, and follow-up for any corrective actions required. A Condition Report tracks each item through the whole process. The group's goals for the review process is to have all items screened in 7 days, evaluated in 55 days with less than 5% overdue corrective actions. A review of the open Plant Impact Evaluations (PIE) and Industry Events Analysis (IEA) action list indicates a reasonable backlog of open items. Three PIEs are still open with source documents dated back to 1992 and earlier, but good reasons exist for each of these open PIEs. All other open PIEs are evaluating source documents from 1995 to present.

- Good communication with other STP groups. Feedback from several System Engineers indicated they were getting the necessary industry operating experience. They stated they regularly received operating experience information from the IEA group or other members of plant management and have provided input into various evaluations.

- Timely and thorough responses to industry issues. For example, the response to Generic Letter 96-06, "Assurance of Equipment Operability and Containment Integrity During Design Basis Accident Conditions"; Westinghouse NSAL 96-03, "Containment Fan Cooler Operation During a Design Basis Accident"; and Information Notice 96-49, "Thermally Induced Pressurization of Nuclear Power Facility Piping" is being developed. The waterhammer issue associated with the Reactor Containment Fan Coolers and Component Cooling Water System has been analyzed and is not a problem at STP. The second issue related to thermally induced overpressurization of the isolated water filled piping sections (primarily piping) is presently being analyzed. Condition Report Engineering Evaluation 96-9710-7 was written to address the operability issue. In addition, the evaluation performed by the IEA group of Information Notice 96-46, "Zinc Plating of Hardened Metal Parts and Removal of Protective Coatings In Refurbished Circuit Breakers", was more than adequate to address this Notice. No required actions resulted from this evaluation.

  System Engineer knowledge and use of in-house and industry operating experiences is good. Knowledge of in-house operating experience was demonstrated in discussions with various System Engineers about their system. For example, the CCW System Engineer was very knowledgeable about the above noted issue though he was not directly involved in the response. The HVAC System Engineer showed good awareness of industry issues, specifically an Operating Experience Report on airside performance testing of air cooling units, Generic Letter 96-06, and HVAC Utility Group (HUG) meetings.

- The IEA Group Self Assessment performed in 1996 is a strength. Nine recommendations for improvement were made. The self assessment action items are identified in Condition Report 96-4008.

While the Industry and In-House Operating Experience Program is effective, the following enhancement was identified:

- Consider summarizing key industry issues daily and forwarding to appropriate station personnel. The IEA group currently disseminates INPO Nuclear Network information daily via a download to the Bulletin Board for use by all station personnel. A recent survey indicated limited use of the Bulletin Board by station personnel. Condition Report 96-15668 was generated for this condition.

2. Probabilistic Safety Assessment Program

The Probabilistic Safety Assessment (PSA) Program was reviewed. The PSA is used to perform On-line Maintenance Risk profiles, Outage Shutdown Risk Management, justification for License Amendment Requests and Continued Operation, and significance evaluation of LERs. While the basic program is sound, several enhancements were identified:

- Values from the Design Basis Documents (DBDs) have been used throughout the PSA as the design basis. Engineering / Risk and Reliability Analysis should evaluate the acceptability of using the DBD information without confirmation. (Ref. Condition Report 96-13013)

- Procedure 0PGP04-ZA-0604, Probabilistic Safety Assessment (PSA) Program, does not provide guidance for the review of basic assumptions or success criteria used in the PSA analysis by groups other than the Risk and Reliability Analysis group, such as Engineering or Operations. For example, the following discrepancies were identified with respect to the Essential Chilled Water PSA Package:

  Section 5.0 of the PSA Package utilizes Design Engineering Mechanical Calculation MC-6412 as the basis; however, this was not formally reviewed by Design Engineering. Condition Report 96-13214 was generated for this condition.

  The PSA Package does not account for operator actions to regulate flow to the Essential Chillers during cold weather operation. Condition Report 96-12919 was generated for this condition.

  Procedure 0PSP03-CH-0004, Section 11.2 states that Essential Cooling Water flow through the air handling units will not affect availability. However, steps 5.3.7 and 5.3.8 of 0PSP03-CH-0004 do affect flow through air handling units. Condition Report 96-12918 was generated for this condition.

- Procedure 0PGP04-ZA-0604, Probabilistic Safety Assessment (PSA) Program, requires the Risk and Reliability Analysis group to identify all PSA changes once an operating cycle, after the Unit 1 refueling outages. Changes could be made during a Unit 2 outage to either plant, or its procedures which would make the PSA non-conservative for that unit. Consideration should be given to more formally account for potential differences between the units. Condition Report 96-13214 was generated for this condition.

- Procedure 0PGP04-ZA-0604, Probabilistic Safety Assessment (PSA) Program, does not address significant temporary changes, such as temporary modifications, in either the PSA or the on-line maintenance tool, RASCAL. Consider establishing a process for addressing temporary conditions, such temporary modifications in the PSA model. Condition Report 96-13214 was generated for this condition.

3. Preventive Maintenance

The Preventive Maintenance (PM) Program is sound. This review identified the PM Optimization (consolidation) Program was effective at reducing the number of PM tasks and streamlining PM implementation. The PMs reviewed included:

- Preventive Maintenance task 96000644 is a consolidated PM to perform multi-discipline maintenance on the Unit 2, Train B (22B) Essential Chiller. This PM consolidated a number of other PMs into one activity. The scope includes calibrations, electrical device inspections including wiring, component cleaning, oil system maintenance, inspection and cleaning of MOV's, testing of valves and oil heaters, and allows for minor parts rework or replacement. The PM includes the source of the recommendations such as vendor recommendations, operating experience, engineering judgment, QA findings, and design changes. The PM also lists commitments and justifications.

- Reviewed PMs 93002770, 93002774, 94004512, 94004543, 94004544, and 94004546 for comments concerning the appropriate Technical Specification applicability. All comments contained the proper Technical Specification and source document references.

- A review of PM 93002770 was performed for the 125 VAC Vital Inverter. This review included Station Problem Report (SPR) 910252 which identified commitments to test Class 1E Inverter Automatic Shutdown Functions based on the findings of the NRC Inspection Team of 1991. Plant Procedure 0PEP07-VA-0002 and PM 93002770 were generated. Both of these documents were concise and fully bound the testing methodology established in SPR 910252. During the performance of PM 93002770 in May of 1996, the DC Low Voltage Set Alarm was found out-of-tolerance. Systems Engineering evaluated this condition per CREE 96-6674-1 as acceptable since the shutdown setpoint was much lower than the alarm setpoint. The analysis was well explained and properly justified.

This review also identified increased attention to detail would improve the quality of the program. For example:

- Preventive Maintenance task 95002436 is an optimized PM and provides a very good analysis of the instrument function, captures industry recommendations and station operating history, and provides documented justification for the PM requirements. However, level switch N1CD-LSL-7004 is listed in 0PGP-ZM-0016 which "....delineates programmatic controls for the calibration and status verification/notification of installed permanent plant instrumentation to ensure accuracies are maintained" (the instruments listed in 0PGP03-ZM-0016 have calibration frequency requirements according to classification which for N1CL-LSL-7004 would be every 156 weeks). The PM group considered the prescribed functional test met the ZM-0016 requirement for calibration. A functional test does not appear to demonstrate the maintenance of accuracy. Condition Report 96-13209 was generated for this condition.

- Engineering response to PM feedback requests. Preventive Maintenance feedbacks are used to identify problems or enhancements to PM tasks. Maintenance Planning identified approximately 180 [Condensate Polishing] PMs have been awaiting Engineering response for approximately six months. These PMs are with Engineering to be deleted. The priority of deleting these PMs is being evaluated by Engineering.

- Scope statements of some of the optimized PMs were incorrect. For example, the scope of the Waste Monitoring System Gould Pumps included coupling lubrication, yet the pumps use a coupling that is not designed to be lubricated. This problem was identified on a PM feedback.

4. Predictive Maintenance

The Predictive Maintenance Program is a strength. This strength is characterized by:

- Thermography Testing performed by Reliability Engineering is an excellent example of Predictive Maintenance. This testing program identified material degradation in class and non-class components prior to the point of equipment failures. Examples are:

  CR 96-69 Hot Spot on Terminal Connection discovered with Thermography

  CR 96-5203 Hot Spot on Fuse FU-4 discovered with Thermography

  CR 96-6475 Lugs at Cell 19 show Hot Spots with Thermography

Additional examples of Engineering taking a proactive approach to facilitate improved system reliability and increased maintenance efficiency are:

- CR 96-10461 was generated to investigate and develop a comprehensive listing of parts in inventory for all class and non-class inverters on site. This proactive initiative will reduce the time required for maintenance on these critical pieces of equipment.

- CR 96-12116 was generated for engineering to evaluate the 20 year life of the NCX Class 1E 125 VDC Cell Batteries. This evaluation will perform an in-depth analysis for extending the 20 year life and analyze the replacement batteries for end-of-life.

- CR 96-10383 was generated for engineering to evaluate current Technical Specifications Limiting Condition for Operation requirements associated with the 125 VDC Inverters. The results of this investigation are still pending, but this is an example of Engineering challenging current requirements to contribute to a higher level of efficiency.

5. Maintenance Rule

The Maintenance Rule Program for the Essential Chilled Water, Class IE 125VDC, and Condensate / Condensate Polishing Systems is well structured. Positive aspects of the Maintenance Rule Program are:

- Systems are appropriately scoped into the Maintenance Rule Program. For example, Condensate Polishing System is not in the Maintenance Rule Program; however, the Condensate System is in the program. The rationales provided by the Maintenance Rule Project Team were sound.

- Maintenance Rule Functional Failure (MRFF) criteria is conservatively applied to equipment problems. For example, on the Essential Chilled Water (CH) System, it was noted that none of the MRFFs did not meet the Functional Failure criteria of preventing the system from performing as designed. MRFFs are conservatively classified at the component level.

- System classification within the Maintenance Rule Program is rigorous. For example, the Essential Chilled Water (CH) System is currently classified as (a)(2). Performance Criteria are established and utilize PSA calculations at the Train and Unit level. Condition Reports were reviewed to verify the appropriateness of the (a)(2) classification. The count of potential MRFFs listed in the Condition Reports supports the current classification.

- The Maintenance Rule Program integrates well other existing plant programs such as Equipment History, Condition Reporting, and Equipment Reliability. These programs are utilized to support the Maintenance Rule Program.

The following enhancements to the Maintenance Rule Program were identified:

- Clarify the requirements for system action plans. Several System Engineers were unclear as to the timeliness and requirements for developing and implementing action plans to return their systems from (a)(1) status to (a)(2). In addition, it as noted that none of the Plans of Action involved the Maintenance Department craftsmen and supervisors. Interviews with Maintenance personnel indicated their desire to be involved and contribute to component or system improvements plans.

- Provide additional training on the purpose, requirements, and terminology of the Maintenance Rule Program. Interviews indicate some System Engineers do not fully understand the program requirements or terminology.

6. Performance Indicators

The performance indicators used by Engineering were reviewed. Each of the departments has performance indicators which correspond to the Corrective Action Program database and are used extensively for work management. Engineering also maintains upper tier performance indicators. The upper tier indicators could be enhanced. For example:

- Some performance indicators have annual goals which were exceeded early in 1996. As a result, these indicators have appeared "RED" (Needs Improvement) each month, despite satisfactory monthly performance. Indicators in this category include:

  The goal for LERs due to human performance errors in Design and Systems Engineering was zero. This goal was exceeded in May of this year.

  The Forced / Refueling Outage Overtime goal for Systems Engineering was 20%. This goal was exceeded following 1RE06.

- Some areas do not have performance indicators or goals, or the indicators do not include all of the appropriate data sources. For example:

  There is no goal or performance indicator for issuing outage modifications prior to 2RE05 similar to the goal used for 1RE06.

  There is no performance indicator for tracking System Expert Qualification status.

  An indicator tracking backlog of open MED revision is statused as "GREEN" although a backlog of 700 auto-generated changes exists. The current indicator does not account for auto-generated change requests.

Consider establishing a multi-tier performance measure system similar to Maintenance. The Maintenance Department Four-tier Performance Measure System of station, department, division, and work group or crew, provides measures which are closely tied to business plan goals and developmental appraisals. This system provides feedback to supervisor and workers on their performance compared to that of their peers. Condition Report 96-15658 was generated to evaluate these recommendations.

7. Engineering Assessments / Self Assessments and the ISEG Function

A review of the Engineering self-assessment guidance was performed. This review identified that the Systems Engineering Guidelines and the Design Engineering Guidelines provide each division with an annual plan for the areas to be assessed, gives responsibilities, and guidance on how to conduct, report, and monitor the effectiveness of corrective actions following the assessment. This document is well written and incorporates the guidance of INPO 90-15 Performance Objectives

for Operating Plants and SOER 92-1, Reducing Occurrences of Plant Events and Improving Human Performance.

The Nuclear Safety Evaluation (NSE) group within the Quality Assurance Department is responsible for both the ISEG function and assessment of engineering activities. The following NSE assessments performed ir. 1996 were reviewed:

- Testability Evaluation (NSE 96-01) - Evaluated use of jumper / lifted leads in testing
- Shutdown Risk Assessment and PRA (NSE 96-02)
- SED Actions To Address Maintenance Rule Issues
- Station Troubleshooting Process Evaluation (NSE 96-03)
- 10CFR50.59 Reviews (NSE 96-04)

The NSE group has been effective in conducting performance-based assessment of the Engineering organization and other plant activities. The NSE Engineers, who are experienced, technically competent and familiar with nuclear plant operation, have demonstrated the ability to conduct independent, through and in-depth assessments. The evaluations listed above along with numerous other evaluations and surveillances meet the Technical Specification requirements for the ISEG functions. Also reviewed the monthly letters to the Nuclear Safety Evaluation Board and found to provide a good summary of the findings of the NSE Group.

8. Training

A limited review of the Engineering Training and Qualification Program was performed. The Engineering Administrative Services section maintains a database of the qualification cards for all active Engineers. This review identified that, with the exception of three individuals, the Systems, Design, and Nuclear Fuels & Analysis Engineers Qualifications, including General Employee Training (GET) and Engineering Support Program (ESP) training, were complete and current. The problems with the three individuals are:

- One individual was overdue for completing his qualification card. This condition was previously identified by the Nuclear Fuels & Analysis department on Condition Report 96-2363.
- Two individuals have not had any card assigned or otherwise noted as requiring a card (Note: These individuals were previously supervisors who are now in non-supervisory positions). Condition Report 96-13141 was generated for this condition.

Additional information on Engineering Training Support Program is available in Condition Report 96-14492 which documents items identified during the Engineering Support Program Accreditation Self Evaluation.

ATTACHMENT

Condition Reports From The Engineering Self Assessment

	CR NO.	DESCRIPTION
1	96-12688	UFSAR SECTIONS 1.3-10 AND 7.5.6.1 AND THE ESSENTIAL CHILLED WATER DBD (5V369VB0120) 2.A.1.1.5 AND 3.A.1.1.5 ERRONEOUSLY INDICATE ABILITY TO CONTROL ESSENTIAL CHILLED WATER FROM THE AUXILIARY SHUTDOWN PANEL. IN ADDITION, THE DBD 2.A.1.1.5 SUGGESTS THAT CH CAN BE OPERATED LOCALLY; HOWEVER, THERE ARE NO LOCAL CONTROLS FOR THE PUMP.
2	96-12716	UPSTREAM 1" LINES OF VALVES CH-1443 (DRAIN VALVE OFF THE 2C ESSENTIAL CHILLED WATER PUMP SUCTION LINE) AND CH-0909 (DRAIN VALVE OFF THE 6" EAB AHU HEADER) HAVE MISSING /DAMAGE INSULATION. RE-INSULATED THE LINES. (DISCOVERED DURING ENG. SELF ASSESSMENT - MOMSEN)
3	96-12729	THE DRAIN NIPPLE ASSOCIATED WITH VALVES 2-CH-0592 AND 2-CH-0908 HAVE STAINLESS STEEL PIPE CAPS INSTALLED WHICH IS NOT CONSISITANT WITH PLANT SPECIFICATION 5L019PS004.
4	96-12730	VALVE 2-CH-0899 IS MISSING THE TPNS/DESCRIPTION TAG.
5	96-12736	THE CASING VENT LINES AND VALVES FOR THE RCB CHILL WATER PUMPS 21A, 21B, AND 21C ARE NOT PER DESIGN. THE VENT VALVES ARE INCONSISTANT IN DESIGN AND NOT ACCURATE TO THE MED.
6	96-12737	EVIDENCE OF SAGGING WAS DISCOVERED IN THE INSULATION ON ESSENTIAL CHILLER 21A. THE SAGGING APPEARS TO BE ENTRAPPED WATER DUE TO CONDENSATION. THIS CONDITION COULD CAUSE ACCELERATED CORROSION. THIS IDENTICAL CONDITION WAS DISCOVERED ON ESSENTIAL CHILLERS 21B AND 21C (REF. CR'S 96-3558 & 96-3559)
7	96-12738	VALVE 2-CH-0598 FAILS TO EXHIBIT THE SHIFT SUPERVISOR CAUTION TAG AS DEMONSTRATED IN THE OTHER TRAINS.
8	96-12740	THE INSULATING WASHER FOR THE 6" ECW RETURN LINE TO ESSENTIAL CHILLER 21A FLANGE CONNECTION IS INSTALLED BACKWARDS.
9	96-12763	DURING A REVIEW OF THE CLOSE-OUT DOCUMENTATION FOR THE QUALITY ASSURANCE ESSENTIAL CHILLED WATER SAFETY SYSTEM FUNCTIONAL ASSESSMENT 93-03, IT WAS IDENTIFIED THAT CALCULATIONS MC-5232, MC-5274, AND MC-5275 WOULD BE SUPERSEDED. THIS ACTION WAS TRACKED BY SPR 930910. SPR930910 WAS CLOSED IN NOVEMBER 1993 AND THE ABOVE REFERENCED CALCULATIONS ARE STILL NOT SUPERSEDED.
10	96-12792	0POP02-CH-0001 (ESSENTIAL CHILLED WATER SYSTEM OPERATING PROCEDURE) STEPS 4.25 THROUGH 4.31 CONTAIN ACTIONS REQUIRED DURING A SAFETY INJECTION OR LOSS OF OFFSITE POWER. ARE THESE ACTIONS REQUIRED SO THAT THE CHILL WATER SYSTEM CAN PERFORM ITS SAFETY FUNCTION? IF SO, THE STEPS SHOULD BE INSERTED INTO THE APPROPRIATE 0POP05 EMERGENCY OPERATING PROCEDURE TO ENSURE TIMELY COMPLETION OF THE ACTIONS UNDER ACCIDENT CONDITIONS.
11	96-12796	THE SETPOINT INDEX LISTS 30 DEG F DECREASE SETPOINT FOR B2CH-TSL-9510 EVAP REFRIG LOW TEMP ALM SHUTDOWN (TRIPS CHILLER). THE SCALING DOCUMENT FOR THIS SWITCH REQUIRES A 32.5 DEG F SETPOINT.
12	96-12799	THE SETPOINT INDEX LISTS A REQUIRED MAXIMUM RESET VALUE OF 13.3 INCHES HG ABS FOR THIS TRIP SWITCH (REFRIG LOW PRESSURE). THE SCALING DOCUMENT REQUIRES NO MAXIMUM RESET.
13	96-12801	THE SETPOINT INDEXX LISTS 24 PSIG DEC SETPOINT FOR NICH-PSH-9612(2) SWITCH TO INITIATE "REFIGERANT HIGH PRESSURE" LIGHT ON ZLP-615. THE SCALING DOCUMENT FOR THIS SWITCH SETPOINT REQUIRES A 30 PSIG SETPOINT.
14	96-12814	DURING A REVIEW OF CR 95-11341 AND THE ASSOCIATED CREE 95-11341-5, IT WAS NOTED THAT CALCULATION MC-5234 ASSUMED A MAXIMUM PEAK CH PRESSURE OF 154 PSI DUE TO WATER HAMMER DURING A LOSS OF NITROGEN PRESSURE ON THE TRAIN "C" CH EXPANSION TANK. CREE 95-11341-5 ACCEPTS THIS CONDITION BASED ON THE PIPING COMPONENT DESIGN PRESSURE OF 150 PSIG. THIS EVALUATION OVERLOOKED THE FACT THAT THE CH EXPANSION TANK HAS A DESIGNPRESSURE OF 50 PSI AND A PSV SET POINT OF 40 PSI. DURING A LOSS OF NITROGEN PRESSURE, "C" TRAIN CH MAY BE UNANALYZED DUE TO OVERPRESSURIZATION OF THE EXPANSION TANK AND/OR ESSENTIAL CHILLER LOW FLOW TRIPS TO TO THE CH PUMP CAVITATION DUE TO A LOSS OF CH INVENTORY. BASED ON CREE 95-11341-5, VALVES CH0945, CH0957, AND CH0969 HAVE BEEN REMOVED FROM THE IST BASES DOCUMENT ON SUPPLEMENT 96-07. IF IT IS DETERMINED THAT NITROGEN PRESSURE IS REQUIRED TO MAINTAIN SYSTEM OPERABILITY, THESE VALVES MAY NEED TO BE INCLUDED IN THE IST PROGRAM.
15	96-12815	NUCLEAR ENGINEERING SELF ASSESSMENT: THE INTEGRATING FACTOR OF 2.6 FOR THE 180 DAY DOSES IN MC-9002 APPEARS UNREASONABLE. THIS NEEDS TO BE REVIEWED AND CONFIRMED AS CORRECT.
16	96-12858	NUCLEAR ENGINEERING SELF ASSESSMENT ITEM: CALC MC-6412 SHOULD BE REVISED FOR CLARIFICATION PURPOSES AND ITS REQUIREMENTS IMPLEMENTED INTO THE CH DBD.
17	96-12860	NUCLEAR ENGINEERING SELF ASSESSMENT ITEM: CALC MC-6429 SHOULD BE REVISED TO CLARIFY THE DESIGN BASIS OF THE ESSENTIAL CHILLED WATER SYSTEM FOR COLD WEATHER CONDITIONS.
18	96-12883	DURING THE REVIEW OF PM EM-1-VA-93002770 PERFORMED ON 5/27/96, AS A PART OF THE ENGINEERING SELF ASSESSMENT, IT WAS DISCOVERED THAT THE PANEL METER CALIBRATION DATA SHEET FOR M3 HAS A MINIMUM CARDINAL POINT AT 200 OF 32.5 RECORDED. THIS ENTRY IS INCORRECT AND SHOULD HAVE BEEN 22.5 . THE AS FOUND INPUT OF 25.51 IS ACCEPTABLE AND DOES NOT RENDER THE EQUIPMENT INDETERMINATE.
19	96-12886	DURING ENGINEERING SELF ASSESSMENT IDENTIFIED THAT CREDIT WAS TAKEN FOR COMPLETION OF SURVEILLANCE 0PSP03-CH-0001 (REV 2) UNDER ST:91 (WAN 89207) AND ST:86000605 (89092) BY COMPLETION OF SURVEILLANCE PROCEDURE 0PSP03-CH-0004 (REV 2) UNDER ST:86000608 (WAN 88689) ON 18-JUL-96. THIS IS A POTENTIAL MISSED SURVEILLANCE REQUIREMENT SINCE 0PSP03-CH-0004 (REV 2) DID NOT REQUIRE COLLECTION OF VIBRATION DATA AT POINTS 4V & 4H WHILE 0PSP03-CH-0001 (REV 2) DID. INVESTIGATE AND RESOLVE POTENTIAL MISSED SURVEILLANCE REQUIREMENT.

	CR NO.	DESCRIPTION
20	96-12887	VIBRATION AT POINT 4H DOCUMENTED IN EXCESS OF ALERT LIMIT ON SURVEILLANCE 91/92 (WAN'S 89208 & 89875 RESPECTIVELY) DURING PERFORMANCE OF 0PSP03-CH-0001 ON 15-AUG-96. THIS POINT WAS PREVIOUSLY DOCUMENTED IN EXCESS OF ALERT LIMITS UNDER CR 96-5146 WHICH ALSO RESULTED IN A LER FOR A MISSED INCREASED FREQUENCY SURVEILLANCE REQUIREMENT. THIS CR IS TO DOCUMENT EXCEEDING THE ALERT LIMIT AT POINT 4H ON 15-AUG-96. ALSO, A DISCREPANCY EXISTS BETWEEN DATES FOR WHICH CREDIT IS TAKEN FOR THESE SURVEILLANCES IN IMPACT. ST:91 (WAN 89208) IS DOCUMENTED AS COMPLETED 15-AUG-96 WHILE ST:92 (WAN 89875) IS DOCUMENTED COMPLETE 18-AUG-96. THE SURVEILLANCE PROCEDURE ITSELF IS SIGNED OFF COMPLETE 15-AUG-96 IN AGREEMENT WITH ST:91 (WAN 89208).
21	96-12915	DURING THE REVIEW OF THE ESSENTIAL CHILLED WATER PSA PACKAGE FOR THE ENGINEERING SELF ASSESSMENT, IT WAS DETERMINED THAT THERE IS NO ESTABLISHED PROCESS FOR TEMPORARY CONDITIONS SUCH AS TEMPORARY MODIFICATIONS TO BE ACCOUNTED FOR IN THE PSA MODELS.
22	96-12917	0PGP04-ZA-0604, 'PROBABILISTIC SAFETY ASSESSMENT PROGRAM' HAS NO GUIDANCE FOR WHEN THE PSA SECTIONS SHOULD BE REVIEWED BY OTHER ENGINEERING ORGANIZATIONS. IN ADDITION, THE CAP DOCUMENT LIST DOES NOT RECOGNIZE THIS PROCEDURE NUMBER, SO THIS FINDING COULD NOT BE ENTERED AS A FEEDBACK.
23	96-12918	IN THE ESSENTIAL CHILLED WATER PSA PACKAGE, SECTION 11.2 (P.19), 0PSP03-CH-0004 IS SAID NOT TO AFFECT AVAILABILITY. 0PSP03-CH-007, HOWEVER, IS NOTED TO AFFECT ECH FLOW THROUGH THE AIR HANDLING UNITS. CH004 ALSO AFFECTS THE FLOW THROUGH THE AIR HANDLING UNITS, SO IT APPEARS THAT IT SHOULD BE DISCUSSED SIMILAR TO THE OTHER SURVEILLANCE PROCEDURES. THIS OBSERVATION PROBABLY ALSO APPLIES TO THE OTHER FIVE PROCEDURES MENTIONED IN THE SECTION. FOUND DURING THE ENGINEERING SELF ASSESSMENT.
24	96-12919	THE PSA DOES NOT ACCOUNT FOR THE REQUIRED OPERATOR ACTION TO REGULATE FLOW TO THE ESSENTIAL CHILLERS DURING COLD WEATHER OPERATION. REVIEW OF ISSUE SHOULD ADDRESS THE ADEQUACY OF THE INTERFACES REQUIRED TO PROVIDE INPUT TO THE PSA MODELS. IDENTIFIED DURING THE ENGINEERING SELF ASSESSMENT
25	96-12920	5V369VB0120 (CH SYSTEM DBD) 4A.2.6 AND OPEN ITEM OI-CH-28 BOTH NOTE THAT THERE IS A PLANNED CHANGE TO THE CH TECH SPECS. NO CHANGE TO THE TECH SPEC IS PLANNED SINCE THE TECH SPECS DO NOT SPECIFY WHICH CHILLER(S) IN A TRAIN ARE REQUIRED FOR OPERABILITY. THE DBD SHOULD BE CORRECTED. IDENTIFIED DURING THE ENGINEERING SELF ASSESSMENT
26	96-12921	MOD 91-051 TO ADD REFRIGERANT CLEAN UP KIT WAS DETERMINED TO BE A TRIVIAL CHANGE. SINCE THE CHANGE IS BEING DONE TO SAFETY RELATED EQUIPMENT, THIS CHANGE DOES NOT MEET THE PRESENT DEFINITION OF 'TRIVIAL'. IDENTIFIED DURING THE ENGINEERING SELF ASSESSMENT
27	96-12922	THE CHANNEL I DATA PRESENTED IN DCN 96-2365 WRITTEN AGAINST EC-5008, REV 10., FOR CHANNEL I DOES NOT APPEAR TO AGREE WITH THE RESULTS PRESENTED ON UFSAR TABLE 8.3-6 IN CN-1961. THE DATA IN THIS UFSAR TABLE SHOULD BE CONFIRMED AGAINST THIS CALC, AND REVISED IF NECESSARY. NUCLEAR ENGINEERING SELF ASSESSMENT ITEM.
28	96-12923	MOD 91-051 FOR REFRIGERANT CLEAN UP KITS WAS EVALUATED IN THE MOD PACKAGE AS BEING REQUIRED FOR A STATE OR FEDERAL PERMIT (COMPLIANCE WITH THE CLEAN AIR ACT). HOWEVER, IT IS STILL NOT INSTALLED IN BOTH UNITS. DETERMINE IF THIS MOD IS ACTUALLY A COMPLIANCE REQUIREMENT. IDENTIFIED DURING ENGINEERING SELF ASSESSMENT
29	96-12930	THERE IS NO ESTABLISHED METHODOLOGY TO PERIODICALLY ROTATE THE 125VDC BATTERY CHARGERS. IT IS POSSIBLE THAT COMPONENT RELIABLITY MAY BE IMPROVED THROUGH GREATER SERVICE TIME. PLEASE EVALUATE-SED ELEC.
30	96-12938	IN THE STP RESPONSE TO NOV 9226-02, A COMMITMENT WAS MADE (REGARDING THE 125VDC BATTERY BUS VOLTAGE) SUCH THAT "THE ALARM SETPOINT WILL BE REVISED(FROM 117VDC) TO INDICATE THAT BATTERY BUS VOLTAGE IS BELOW THE TECHNICAL SPECIFICATION MINIMUM VALUE(129VDC). THIS WILL BE COMPLETED BY MARCH 31, 1993 IN BOTH UNITS." SPR 932309 WAS WRITTEN TO ASSESS WHETHER THIS COMMITMENT WAS MET. THE REPORTABILITY REVIEW(ST-HS-HS-25717 08/04/94) FOR THIS EVENT CONCLUDED THAT THE "LETTER OF THE COMMITMENT WAS SATISFIED ALTHOUGH THE INTENT WAS NOT" AND CONCLUDED THAT THE CONDITION WAS NOT REPORTABLE UNDER 10CFR50.73. IT ALSO STATES THAT "IT IS CLEAR THAT THE INTENT OF THE COMMITMENT WAS TO PROVIDE THE OPERATOR WITH AN ANTICIPATORY ALARM PRIOR TO EXCEEDING THE TECHNICAL SPECIFICATION LIMIT." THE REPORTABILITY REVIEW ALSO RECOMMENDED THAT "AN EXTENSION OF THE COMMITMENT DUE DATE SHOULD BE OBTAINED AND/OR THE COMMITMENT SHOULD BE CHANGED ..." A REVIEW OF THE ASSOCIATED DOCUMENTATION OF THIS EVENT INDICATES THAT NEITHER THE DUE DATE NOR THE COMMITMENT TO THE NRC WERE CHANGED BY NUCLEAR LICENSING. STP IS CURRENTLY OPERATING WITH THE 125 VDC BATTERY BUS UNDERVOLTAGE RELAY SET A 124 VDC.
31	96-12940	INTERVIEW WITH SHIFT SUPERVISOR DURING THE ENGINEERING SELF ASSESSMENT IDENTIFIED THE FOLLOWING THREE OBSERVATIONS: 1. THE RESOLUTION OF SOME ISSUES ARE NOT ALWAYS EFFECTIVELY COMMUNICATED TO THE CREWS ON THE OTHER SHIFTS WHO WERE NOT INVOLVED IN THE ISSUE RESOLUTION. (THIS IS A GENERAL OBSERVATION THAT WAS NOT SPECIFICALLY DIRECTED AT ENGINEERING.) 2. SYSTEM HEALTH REPORTS COULD BE MORE WIDELY SHARED WITH THE SHIFT SUPERVISORS, PARTICULARLY THOSE REPORTS FOR SYSTEMS THAT ARE GETTING ATTENTION IN THE DAILY COMMUNICATIONS AND TEAMWORK MEETING. 3. UNIT 1 TENDS TO BE A FILTER FOR ATTENTION TO UNIT 2. BECAUSE OF THE MORE DISTANT LOCATION OF UNIT 2, VISITORS TEND TO STOP AT UNIT 1 FOR WALKDOWNS, ETC.

	CR NO.	DESCRIPTION
32	96-12943	DURING A WALKDOWN OF THE 125VDC SYSTEM AND THE INSTRUMENTS ON CP003 IN THE MAIN CONTROL ROOM, THE FOLLOWING CONDITIONS WERE NOTED: (I) THE 125VDC 1E BATTERY CHARGER VOLTAGE OUTPUT GAUGES WERE COLOR BANDED WITH THE YELLOW BAND BEGINNING(AND DECREASING) AT 129VDC(UNIT 1) AND 118VDC(UNIT 2). THE TECHNICAL SPECIFICATION MINIMUM VOLTAGE IN 129VDC. HAVING GREEN BANDS FOR INSTUMENTS IN RANGES THAT VIOLATE TECHNICAL SPECIFICATION MINIMUMS IS POTENTIALLY A HUMAN FACTORS ISSUE. (2)THE VERTICAL GAUGES WHICH MEASURE 1E BATTERY CURRENT ON CP003 ON THE MAIN CONTROL BOARD ARE SCALED 1-1000 AMPS(AT 100 AMP INTERVALS) AND THERE IS NO INDICATION ON THE GAUGES(+ OR -) WHETHER THE BATTERIES ARE CHARGING OR DISCHARGING. THE NORMAL SWITCHBOARD CURRENT DRAW IS LESS THAN 100 AMPS PER CHANNEL. CONSIDERATION SHOULD BE GIVEN TO RESCALE THE INSTRUMENTS IF THEY ARE USED AND TO ADD CHARGE/DISCHARGE ARROWS NEXT TO THE GAUGES.
33	96-12944	DURING A REVIEW OF CR 96-5203, THE CAP DATA BASE INDICATES THAT REPORTABILITY AND OPERABILITY ARE "INDETERMINATE". PER PLANT PROCEDURE 0PGP03-ZX-0002 "CONDITION REPORTING PROCESS", THE SHIFT SUPERVISOR/ONE STOP SHOP SHALL ENTER THE JUSTIFICATION IN THE "MAINTAIN ACTION INFORMATION" OR" MAINTAIN OPERABILITY ASSESSMENT" AS "YES" OR "NO", WHICHEVER IS DEEMED APPROPIATE. NEITHER OF THESE ENTRIES WERE MADE FOR THIS INDETERMINATE CONDITION. THE UNIT-1 SHIFT SUPERVISOR WAS CONTACTED ON 10/18/96, 1400 HRS TO NOTIFY HIM OF THIS CONDITION.
34	96-12945	DURING CONVERSATIONS WITH THE UNIT 1 AND UNIT 2 CONTROL ROOM STAFFS, IT WAS DETERMINED THAT THE 1E BATTERY CHARGER VOLTAGE GAUGES ON CP003 WERE USED FOR INFORMATION ONLY AND NOT FOR TECHNICAL SPECIFICATION CREDIT. THERE IS NOT A COMMON EXPECTATION TO DISPATCH AN OPERATOR TO THE BATTERY CHARGER ROOMS TO TAKE LOCAL READINGS WHEN THE INSTRUMENTS ON CP003 INDICATE LESS THAN THE TECH SPEC MINIMUM OF 129VDC. NOTE: OPERATORS REVIEW BATTERY CHARGER OUTPUT VOLTAGE LOCALLY FROM A DIGITAL GAUGE EACH SHIFT AND THE TECH SPEC SURVEILLANCE IS PERFORMED EVERY 7 DAYS. EXAMPLE: THE GAUGE FOR E1B11 ON CP003 IN UNIT 1 READ "128VDC" AT 0820 ON 10/17/96. THE LOCAL DIGITAL GAUGE READ "130.4" CONDITIONING THE CONTROL ROOMSTAFF TO NOT TAKE ACTION BELOW THE TECH SPEC MINIMUM OF 129VDC MAY RESULT IN A VIOLATION IN A VIOLATION(2 HR LCO) WHEREBY VOLTAGE MAY DROP BELOW THE TECH SPEC MINIMUM OF 129 VDC AND STILL BE ABOVE THE SWITCHBOARD UNDERVOLTAGE RELAY ALARM SETPOINT OF 124 VDC. REQUEST THAT OPERATIONS MANAGEMENT DEVELOP EXPECTATIONS REGARDING THIS CONTROL ROOM INDICATION OF TECH SPEC EQUIPMENT. THIS ISSUE HAS BEEN DISCUSSED WITH BOTH UNITS' ASST. OPERATIONS MANAGERS.
35	96-12947	TECH SPEC 4.8.2.1.A.2 REQUIRES THAT THE 125VDC 1E BATTERY CHARGERS MAINTAIN A MINIMUM VOLTAGE OF 129VDC OR WITHIN 2 HOURS, BEGIN A PALNT SHUTDOWN. THE SURVEILLANCE FOR THIS TECH SPEC REQUIRES A VERIFICATION OF VOLTAGE OUTPUT EVERY 7 DAYS. OPERATIONS CURRENTLY VERIFIES VOLTAGE LOCALLY EACH SHIFT AND THERE IS INSTRUMENTATION THAT IS AVAILABLE TO MONITOR VOLTAGE IN THE MAIN CONTROL ROOM, HOWEVER, ITS USE IS FOR INFORMATION ONLY AND ACTIONS, BASED ON THIS INSTRUMENTATION, IS INCONSISTENT BETWEEN CREWS(REF; CR#96-12943, 96-12945). ON APRIL 4, 1996, THE PCC APPROVED A MINOR CHANGE(CR95-14210-6) TO CREATE AN ERFDADS ALSRM AT 127VDC WHEN THE IMPROVED TECH SPECS ARE IMPLEMENTED(THE NEW TECH SPEC VALUE WILL BE 127VDC). GIVEN THE CURRENT UNDERVOLTAGE DETECTION SCHEME(124VDC ALARM POINT), OPERATIONS' MONITORING OF 1E BATTERY CHARGER VOLTAGE AND THE POTENTIAL THAT AN NRC COMMITMENT MAY NOT HAVE BEEN MET(REF: CR#96-12938), THE DECISION TO DEFER IMPLEMENTING THIS MINOR CHANGE IN LATE 1997 SHOULD BE REVISITED. REQUEST THAT DED-ELECTRICAL/I&C EVALUATE THE FEASIBILITY OF DEVELOPING THE MINOR CHANGE TO PROVIDE AN ERFDADS ALARM WHEN VOLTAGE DECREASES BELOW THE CURRENT TECH SPEC MINIMUM OF 129VDC.
36	96-12996	MC-5233 SHOULD BE REVISED TO REFLECT THE CHANGE OF THE REFERENCE DOCUMENT FOR THE FLOW DATA AND TO ADDRESS THE IMPACTS, IF ANY, OF THE CHANGE IN THE FLOW DATA ITSELF. CALC MC-5233, REV 3: PAGE 4: DATA INPUT #1: ALL GPM REQUIREMENTS WERE FROM MC-5232. YET, MC-5232 WAS SUPERSEDED BY MC-6412 (1/94). IT DOES NOT APPEAR THAT MC-5233 WAS REVISED TO STATE THE IMPACT, IF ANY, OF THE RESULTS OF MC-6412 ON MC-5233. NUCLEAR ENGINEERING SELF ASSESSMENT ITEM
37	96-12998	CN-2103: EDITORIAL ERRORS IN THE FSAR. SECTIONS 8.3.2.1.1 AND 10A.2.4 ON PAGE 10A-8 BOTH STATE THAT THE CLASS 1E 125V BATTERY BUSES ARE ENERGIZED BY BOTH CHARGERS. THIS STATEMENT IS CONTRARY TO ACTUAL PLANT OPERATION AND THE REMAINDER OF THE FSAR. ALSO, SECTION 8.2.2.7.2 STATES THAT THE CLASS 1E 125 VDC SYSTEM CONSISTS OF THE BATTERY, BATTERY CHARGERS AND AN INVERTER. IN FACT, CHANNELS I AND IV HAVE TWO INVERTERS EACH.
38	96-13003	CN-2104: FSAR QUESTION 430.37N RESPONSE IS INCORRECT AND DOESN'T FULLY ANSWER THE QUESTION. THE FIRST STATEMENT IN THE RESPONSE STATES THAT THE CLASS 1E POWER SYSTEM BATTERY CHARGERS ARE NOT CAPABLE OF SUPPLYING POWER TO DC LOADS UNLESS CONNECTED TO A BATTERY. ACTUALLY, THE CHARGERS CAN SUPPLY THE DC LOADS WITH THE BATTERY BREAKER OPEN. THE REMAINDER OF THE RESPONSE DOES NOT FULLY ANSWER THE QUESTION.

	CR NO.	DESCRIPTION
39	96-13013	DURING THE ENGINEERING SELF ASSESSMENT, A REVIEW OF THE 'DESIGN BASIS DOCUMENT' PROCESS REVEALED THE FOLLOWING PROBLEMS. 1. THERE IS A SIGNIFICANT DIFFERENCE IN THE APPLICATION OF AND THE INTERPRETATION OF WHAT THE DESIGN BASIS DOCUMENT IS. THIS INFORMATION WAS GATHERED FROM INTERVIEWS OF ENGINEERING PERSONNEL. 2. THERE ARE DESIGN BASIS DOCUMENTS THAT DO NOT HAVE ALL OF THE DESIGN CHANGES POSTED AGAINST THEM. EXAMPLE: THE DELETION OF THE TOXIC GAS ANALYIZERS IS NOT POSTED AGAINST THE EAB HVAC DBD. 3. THERE ARE DOCUMENTS THAT HAVE A SIGNIFICANT NUMBER OF ADNENDMENTS AND OPEN ITEMS. EXAMPLE: THE DIESEL GENERATOR DBD HAS 45 ADMENDMENTS UNINCORPERATED. THE PROCEDURE REQUIRES REVISION OF THE DBD AFTER 15. 4. ONE CREE, 96-12546-1, USED THE DBD AS A SOURCE FOR A VALUE IN THE CREE. THIS IS NOT IN LINE WITH THE EXPECTATIONS OF ENGINEERING MANAGEMENT. 5. THE PROGRAM PLAN HAS NOT BEEN REVISED SINCE 3/90 AND DOES NOT REFLECT THE CURRENT MANAGEMENT EXPECTATIONS.
40	96-13039	50.59 SCREENING FORMS ATTACHED TO MOD 87030 CONTAIN INADEQUATE INFORMATION TO DESCRIBE CHANGE BEING EVALUATED, INCORRECT REVISION INDICATED FOR REVISIONS TO SCREENING, AND JUSTIFICATIONS PROVIDED ARE INADEQUATE OR CONTRIDICTORY. APPEARS TO BE DOCUMENTION DISCREPANCY ONLY. EXAMPLES: 1) DESCRIPTION STATES "REPLACE THE TRANSFORMERS IN CLASS-1E CHANNEL I AND IV BATTERY CHARGERS," WHEN THE MODIFICATION INCLUDES "REMOVING THE REQUIREMENT THAT BOTH BATTERY CHARGERS BE OPERATING AND CONNECTED TO THE SWITCHGEAR BUS IN EACH OF CHANNEL I AND CHANNEL IV", 2) TWO REV "0" AND THEN A REV "N/A", 3) TECHNICAL JUSTIFICATION ON ORIGINAL SCREENING FORM STATES THAT "INSTALLING THE UPGRADED TRANSFORMERS IN THE CHANNELS I AND IV BATTERY CHARGERS WILL PROVIDE CAPABILITY TO OPERATE WITH ONLY ONE CHARGER CONNECTED TO EACH OF CHANNELS I AND IV", BUT THE JUSTIFICATION ON THE SCREENING FOR MDCN 87030-27, WHICH DEFERS TRANSFORMER REPLACEMENTS, STATES THAT THE "ORIGINAL DOCUMENT DID NOT REQUIRE THE BATTERY CHARGER TRANSFORMERS BE CHANGED TO IMPLEMENT SINGLE CHARGER OPERATION".
41	96-13042	IT IS NOT CLEAR THAT CRACKED BATTERY TERMINAL POST CONDITIONS ACCEPTED BY ENGINEERING HAVE BEEN THOROUGHLY DOCUMENTED AND CLEARLY COMMUNICATED SO THAT A UNIFORM RESOLUTION OF THE ISSUE IS PLANNED AND UNDERSTOOD.
42	96-13043	DESIGN BASIS DOCUMENTS SUPERSEDE THE DESIGN CRITERIA AND THE SYSTEM DESIGN DESCRIPTIONS, HOWEVER, THE DESIGN CRITERIA AND THE SDDS HAVE NOT BEEN CLEARLY DESIGNATED AS BEING SUPERSEDED.
43	96-13049	THE NOTES SECTION OF THE ELECTRICAL SETPOINT INDEX COMPUTER DATABASE FOR THE SWITCHBOARD DC "OV" RELAYS LIST DBD 4E529EB1111 AS THE SETPOINT REFERENCE RATHER THAN LISTING A CALCULATION OR A VENDOR MANUAL. ALSO, THE COMPUTER DATABASE FOR THE DC "UV" RELAYS DOES NOT LIST CALCULATION EC-5033 WHICH IS THE SETPOINT BASIS.
44	96-13052	IDENTIFIED DURING ENGINEERING SELF ASSESSMENT REVIEW OF "DJ" SYSTEM, "DJ" SYSTEM WALKDOWN REPORTS AND APPLICABLE TMOD LISTS. REQUEST ENGINEERING MANAGEMENT EVALUATION OF TMOD PROCESS TO CONFIRM SYSTEM ENGINEER EXPECTATIONS WITH RESPECT TO INVOLVEMENT OR CONCURRENCE WITH TMOD INSTALLATION ON ASSIGNED SYSTEMS. TMOD INSTALLATION CAN CURRENTLY BE PERFORMED ON ANY SYSTEM WITHOUT DIRECT SYSTEM ENGINEER INVOLVEMENT OR CONCURRENCE (REF 0PGP03-ZO-0003). THIS DOES NOT APPEAR TO BE CONSISTENT WITH ENGINEERING MANAGEMENT EXPECTATIONS FOR THE SYSTEM ENGINEER TO BE THE "ENGINEERING SYSTEM EXPERT". WITHOUT PROCEDURAL REQUIREMENT FOR DIRECT SYSTEMS ENGINEER INVOLVEMENT OR CONCURRENCE (0PGP03-ZO-0003) WITH TMOD INSTALLATIONS, WITH THE CURRENT TMOD PROCEDURE AND PRACTICES, THE SYSTEMS ENGINEERS SYSTEM EXPERT STATUS WITH RESPECT TO TMOD'S IS REDUCED TO "LIST MONITORING" AND AFTER THE FACT "REVERSE TMOD SYSTEMS ENGINEERING".
45	96-13054	IDENTIFIED DURING ENGINEERING SELF ASSESSMENT. E1C11 CELL # 26 IDENTIFIED TO HAVE DRIED ELECTROLYTE UNDER THE CELL UNDER "DEFICIENCIES" IN THE SEPTEMBER 3, 1996 "DJ" WALKDOWN REPORT. NOTE MADE THAT SUSPECTED OVERFLOW DUE TO PREVIOUS EQUALIZE CHARGE. CELL # 26 HAD NOTE PREVIOUSLY BEEN NOTED TO BE ONE OF THE HIGH ELECTROLYTE LEVEL CELLS. WHY DO WE SUSPECT CELL IS OVERFLOWING DURING EQUALIZING CHARGE? MONITOR DURING NEXT EQUALIZING CHARGE TO DETERMINE IF THIS IS ACTUAL CAUSE.
46	96-13057	IDENTIFIED DURING ENGINEERING SELF ASSESSMENT DURING OPEN SR AND SYSTEM TREND REVIEWS WITH SYSTEM ENGINEERS. IDENTIFICATION OF SOME MAINTENANCE RULE FUNCTIONAL FAILURES APPEARS TO BE AT A SELF IMPOSED LOW THRESHOLD AND CONTRARY TO OTHER PROGRAMATIC CONTROLS. "VA" SYSTEM ENGINEER EVEN IDENTIFIED THAT A RECENT MRFF WAS ASSIGNED TO A FAILURE IDENTIFIED DURING A PMT (?). REQUEST ENGINEERING MANAGEMENT REVIEW OF THE PHILOSOPHY USED TO DETERMINE MRFF'S AT THE STP. HOW DOES DEVELOPED CRITERIA FOR MRFF'S AT THE STP COMPARE TO THE ACTUAL REQUIREMENTS OF THE RULE (10 CFR 50.65, REG GUIDE 1.160 & NUMARC 93-01) AND THE REST OF THE NUCLEAR INDUSTRY. HAS THE "WATERING DOWN" EFFECT OF "TOO LOW A THRESHOLD" BEEN EVALUATED WITH RESPECT TO CURRENT MAINTENANCE RULE IMPLEMENTATION AT THE STP? IF SO, WHAT WERE THE RESULTS OF THAT ASSESSMENT? BOTTOM LINE CONCERN: MAIN CONCERN OF THIS REVIEWER IS THAT THE VOLUME OF ISSUES GENERATED FROM TOO LOW A THRESHOLD WILL TEND TO DIVERT ATTENTION AND DILUTE THE EFFECTIVENESS OF THE MAINTENANCE RULE. IF THIS OBSERVATION IS VALID, THERE IS MORE RISK FOR POTENTIALLY CRITICAL CONCERNS AND ISSUES TO GET "PUSHED BELOW THE SURFACE AND OUT OF FOCUS" MIXED IN WITH ALL THE OTHER "LOW THRESHOLD MRFF ITEMS" AND LOSE ATTENTION AND PRIORITY AS A RESULT.
47	96-13130	DURING A WALKDOWN OF THE CONDENSATE SYSTEM PER THE ENGINEERING SELF ASSESSMENT THE FOLLOWING CONDITION WAS DISCOVERED WITH RESPECT TO THE CLOSED LOOP MOTOR COOLING LINES TO CONDENSATE PUMP MOTOR #13 (8S121MPA0316): 1) THE CLOSED LOOP COOLING LINE TO PUMP MOTOR #11 IS NOT PROPERLY SUPPORT WHICH IS CREATING EXCESSIVE LOADING ON THE CONNECTION TO THE MOTOR HOUSING. ***TAG HUNG***

	CR NO.	DESCRIPTION
48	96-13141	A REVIEW OF THE ENGINEERING TRAINING RECORDS, AS A PART OF THE ENGINEERING SELFASSESSMENT, REVEALED THE FOLLOWING DESCREPANCIES: 1. CONTRARY TO THE REQUIREMENTS OF PARAGRAPH 4.2.2.2 OF PROCEDURE 0PGP04-ZA-0010, ONE INDIVIDUAL HAS NOT COMPLETED HIS QUALIFICATION RECORDS AS ASSIGNED WITHIN THE TWO YEAR SPECIFIED TIME INTERVAL. 2. AT LEAST TWO INDIVIDUALS HAVE BEEN MOVED FROM SUPERVISORY TO NON-SUPERVISIORY ROLES WITHIN ENGINEERING AND QUALIFICATIONS AND DUE DATES HAVE NOT BEEN ASSIGNED. 0PGP04-ZA-0010, STEP 4.2.2.1 REQUIRES THESE ACTIONS WITHIN SEVEN DAYS OF "ASSUMING THE POSITION". 3. THE PROCEDURE DOES NOT ADEQUATELY ADDRESS THE QUALIFICATIONS OF SUPERVISIORY PERSONNEL, ESPECIALLY IF RE-ASSIGNED TO LOWER POSITIONS. ENGINEERING SHOULD EVALUATE THE WORK ASSIGNMENTS OF THESE PERSONNEL AGAINST THE COMPLETED TASK ON THE QUALIFICATION CARDS. VERIFICATION OF SAFETY RELATED WORK SHOULD BE THE HIGHER PRIORITY.
49	96-13157	THE MIXED BED REGEN RINSE IN EFFLUENT SODIUM ANALYZER IS NOT LABELED IN BOTH UNIT 1 AND 2. PLEASE LABEL. THESE ANALYZERS ARE INSIDE THE CP CONTROL ROOM, NORTH OF THE MAIN CONTROL PANEL AGAINST THE EAST WALL IN BOTH UNITS.
50	96-13163	COAT THE INSIDE OF THE CP SUMP IN UNIT 2. THERE IS NOTICABLE ETCHING OF THE CONCRETE WALLS AND FLOORS. THIS SUMP IS IN THE DRAINS SYSTEM (DR). 96-4982 HAS BEEN WRITTEN TO PERFORM THIS WORK IN UNIT 1.
51	96-13164	THE EQUIPMENT IN THE AREA OF THE CP MIXED BED REGENERATION TANKS IN THE TGB 29' EL. NEEDS TO BE CLEANED OF RUST AND PAINTED.
52	96-13165	#13 CONDENSATE PUMP HAS AN EXCESSIVE PACKING GLAND LEAK-OFF. THERE IS WATER SPILLING OUT OF THE DRAINED PACKING AREA OF THE PUMP AND ONTO THE FLOOR OF THE PUMP PIT. THE 1" PACKING AREA DRAIN LINE CANNOT KEEP UP WITH THE LEAK-OFF. TIGHTEN THE PACKING.
53	96-13182	SED MANAGEMENT HAS NOT CLEARLY CONVEYED ITS EXPECTATIONS OF HOW QUICKLY AFTER A SYSTEM DOES TO (A)(1) STATUS UNDER THE MAINTENANCE RULE, SHOULD A CR BE GENERATED. NO EXPECTATION HAS BEEN GIVEN AS TO A TIME FRAME FOR DEVELOPING A PLAN OF ACTION TO MOVE THE SYSTEM BACK INTO AN (A)(2) STATUS.
54	96-13190	INTERVIEWS WITH WORK CONTROL (MAINTENANCE) PLANNERS, DURING THE ENGINEERING SELF ASSESSMENT, IDENTIFIED THAT THE LEVEL OF DETAIL PROVIDED IN MODIFICATION PACKAGES MAY BE INSUFFICIENT TO DEVELOP INSTALLATION INSTRUCTIONS WITHOUT ADDITIONAL INPUT FROM THE DESIGN ENGINEER OR TECHNICAL SUPPORT ENGINEERING. EXAMPLE: TRANSFERING THE POWER SUPPLIES FOR THE REACTOR COOLANT PUMP OIL LIFT PUMPS DCP 96-965-3 WAS REVIEWED WITH A PLANNER AND IDENTIFIED THAT THE CONDUIT LAYOUTS WERE NOT PROVIDED, POST MODIFICATION TESTING WAS ONLY IDENTIFIED AS A FUNCTIONAL CHECK, CONDUIT GROUNDING WAS NOT PROVIDED, AND THE TEXT OF THE NEW NAME PLATES WAS NOT PROVIDED. INTERVIEWS WITH THE PMPI PERSONNEL INDICATE THAT THE LEVEL OF DETAIL IS ADEQUATE FOR THEIR GROUP BECAUSE OF THE FAMILIARITY WITH CONSTRUCTION REQUIREMENTS AND PAST EXPERIENCE WITH THE MODIFICATION PACKAGES. THE SELF ASSESSMENT TEAM REQUEST ENGINEERING PERFORM AN EVALUATION OF THE LEVELS OF DEATAIL IN THE PACKAGES BASED ON THE KNOWLEDGE AND EXPERIENCE OF THE INSTALLING GROUP.
55	96-13194	INTERVIEWS WITH SYSTEMS ENGINEERS, DURING THE ENGINEERING SELF ASSESSMENT, IDENTIFIED PROBLEMS IN MEETING TWO ASPECTS OF THE SYSTEM EXPERT PLANS. THE PLAN REQUIRES THE ENGINEERS TO SPEND FOUR HOURS PER WEEK PERFORMING SELF STUDY ON HIS SYSTEM AND THE TEAMS INTERVIEWS INDICATE THAT THIS CREATES A PROBLEM MEETING THE REQUIREMENT DUE TO OTHER WORKLOAD TASK WITH HIGH PRIORITIES. THE RESULT IS THAT THE STUDY IS NOT COMPLETED. THE PLAN ALSO PROVIDES A SCOPE AND SCHEDULE OF ACTIVITIES REQUIRED TO BE PERFORMED TO ACHIEVE SYSTEM EXPERT STATUS. SOME ENGINEERS WERE UNCLEAR AS TO HOW TO COMPLETE SOME ACTIVITIES WITHIN THE PLAN AS WELL AS THE TIMELINESS OF THE PLAN ITSELF. THE DURATIONS OF THE PLANS VARIED FROM ONE TO THREE YEARS. THE SELF ASSESSMENT TEAM REQUEST AN ENGINEERING EVALUATION OF THE CONTENT AND SCHEDULE OF THE PLANS AND CLEARLY DEFINE THE DELIVERABLES OF THE PLAN.
56	96-13209	N1CD-LSL-7004 IS LISTED IN OPGP03-ZM-0016 AS A CONTROL AND INDICATION FUNCTION USED BY OPERATIONS. THE SWITCH FUNCTION IS TO ALARM LOW CONDENSOR HOT WELL LEVEL. PER "PM" 95002436 A FUNCTIONAL TEST ONLY IS PERFORMED RATHER THAN A CALIBRATION WHICH IS REQUIRED PER 0PGP03-ZM-0016.
57	96-13214	CONTROL AND UPDATING OF THE PSA, A LICENSING BASIS ANALYSIS TOOL, NEEDS IMPROVEMENT IN THE FOLLOWING AREAS: 1. VALUES FROM THE DBD HAVE USED BEEN THROUGHOUT THE PSA AS A DESIGN BASIS REFERENCE. SINCE THE DBD IS A REFERENCE AND NOT ITSELF A DESIGN BASIS DOCUMENT, ENGINEERING/RRA SHOULD EVALUATE THE ACCEPTABILITY OF USING THE DBD INFORMATION WITHOUT CONFIRMATION. (REF. CR 96-13013) 2. THERE IS NO REVIEW OF THE PSA PACKAGES BY GROUPS OUTSIDE THE RRA GROUP. CONSIDERATION SHOULD BE GIVEN TO ENGINEERING AND OPERATIONS REVIEW OF THE BASIC ASSUMPTIONS USED IN THE PSA AS DOCUMENTED IN THE PACKAGES AND THE SUCCESS CRITERIA USED IN THE ANALYSIS. 3. PROCEDURE 0PGP04-ZA-0604 REQUIRES THE RRA GROUP TO IDENTIFY ALL PSA CHANGES ONCE A CYCLE, AFTER THE UNIT 1 REFUELING OUTAGES. SIMILAR TO THE UFSAR, CHANGES TO PLANT OR ITS PROCEDURES THAT COULD IMPACT THE PSA SHOULD BE IDENTIFIED BY THE INDIVIDUAL RESPONSIBLE FOR THE CHANGE WHEN THE CHANGE IS MADE. CONSIDERATION SHOULD BE GIVEN TO ENHANCING ENGINEERING/RRA PROCEDURES TO ESTABLISH A MORE FORMAL STRUCTURE, INCLUDING ROLES AND RESPONSIBILITIES, TO ASSURE APPROPRIATE AND TIMELY CONFIGURATON CONTROL OF THE PSA. 4. THE PSA MODELS AND PACKAGES ARE NORMALLY ONLY UPDATED AFTER THE UNIT 1 REFUELING OUTAGE. CHANGES COULD BE MADE DURING A UNIT 2 OUTAGE WHICH WOULD MAKE THE PSA NON-CONSERVATIVE FOR THAT UNIT. CONSIDERATION SHOULD BE GIVEN TO MORE FORMALLY ACCOUNTING FOR POTENTIAL DIFFERENCES BETWEEN THE TWO UNITS. 5. THERE APPEARS TO BE NO METHOD TO ACCOUNT FOR SIGNIFICANT TEMPORARY CHANGES, SUCH AS T-MODS IN EITHER THE PSA OR THE ON-LINE MAINTENANCE TOOL,

	CR NO.	DESCRIPTION
58	96-13218	IDENTIFIED DURING ENGINEERING SELF ASSESSMENT. CORRECT MINOR DRAWING AS-BUILT DISCREPANCIES IDENTIFIED BY REACTOR OPERATIONS DURING WALKDOWNS TO SUPPORT PROCEDURE UPGRADES ON THE CP SYSTEM. THESE INCLUDED ITEMS SUCH AS: DWG 9S219F20013, REV 16: VALVE CP-1359 SHOWN ON DRAWING DOES NOT EXIST. ALSO, FLOW INDICATORS FI-5806 H, I, J, K, L, M, N & FI-5812 ARE NO LONGER INSTALLED. DWG 9S219F20014, REV 18: VALVE XCP-1171 IS SHOWN IN THE PROCESS LINE INSTEAD OF AS AN INSTRUMENT ROOT VALVE. ALSO, VALVE 1320 "GRAB SAMPLE VALVE" DOES NOT EXIST IN FIELD. SIMILAR DISCREPANCIES IDENTIFIED DURING THE UNIT 2 WALKDOWN. SEE APPLICABLE MARKED UP WALKDOWN DRAWINGS.
59	96-13220	IDENTIFIED DURING ENGINEERING SELF ASSESSMENT. UNIT 2 CP SYSTEM LTDS & HTDS TANKS WERE RETURNED TO SERVICE BY PLANT OPERATIONS OVER A MONTH AGO WITHOUT THE LEVEL INSTRUMENTATION MOD (ECNP-91-J-0023, CP 95-3483) RETURN TO SERVICE COMPLETED BY THE IMPLEMENTATION ENGINEER. DRAWINGS WERE NOT UPDATED OR RED LINED TO REFLECT THE CHANGE AND IT IS UNCERTAIN IF PMT'S WERE COMPLETE SINCE STATUS IS "61" - PMT ON HOLD FOR PLANT CONDITIONS(?). THIS IDENTIFIES TWO POTENTIAL WEAKNESSES IN THE CHANGE/MOD PROCESS PRIMARILY ASSOCIATED WITH NON SAFETY RELATED SYSTEMS: 1) WITH CHANGES/MD'S ON NON SAFETY RELATED SYSTEMS NOTHING TRACKS OR FORCES PACKAGE CLOSURE AFTER PHYSICAL COMPLETION WITH RELEASE OPTHE CLEARANCE TAGS AND THE SYSTEM LINED UP FOR SERVICE. SINCE THERE IS NO OTL/LCO ENTRY TO TRACK ACTUAL PACKAGE COMPLETION THROUGH STATUS "65" - "FIELD WORK COMPLETE" (ACCEPTED BY OPERATIONS WORK AUTHORITY). 2) THE IDENTY OF THE IMPLEMENTAION ENGINEER IS NOT ALWAYS CLEAR, ESPECIALLY ON MINOR CHANGES. 3) THE POINT AT WHICH THE CHANGE/MOD SHOULD HAVE A RETURN TO SERVICE "FORM-2" COMPLETED UNDER 0PGP04-ZE-0312 IS NOT ALWAYS CLEAR TO THE IMPLEMENTATION ENGINEER. IN THIS CASE THE PACKAGE IS STILL OPEN TO ALLOW COMPLETION OF INSULATION & PAINTING. HOWEVER, THE SYSTEM HAS BEEN IN OPERATION SINCE COMPLETION OF THE PHYSICAL TANK CONNECTIONS AND INSTRUMENT INSTALLATION PORTION OF THE MOD OVER A MONTH AGO. THE CURRENT CONTROLLED DRAWINGS IN THE CONTROL ROOM DO NOT REFLECT THE CHANGE.
60	96-13226	NUMEROUS REPAIRS OF THE LINER HAVE BEEN MADE TO THE CATION AND MIXED BED VESSELS FOR THE "CP" SYSTEM. THESE ACTIONS HAVE BEEN EVALUATED ON A CASE BY CASE BASIS BY ENGINEERING. THIS CR IS FOR ENGINEERING TO EVALUATE REVISING THE VENDOR MANUAL TO ADD A DCN ALLOWING THIS REPAIR METHODOLOGY WITHOUT AQUIRING ENGINEERING APPROVAL.
61	96-13244	NUCLEAR ENGINEERING SELF ASSESSMENT ITEM: 0PGP03-ZO-0041, REV. 2,, "ACTION FOR MONITORING PRIMARY-TO-SECONDARY LEAKAGE", STATES THAT A JCO SHOULD BE WRITTEN IF LEAKAGE EXCEEDS 15GPD (SECTION 7.2.9). HOWEVER, 0PGP05-ZN-0005, REV 1, "JUSTIFICATION FOR CONTINUED OPERATION", STATES THAT A JCO IS REQUIRED ONLY WHEN THE PLANT IS IN A CONDITION OUTSIDE THE LICENSING BASIS AND CONSTITUTES A USQ (SEE SECTIONS 2.0 AND 3.4 FOR EXACT VERBAGE). A PRIMARY-TO-SECONDARY LEAK RATE OF 15GPD (~0.01GPM) DOES NOT EXCEED THE DESIGN BASIS. 0PGP03-ZO-0041 SHOULD BE REVISED TO PROVIDE FOR AN ALTERNATE MEANS OF ASSESSING WHETHER CONTINUED OPERATION IS DESIRABLE AND TO REFLECT THE CORRECT USAGE OF THE JCO PROCEDURE.
62	96-13343	DURING A REVIEW OF THE MED/MPL PROCESS AS PART OF THE ENGINEERING SELF ASSESSMENT THE FOLLOWING CONDITIONS WERE DISCOVERED AS POTENTIAL PROCESS IMPROVEMENTS. THIS CR IS BEING GENERATED FOR THE CONFIGURATION ENGINEERING SUPERVISOR TO EVALUATE THESE OBSERVATIONS AND DETERMINE THEIR VALIDITY. 1) CONSIDER ESTABLISHING A PROGRAMATICAL THRESHOLD REGUARDING THE NUMBER OF MED/MPL OPEN ITEMS AND THE LENGTH OF TIME THAT THESE MAY BE KEPT OPEN. THIS WILL ESTABLISH PERFORMANCE GOALS AND METHOD FOR MONITORING THESE GOALS. 2) CURRENTLY COGNIZANT DESIGN ENGINEERS ARE REQUIRED TO NOTIFY CONFIGURATION ENGINEERING FOR UPDATES/CHANGES TO THE MED/MPL EITHER BY USING THE ELECTRONIC CHANGE PROCESS OR BY A DCP. THIS PROCESS IS LABOR INTENSIVE AND NOT NECESSARY FOR MINOR UPDATES. COGNIZANT DESIGN ENGINEERS SHOULD BE TRAINED AND GIVE THE NESSARY ACCESS TO PERFORM THESE CHANGES TO THE REFERENCED DOCUMENTS.
63	96-13347	A FURTHER REVIEW OF ELECTRICAL SETPOINT INDEX DATABASE FOR SETPOINTS APPLICABLE TO THE DJ SYSTEM IDENTIFIED THAT THE DATABASE DOES NOT REFERENCE ELECTRICAL CALCULATION EC-5033 WHICH PROVIDES THE SETPOINT BASES AND REFERENCES FOR THE FOLLOWING REVIEWED SETPOINTS: DC UV SWITCHBOARD RELAY, SWITCHBOARD TIME DELAY RELAY, CHARGER #1 AC UV RELAY, CHARGER #1 GROUND SENSOR, CHARGER #1 DC UV RELAY, CHARGER #1 CHARGER FAILURE RELAY, CHARGER #1 DC OV RELAY, AND DC OV SWITCHBOARD RELAY. IN ADDITION A FURTHER REVIEW OF THE DATABASE FOR THE TWO (2) DC OV RELAY SETPOINTS (ADDITIONAL PROBLEMS IDENTIFIED IN CR96-13049) IDENTIFIED THAT THE NOTES SECTION IS PUNCTUATED DIFFERENTLY FOR THE SAME NOTE CAUSING CONFUSSION AS TO WETHER THE DBD IS REFERENCED AS A SETPOINT BASIS OR AS A REFERENCE FOR M&TE ACCURACY WHEN TESTING THE SETPOINT. IN EITHER CASE THE DBD DOES NOT CONTAIN SETPOINT VALUES FOR M&TE ACCURACY VALUES ASSOCIATED WITH THESE SETPOINTS.
64	96-13348	IDENTIFIED DURING ENGINEERING SELF ASSESSMENT. CURRENT "CP" SUMP LIGHT IS BOLTED TO THE SUMP GRATING AND HARD WIRED INTO THE SYSTEM. THIS REQUIRES A TAG OUT AND DETERMING TO ALLOW SUMP GRATING REMOVAL TO SUPPORT ENTRIES OR SUBMERSIBLE SUMP PUMP INSTALLATION. THIS IS OFEN THE CAUSE OF OPERATOR WORK AROUNDS AND IS INCONSISTENT WITH GOOD DESIGN PRACTICES.
65	96-13542	THE T MOD PROCEDURE DOES NOT LIST THE FIRE HAZARDS EVALUATION IN THE BODY OF THE PROCEDURE (AS PART OF THE TECHNICAL REVIEW QUESTIONS) BUT LISTS IT IN THE REFERENCES. THIS MAY LEAD TO FIRE HAZARD EVALUATIONS BEING MISSED ON T-MODS.
66	96-15668	AS A RESULT OF THE OCTOBER 14 -24 ENGINEERING SELF ASSESSMENT, THIS CR IS BEING GENERATED TO TRACK THE RESULTING REPORT SUMMARY AS FOLLOWS: (1) AREAS FOR IMPROVEMENT AND (2) RECOMMENDED ENHANCEMENTS.

	CR NO.	DESCRIPTION
67	96-15672	CD SEAL WATER SYSTEM HAS EXPERIENCED SEVERAL PROBLEMS OVER THE LAST FEW MONTHS WITH PUMP SEAL WATER CHECK VALVES STICKING (BOTH OPEN AND CLOSED OR LEAKING BY). THIS CREATED SOME CONCERNS OVER SYSTEM PERFORMANCE AND CREATED OPERATOR WORK AROUNDS. THIS SHOULD BY EVALUATED BY THE SYSTEM ENGINEER FOR SYSTEM IMPACT AND POTENTIAL NEED FOR LONG TERN CORRECTIVE ACTIONS. (THIS CONCERN ORIGINATED FROM THE ENGINEERING SELF-ASSESSMENT CONDUCTED OCTOBER 14-24, 1996)
68	96-5155	THIS CR WAS INITIATED TO PROVIDE A CLARIFICATION OF THE TECHNICAL SPECIFICATION REQUIREMENTS FOR INTERRELL CONNECTION RESISTANCE TESTING (T/S 4.8.2.1.(C).3). DURING THE PREPARATION OF THE IMPROVED TECH. SPEC. , A QUESTION CAME UP WHETHER THE CABLE RESISTANCE SHOULD ALSO BE INCLUDED INT HE CONNECTION RESISTANCE MEASUREMENT FOR INTER-TIER AND INTER-RACK CONNECTIONS. AN ENGINEERING REPORT WAS REQUESTED TO ADRESS THIS QUESTION AND TO CLARIFY THE INTENT OF THE SURVEILLANCE REQUIREMENTS FOR CONNECTION RESISTANCE TESTING. ENGINEERING SELF ASSESSMENT REOPENED THIS CR FOR LICENSING REVIEW