APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Inspection Report: 50-498/94-20
50-499/94-20

Licenses: NPF-76
NPF-80

Licensee: Houston Lighting & Power Company
P.O. Box 1700
Houston, Texas

Facility Name: South Texas Project Electric Generating Station, Units 1 and 2

Inspection At: Matagorda County, Texas

Inspection Conducted: May 9-13, 1994

Inspectors: J. I. Tapia, Examiner/Inspector, Operations Branch
Division of Reactor Safety

T. O. McKernon, Examiner/Inspector, Operations Branch
Division of Reactor Safety

Accompanying
Personnel: T. E. Hicks, Consultant

Approved: John Pellet 6/3/94
J. L. Pellet, Chief, Operations Branch Date

Inspection Summary

Areas Inspected (Unit 1): No inspection of Unit 1 was performed.

Areas Inspected (Unit 2): Routine, announced inspection to determine the effectiveness of the licensee's efforts in addressing the station problem report, maintenance, and engineering backlogs.

Results (Unit 1): Not applicable.

Results (Unit 2):

- The licensee's evaluation of existing station problem reports for issues affecting operability and safe plant operation was appropriate.

- The threshold and categorization ˜ station problem reports issued since the restart of Unit 1 has been adequate.
- The problem evaluation and adequacy of corrective actions for a sample of station problem reports was thorough.
- The establishment of the problem review group and the increased focus on ownership of problems were positive improvements.
- The backlog of maintenance items had been reduced and was manageable.
- The establishment of the two supervisors per crew concept, the operations work control group, and the Rover Maintenance program have improved work efficiency and have resulted in declining service request backlog trends.
- Staffing problems in operations have been addressed.
- Engineering support for plant operations was effective and backlogs were being effectively managed.
- System engineering had been improved and was receiving increased management attention.
- A few examples were noted where the dissemination of information was not as expected by licensee management.
- The various self-assessment programs were being implemented in a comprehensive and self-critical manner.

Summary of Inspection Findings:

- Restart Issues 2, Station Problem Report Process; 3, Service Request Backlog; 5, Engineering Backlog Items; and 9, Management Effectiveness in Handling Plant Problems, from NRC Inspection Report 50-498/93-31; 50-499/93-31, are considered resolved for the purposes of Unit 2 restart.

Attachment:

- Attachment 1 - Persons Contacted and Exit Meeting

DETAILS

1 BACKGROUND

Both units at STP were shut down in early February 1993 as a result of numerous broad scope problems identified by the NRC and the licensee. The NRC issued a confirmatory action letter (CAL) to the Houston Lighting & Power Company on February 5, 1993. The CAL and a supplement, which was subsequently issued on May 7, 1993, identified a number of issues that required resolution prior to either unit being restarted. A second supplement to the CAL was issued on October 15, 1993, and identified additional restart issues.

NRC Inspection Report 50-498/93-31; 50-499/93-31, issued on October 15, 1993, incorporated reviews of the CAL, its supplements, the diagnostic evaluation team report, items contained in the licensee's operational readiness plan, items identified in NRC inspection reports, licensing actions, and selected NRC staff actions resulting from the diagnostic evaluation. As a result of this evaluation, the inspection identified 16 restart issues that required resolution prior to the restart of either unit. After extensive reviews and inspections, including an operational readiness assessment team (ORAT) inspection led by the Special Inspection Branch of the Office of Nuclear Reactor Regulation, the CAL was lifted for Unit 1 on February 15, 1994. Unit 1 restarted shortly thereafter and was in Mode 1, power operations, during this inspection.

The purpose of this inspection was to determine the licensee's effectiveness in resolving Restart Issues 2, 3, 5, and 9 for Unit 2 and to establish a basis for concluding that these restart issues had been adequately resolved by the licensee.

2 CORRECTIVE ACTIONS TO RESOLVE RESTART ISSUES 2, 3, 5, AND 9 (92709)

2.1 Restart Issue No. 2 - Station Problem Report Process, Threshold, Licensee's Review of Existing Reports for Issues Affecting Operability and Safe Plant Operation

Programmatic revisions to the licensee's corrective action program were reviewed during Unit 1 Restart Inspections 50-498/93-33; 50-499/93-33 and 50-498/93-54; 50-499/93-54 and during the ORAT. The ORAT determined that, although significant improvements had been made with regard to the corrective action program, continued efforts were warranted to ensure that significant safety issues are promptly identified and thoroughly corrected, including the root cause of the event or equipment failure. During this inspection, the licensee's corrective action program was assessed to determine whether the station problem report (SPR) backlog was being appropriately managed. The inspection included a review of the licensee's evaluation of existing SPRs for issues affecting operability and safe plant operation. The threshold for SPR initiation and the thoroughness of problem evaluation and adequacy of corrective actions for a sample of SPRs were also evaluated. Dispositions of reviewed SPRs were found to address all contributory causes.

The existing population of SPRs was evaluated for impact on Unit 2 restart. The inspectors reviewed all SPRs written against Unit 2 since January 1, 1994, and all SPRs closed against Unit 2 since February 1, 1994. In addition, SPRs with operability reviews conducted since January 15, 1994 were reviewed. The SPR database included a plant mode restraint field to ensure that actions affecting operability and subsequent corrective actions were performed prior to the appropriate mode entry. There were no discrepancies noted in the licensee's evaluation and tracking of extant SPRs. Specific performance measures to monitor the effectiveness of the corrective action process were provided weekly to licensee management. The inspectors reviewed graphs of these performance measures and noted increased emphasis on the tracking of SPR action due dates and ownership.

The ORAT identified a concern with the categorization of SPRs. SPRs were divided into six categories based on the significance of the deficiency or initiating event with those in Categories 4, 5, and 6 not requiring a root-cause determination. As a result of the ORAT concern, the licensee established a problem report review group (PRG) to review each SPR for correctness of category level and assignment of responsibility. All adverse trend SPRs were provided to the PRG for closure review. The corrective action group (CAG) also provided a daily forum wherein a multidiscipline group reviewed all SPRs for generic implications, repetitiveness of the condition, and corrective actions taken or initiated. The inspectors attended a PRG meeting and observed the plant manager and senior management members reviewing the multidiscipline group's recommendations. The inspectors also independently reviewed selected Category 5 and 6 SPRs to determine if the categorization was correct. Although no safety significant deficiency had been classified in the categories not requiring a root-cause determination, several of the SPRs would have benefitted from more detail supporting the assignment of the lower category. The licensee acknowledged that more attention in this area was warranted.

In order to emphasize line management ownership of the corrective action process, the responsibility for SPR investigation had been assigned to the applicable departments. The licensee had established SPR investigators trained in root cause analysis and human performance evaluations in each major plant department. The inspectors reviewed the attendance records and the course content given to accomplish this training. CAG staffing had increased and the effectiveness of this group was being independently monitored by Nuclear Assurance. The inspectors noted an ongoing performance-based surveillance of the CAG implementation of the SPR process by Nuclear Assurance during this inspection.

The inspectors determined that the licensee had enhanced the SPR process and had fostered a culture that promotes problem identification and correction by line organizations. The licensee's initiatives had resulted in increased staffing, vigorous problem identification and ownership, improved training in causal analysis and improved trending and oversight. Restart Issue No. 2 is considered closed.

2.2 Restart Issue No. 3 - Service Request Backlog, Including Reduction Accomplished During the Current Outages and the Licensee's Review of Outstanding SRs for Issues Affecting Equipment Operability, Safe Plant Operation, and Operator Work-Arounds

A review of the service request (SR) backlog was performed to ascertain whether the licensee had reduced the Unit 2 SR levels to a manageable level; had reviewed SRs for issues affecting equipment operability, safe plant operation and operator work-arounds; and had achieved their operational readiness plan goals. The inspectors also ascertained whether or not corrective actions had been implemented such that the SR backlog could be maintained at manageable levels in the future.

At the time of the inspection, the licensee's Unit 2 staff had reduced the SR level to fewer than 1000 open SRs. The only exception on the departmental level was the electrical maintenance department, which was slightly above its goal. The exception had been caused by deferral of electrical maintenance work until Modes 2 and 3 had been reached. However, the electrical maintenance department was projected to meet the December 1994 goal of fewer than 132 open SRs. Similarly, Unit 2 key managers believed that the December 1994 goal for all open SRs of fewer than 850 was achievable. For Unit 1, the SR backlog levels had increased slightly above the December 1993 goal due to the transfer of personnel to support Unit 2 in the February and late March time frames. However, the trends had begun to decline and appeared manageable.

Observation of the plan of the day meetings indicated that the management of SRs and emergent work, such as temporary modifications, appeared consistent between Units 1 and 2 staffs. Improvements in handling of older SRs by Unit 1 personnel, including review of the 10 oldest on a daily basis, had reduced the average age of SRs on Unit 1 by more than 50 percent (250 days to 116 days). A similar process was being used in Unit 2 and had also resulted in a younger population of SRs (i.e., mostly 1993 or later). Results of reviews by departments, such as operations, for issues affecting equipment operability, safe plant operation, and operator work-arounds were discussed. New initiatives to more effectively reduce the SR backlog, such as the chemistry department initiation of a chemistry rover program, were also discussed.

The work control process under the operations work control group (OWCG) was reviewed to ascertain whether changes as a result of lessons learned from Unit 1 startup had been implemented and were helping the process. These changes included the formation of the work package control center, the initiation of the rover maintenance program, establishment of an OWCG guideline, use of a dedicated individual to review the SR backlog, and interfacing with the discipline craft schedulers. Better definition of engineering walkdown SRs resulted in more timely work under preventive maintenance and general services work requests. SR walkdowns by dedicated discipline representatives working in the OWCG assisted in comprehensive service request plans of action for priorities 1 and 2. Because of this, operations impact, maintenance planning, material needs, potential contingency plans, and scheduling needs were addressed. Additionally, the OWCG had initiated tracking of reactor plant operator estimated manhours for equipment clearance order tagging and lifting in order to develop a data base of reactor plant operator (RPO) histograms which could be used by the work management system for planning the next outage. The work performance of the OWCG was tracked and trended by measuring an efficiency factor related to the number of SRs dispositioned so as not to increase the SR backlog. As such, the measure was an indicator of how the OWCG could disposition SRs either through the rover maintenance program, preventive maintenance (PM) program, or others. The changes to the OWCG appeared to enhance the performance of the group as well as its interface with other organizations.

Maintenance staffing levels were reviewed to determine whether adequate staffing will exist after startup of both units to maintain the SR backlog at a reasonable level. Existing maintenance department staffing levels were 106 and 180 for Units 1 and 2, respectively. Contractor hires comprised 75 personnel of the total 286 maintenance members. The licensee was in the process of reducing the overall number of contract hires to 45 between June and December 1994, and hiring additional permanent staff. The net effect will be to decrease the maintenance staff by 13 to a total of 273. Discussions with key maintenance managers indicated that they believed the projected staffing levels to be adequate to maintain the SR backlog through improved work efficiencies. These maintenance improvements included the rover maintenance program; dedicated teams for maintenance on specific systems/equipment, such as the standby diesel generators, the essential chillers, radiation monitors, and the two work supervisor concept. An emphasis on reducing human error, ownership of equipment for maintenance purposes, control of contract maintenance personnel and activities, and reducing repeat maintenance items have all contributed to improved work efficiencies.

The inspectors concluded that the licensee was effectively and responsibly tracking and trending the SR backlog. Further, the licensee was maintaining control of SR backlog levels and had implemented sufficient actions to control the SR backlogs in the foreseeable future. Restart Issue No. 3 is considered closed.

2.3 Restart Issue No. 5 - The Outstanding Design Modifications, Temporary Modifications, and Other Engineering Backlog Items, Including the Licensee's Review of These for Issues Affecting Equipment Operability, Safe Plant Operation, and Operator Work-Arounds

Engineering backlogs were reviewed to determine whether the licensee was evaluating outstanding items for issues affecting equipment operability, safe plant operation, and operator work-arounds. Performance indicators were reviewed to ascertain whether the licensee was meeting its operational readiness review plan goals and a sampling of data was reviewed for accuracy.

The licensee had reduced the overall population of engineering backlog items to below the Unit 1 operational readiness review panel (ORRP) goals. One such goal was reducing the number of non-conforming plant change forms that were more than 30 days old to fewer than 50. To the greater extent, the licensee was maintaining or improving upon the backlog levels. The one backlog item not below the planned goal was SR and PM histories which had increased to about 2,000 as a result of input from the Unit 1 outage. The licensee had determined the items to be administrative in nature and did not affect safe plant operation or equipment operability. The licensee anticipated that the existing levels of SR and PM histories would be worked off by July 1994. In addition, the licensee had reviewed the engineering backlog (design modifications, engineering change notices, plant change forms, and others) to identify restart and non-restart issues, as well as issues which would improve the material condition of the plant. The licensee identified four modifications which were performed on Unit 1 and had not been performed on Unit 2. The modifications were evaluated and determined not to be required prior to Unit 2 restart. As of this inspection, 23 modifications were not field completed and awaited post-modification testing.

Discussions with engineering personnel indicated that in January 1994, the licensee had implemented a new work management system (WMS) for tracking and trending design engineering, system engineering and engineering support data. The new system served as an integrated computer system and interfaced with scheduling software so that the engineers could better plan for resources, windows of work opportunities, and development of individual fragnets for modification and other work activities. The overall result of the new WMS was to improve work efficiencies of the engineering groups.

In addition to the above, it was noted that Unit 1 and 2 were tracking main control board (MCBs) SRs differently. Unit 1 had chosen to adopt an accepted industry practice by segregating MCBs into items affecting the control board and control board instrumentation (CBIs), while Unit 2 counted both as the same data point. The licensee was aware of the inconsistency and was in the process of adopting a consistent tracking methodology. A review of the Unit 2 control room tag log book (items not considered MCB SRs) found that the tracking of MCB SRs and inoperable automatic functions of operations (IAFOs) was not accurately kept. For example: "Annunciator Window B-2 'SG 2C LVL DEV HI/LO' will not illuminate when tested" was not listed with MCB SRs, but in power block non-safety SR items. Other examples were noted by the inspectors. A listing of MCBs and IAFOs still open was requested from the licensee. The listing was reviewed and the items were determined not to be critical or adversely impacting safe operations.

A sample of licensee self-assessments (maintenance and technical services) were reviewed to determine whether the assessments were self-critical and comprehensive. The self-assessments were compared with the licensee's independent assessments performed by the planning and assessment department, the Nuclear Safety Review Board, and the inspectors' findings. The inspectors found that the findings were consistent, assessments were self-critical, and results of assessments were utilized by upper management to focus efforts and resources dependent upon need and priority. For example, the technical services self assessment identified two inoperable automatic function items for Unit 2 associated with the condensate polishing system. While the items did not impact Unit 2 mode entry, they did affect polishing capabilities at 50 percent or higher power levels. The licensee appropriately tracked priority items and critical path items and reviewed them weekly during the plan-of-the-day meetings. The inspector's review indicated the licensee's assessments to be comprehensive and self-critical.

The inspectors' review of the engineering backlog indicated that the licensee was evaluating the backlog for issues affecting equipment operability, safe plant operation, and operator work-arounds. The licensee was effectively managing the engineering backlog and performing comprehensive self-assessments. Restart Issue No. 5 is considered closed.

2.4 Restart Issue No. 9 - Licensee Management's Effectiveness in Identifying, Pursuing, and Correcting Plant Problems

The inspectors performed an assessment of the licensee management's effectiveness in identifying, pursuing, and correcting plant problems. To accomplish the assessment, the inspectors conducted formal interviews with maintenance crew foremen (first line supervisors), shift supervisors, division managers, department managers, and the Vice President, Nuclear Generation. The inspectors also conducted informal interviews with shift operators, facility maintenance workers, and engineers. Information obtained from these interviews was verified by independent observation of facility maintenance and plant operations, review of plant procedures and policy directives, and review of plant records, including control room logs, work packages, assessment reports, and training documents.

2.4.1 Management Initiatives

As part of management's overall effort to correct plant problems and improve plant performance, several initiatives were implemented and were reviewed by the inspectors. These included:

- the implementation of two supervisors per maintenance crew;
- a revised station problem report (SPR) process;
- the operations work control group (OWCG);
- the implementation of the technical support engineering group; and
- the rover maintenance concept.

At the time of the inspection, the two supervisors per maintenance crew concept had been in place for approximately 6 months. The objective of this program was to provide more supervisors to coach and guide work crews at the job site. In addition to improved supervision in the field, the program provided greater opportunity for personnel advancement within the maintenance organization. Furthermore, it enhanced the work control process by allowing one crew supervisor to adequately plan and schedule work for the following week while the other supervisor spends the majority of his time in the field. The success of this process was verified through discussions with maintenance craft in the field and through inspector observations of work in progress.

The SPR process had been revised to enhance the involvement of department level managers through the implementation of a Plant Review Group (PRG). The PRG was responsible for reviewing each SPR at the front end to ensure adequate categorization and ownership assignment. Additionally, by involving senior managers in SPR review on a daily basis, their day-to-day knowledge of operational concerns was improving.

The implementation of the OWCG had successfully reduced the administrative burden on operations shift supervisors. The shift supervisors no longer had to review each service request (SR) that was written at the front end of the process. Under the current program, SRs were processed by the OWCG, which was supervised by an individual who previously served as a shift supervisor. The OWCG was also tasked with closing out the SR paperwork at the back end of the process following work completion. Discussions with shift supervisors indicated that the OWCG had reduced their administrative burden by about 60 to 80 percent. Observations by the inspectors of control room activities and discussions with OWCG workers confirmed that shift supervisors no longer spend significant time processing SRs.

The implementation of the technical support engineering (TSE) group had provided the operators in the control room with a 24 hour per day, onsite engineering resource to resolve plant problems that required rapid response such as operability determinations. This had also relieved the system engineers of some of their work load. The use of the TSE engineers was observed by the inspection team during one back shift when the shift supervisor called upon the services of the duty TSE engineer to resolve a question regarding pipe wear identified during a system walkdown.

The rover maintenance group was implemented to provide a simplified method to work-off minor maintenance items that were considered within the skill of the craft. The group was made up of approximately five maintenance workers from the three maintenance disciplines: mechanical, instrumentation & controls, and electrical. This program had demonstrated its effectiveness in reducing the SR backlog. During the week ending May 10, 1994, the rover group worked off 25 SRs. For the two weeks preceding this inspection, approximately 16 percent of the newly generated SRs were sent to the rovers for completion.

One area identified by the inspectors where increased management attention was warranted was in the dissemination of policy and lessons learned from operating shifts through the use of night orders and shift briefing items. One instance was identified where a change in policy (the verification of valve position when operating a valve by reach-rod) was communicated through night orders. Previous inspections have also identified this area as warranting additional attention. Management direction regarding changes to operating philosophy or policy should be documented in a permanent plant document so that operators can refer to a single, controlled source of information regarding operational directives.

Shift briefing items were used by operations management to communicate lessons learned and other similar information to the shifts. Management's expectation regarding this material was that the shift supervisors would discuss it with their crews. Review of the briefing book and discussions with operators indicated that this policy was not being implemented as intended. Two examples were noted where not all shift supervisors had signed the shift briefing document. The licensee acknowledged that additional emphasis in this area was warranted.

2.4.2 Management Response to a Plant Event

As part of the inspector's review of management's effectiveness at responding to and correcting problems, the Unit 1 steam generator 1C tube leak event and subsequent plant response was analyzed. On February 28, 1994, at 10:13 p.m., Unit 1 was manually tripped due to Feedwater Regulating Valve 1D failing closed and causing a loss of feedwater to Steam Generator 1D. Steam generator blowdown was automatically secured. Later in the shift, at approximately 3:30 a.m., on March 1, steam generator blowdown was reestablished. At approximately 4:30 a.m., the blowdown radiation monitor alarmed. Subsequent steam generator samples identified unanticipated activity levels in Steam Generator 1C. The calculated leakrate was approximately 160 gallons per day. The results of the analysis and the leak quantification efforts were presented to licensee management at approximately 2 p.m. A second set of data was presented to management at 5 p.m. which generally confirmed the first set. Licensee management made the decision to cool down the plant and repair the leak. The inspectors concluded that this was a conservative action since Technical Specification 3.4.6.2 allowed continued operation with up to 500 gallons per day through any one steam generator. The inspectors confirmed through a review of activity analysis for the period prior to March 1, and, through an interview with the chemistry manager, that there was no indication of a leak prior to the reactor trip on February 28. The inspectors concluded that management's decision to cooldown and repair the generator was appropriate. No concerns regarding this event were identified.

2.4.3 Lessons Learned From the Unit 1 Startup

The inspectors reviewed the actions taken by Unit 2 management in response to problems that were identified during the Unit 1 startup and power ascension test program. Although no formal, coordinated, plant-wide review was conducted of the Unit 1 experience, the inspectors determined that efforts undertaken by management to address Unit 1 problems in Unit 2 were adequate. These efforts included assigning experienced startup duty managers from Unit 1 as startup duty managers in Unit 2, efforts by management to address significant lessons learned at Unit 2 plan of the day (POD) meetings, and the evaluation of lessons learned during individual line management self assessments. Unit 2 actions that were implemented in response to problems on Unit 1 included:

- steps to address high oxygen content in the reactor coolant system;

- inspection of feedwater pump low pressure governor valves;

- implementation of an augmented surveillance program for the turbine driven auxiliary feedwater pumps;

- modifications to the feedwater isolation bypass valves to prevent reverse flow; and

- incorporation of lessons learned from Unit 1 steam generator power-operated relief valve (PORV) reliability issues.

No concerns were identified regarding the application of Unit 1 lessons learned to Unit 2.

2.4.4 Operational Readiness, Startup and Power Ascension Plans for Unit 2

The inspectors reviewed the licensee's operational readiness and startup and power ascension plans. The licensee had previously developed similar plans for Unit 1. The Unit 2 plans appeared to adequately incorporate necessary activities, management expectations, and lessons learned from the Unit 1 startup. The inspectors questioned the licensee regarding the division of responsibility and authority between the various managers that would be involved in the startup evolution, including the startup duty manager, the power ascension test manager, and shift supervisor. A clarification in this area was needed during the Unit 1 startup when a forced outage occurred. Licensee management explained that the Unit 2 Startup and Power Ascension Plan provides an explanation of responsibilities in Appendix A of the plan and that the shift supervisors would be briefed regarding the division of responsibilities prior to plant startup. The inspectors determined that the licensee's proposed actions were satisfactory.

2.4.5 Management Attention to Staffing Problems

Staffing problems that previously existed in operations have been corrected and management has demonstrated a commitment to maintain staffing levels as evidenced by the number of operators in the training pipeline. Unit 2 operations crews were currently on a six shift rotation. Each crew was staffed with two licensed senior reactor operators, two licensed reactor operators, and five non-licensed RPOs. The licensee was currently short a total of three RPOs; however, operations management expected to close this shortfall later in the year, following completion of ongoing training for new operators. The current license class had 19 senior reactor operator candidates and nine reactor operator candidates. Seventeen RPO candidates were also in training.

2.4.6 Management Attention to Training

The inspectors reviewed three training areas where previous inspections had identified a lack of or weaknesses in accomplishing training goals. First, the maintenance organization undertook an effort to enhance the knowledge and skill level of craft personnel by providing more emphasis on crew certifications and establishing a crew certification goal of 658 certifications in 1993. By December of 1993, maintenance had surpassed this goal by achieving 704 certifications. By March 31, 1994, maintenance had added an additional 140 certifications. The goal for 1994, was 584 certifications department wide.

To improve the operational knowledge of select managers, the licensee developed a management senior reactor operator certification course. The first such course began in September of 1993, and ended in April 1994. A second class began in May 1994. Approximately six managers enroll in each class. Additionally, there were nine site managers in the current senior reactor operator license class.

System engineer certifications were receiving adequate management attention with a goal of 100% incumbent certifications by the end of 1994. To date, incumbent system engineers (hired before January 1993) had completed an average of 70% of their certifications while nonincumbents had completed approximately 54%.

2.4.7 Management Attention to Engineering and Technical Support

Engineering and technical support for the plant was found to be adequate, as evidenced by observations of work in the field, the addition of seven system engineers (bringing the total to 77),the reduction of engineering backlog, the implementation of the technical support engineers, the increased management attention to the system engineer certification program, and general feedback from plant operators.

2.4.8 Management Self-Assessment Programs

In March 1994, the Group Vice President, Nuclear approved the Line Management Assessment Plan for Unit 2. This program directed the development of organizational specific self assessments to support specific milestones in the Unit 2 power ascension plan. The inspectors reviewed the results of several of the Mode 4 line management self assessments, as well as observed a debriefing for senior managers regarding one of the engineering self assessments. The inspectors found that the quality of the assessments varied somewhat between organizations, but were generally adequate to accomplish the stated goal. No concerns regarding this program were identified.

In addition to line management self assessments, the inspectors reviewed assessments performed by the independent assessment organization. The independent assessment group documented its overall assessment findings, biweekly, on a "report card." This report card used a color coded grading scale similar to the performance indicators. The inspectors determined through review of the reports and observations in the field that these independent assessment "report cards" adequately identified problems and received adequate line management attention and response. For example, the last report card identified a weakness in the area of management oversight, citing problems with the oversight of RPOs by shift supervisors. Shift supervisors were completing mode change verifications and final system testing and apparently did not have sufficient time to tour the plant with the RPOs. In response, operations management immediately directed senior reactor operators from the operations support group to conduct monitoring tours with RPOs. Discussions with several RPOs indicated that these monitoring tours were occurring at an acceptable frequency. Operations management anticipated resuming routine shift supervisor tours with RPOs following completion of the outage.

2.4.9 Plant Culture

A significant change in plant culture was clearly underway throughout the organization. The attitude expressed by virtually all interviewees was that senior management encouraged ownership of problems and expected plant personnel to identify and correct problems in a quality manner. There did not appear to be a reluctance on the part of operators and maintenance personnel to raise concerns to management as had apparently existed in the past. For example, several interviewees stated that the station problem report (SPR) process was no longer used as a punitive tool against employees, and that this change resulted in employees being more willing to use the program.

The communication between workers and management had improved with the flow of information traveling in both directions. According to interviewees, management appeared committed to listen to the concerns of the workers and incorporate their ideas. Many workers felt that in the past, management had no intention of implementing changes. This perception by workers was clearly changing.

Expectations from senior management were clear and consistent, and were being well received and understood from the working level individual. These expectations were communicated in several ways including all-hands meetings, group vice-president meetings, one-on-one lunches attended by plant personnel and senior managers, and through implementation of recently issued formal standards and guidelines which were developed using a bottom-up approach.

Senior managers recognized the potential for "backsliding" following plant start-up and appeared vigilant in their commitment to maintain a high level of performance. As part of management's efforts to effect longer term changes, site management implemented a closely monitored set of performance indicators and a business plan which identified focus areas and initiatives to enhance personnel and plant performance. These measures were being monitored by senior management as evidenced by the once a month meeting between the Vice President, Nuclear Generation and focus area champions to discuss the status of the activities and possible improvements. An example focus area from the business plan was an initiative to define and establish optimum staffing levels in operations and an operator pipeline (Initiative C5). This initiative was part of a larger focus area, Item C Resources, and was intended to be completed by the end of 1994.

Performance indicators were posted throughout the plant and utilized a color coded graded system: red - weakness; yellow - improvement needed; white - satisfactory performance; and green - strength. These indicators were monitored monthly by management. Management had established goals regarding these performance indicators, such as: inoperable automatic function - none that adversely affect operations' ability to perform quality rounds and handle normal work load; main control board deficiencies - less than 10 at the full power plateau and none that adversely affect operations' ability to effectively monitor plant conditions at each mode. The inspectors reviewed the progress for a sample of the performance indicators and identified no concerns.

Restart Issue No. 9 is considered closed.

ATTACHMENT

1 PERSONS CONTACTED

1.1 Licensee Personnel

H. Bergendahl, Manager, Technical Services
J. Calloway, Sr. Staff Consultant
J. Carlin, Manager, Training
T. Cloninger, Vice President, Nuclear Engineering
K. Coates, Manager, Unit 2 Maintenance
J. Conly, Licensing Engineer
W. Cottle, Group Vice President, Nuclear
D. Daniels, Administrator, Corrective Action Group
W. Dowdy, Manager, Unit 2 Operations
R. Garris, Manager, Human Resources
J. Groth, Vice President, Nuclear Generation
J. Hartley, Supervisor, Maintenance Support
S. Head, Sr. Licensing Engineer
J. Johnson, Supervisor, Quality Assurance
T. Jordan, Manager, Systems Engineering
D. Leazar, Director, Nuclear Fuel & Analysis
B. MacKenzie, Consulting Engineering Specialist
F. Mallen, Manager, Planning, Assessments & Controls
F. Mangan, General Manager, Plant Services
R. Masse, General Manager, Generation Support
G. Parkey, Plant Manager, Unit 2
J. Sheppard, General Manager, Nuclear Licensing
D. Stonestreet, Manager, Outage Support
S. Thomas, Manager, Design Engineering
G. Walker, Manager, Public Information
J. Wittman, Supervisor, Work Control

1.2 NRC Personnel

D. Loveless, Senior Resident Inspector

The personnel listed above attended the exit meeting conducted on May 13, 1994. In addition to the personnel listed above, the inspectors contacted other personnel during this inspection period.

2 EXIT MEETING

An exit meeting was conducted on May 13, 1994. During this meeting, the inspectors reviewed the scope and findings of this report. The licensee acknowledged the inspection findings. The licensee did not identify as proprietary any information provided to, or reviewed by, the inspectors.