

ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket No : 50-458

License No.: NPF-47

Report No.: 50-458/97-04

Licensee: Entergy Operations, Inc.

Facility: River Bend Station

Location: 5485 U.S. Highway 61
St. Francisville, Louisiana

Dates: January 6-10 and 20-24, 1997

Inspectors: M. Runyan, Reactor Inspector, Lead Inspector
P. Goldberg, Reactor Inspector
C. Johnson, Reactor Inspector

Approved By: Chris A. VanDenburgh, Chief, Engineering Branch
Division of Reactor Safety

ATTACHMENT: Supplemental Information

TABLE OF CONTENTS

EXECUTIVE SUMMARY	iv
Report Details	1
I. Operations	1
O1 Conduct of Operations	1
O1.1 Day-to-Day Resolution of Problems by Operations	1
O2 Operational Status of Facilities and Equipment	3
O2.1 Operator Workarounds	3
O2.2 Operability and Reportability Determinations	4
O4 Operator Knowledge and Performance	4
O4.1 Operator Involvement in the Corrective Action Process	4
O7 Quality Assurance in Operations	5
O7.1 Operations Department Self Assessment	5
O7.2 Effectiveness of Corrective Actions	6
II. Maintenance	8
M2 Maintenance and Material Condition of Facilities and Equipment	8
M2.1 Maintenance Action Items	8
M4 Maintenance Staff Knowledge and Performance	8
M4.1 Improved Maintenance Performance	8
III. Engineering	9
E2 Engineering Support of Facilities and Equipment	9
E2.1 Engineering Support of Operating Experience	9
E2.2 Engineering Support of Condition Reports	11
E2.3 Engineering Requests	13
E2.4 Part Interchangeability Evaluation	13
E2.5 Temporary Alterations	14
E2.6 Engineering Backlog	15
E7 Quality Assurance in Engineering Activities	15
E7.1 Quality Assurance Audits and Self Assessments	15
E7.2 Root-Cause Analysis	19
E8 Miscellaneous Engineering Issues	19

V. Management Meetings	21
X1 Exit Meeting Summary	21

ATTACHMENT - Supplemental Information

EXECUTIVE SUMMARY

River Bend Station NRC Inspection Report 50-458/97-04

This inspection reviewed the licensee's corrective action processes to determine whether problems affecting plant safety were being identified and resolved by the licensee in a manner that would prevent recurrence. The inspection revealed that River Bend's corrective action processes were functioning satisfactorily and were improving over the past 18 months.

Operations

- Operators handled day-to-day resolution of problems in an effective manner through the corrective action process (Section O1.1).
- In general, the safety review committees effectively identified, assessed, and resolved issues. The committees also effectively determined appropriate prioritization, safety significance, and root causes (Section O1.1).
- The licensee had significantly reduced the number of operator workarounds (Section O2.1).
- Although operability assessments and their bases appeared adequate, some operability bases were documented to an insufficient level of detail (Section O2.2).
- The inspection found that operations personnel were no longer reluctant to document problems and were encouraged by management to write condition reports (Section O4.1).
- Operations involvement in the corrective action process was good and appeared to be effective (Section O4.1).
- Operations assessments were effective in identifying areas of concern and the licensee was implementing initiatives to prevent recurrence. However, several condition reports revealed recurring problems in the areas of plant configuration control, procedural compliance, inattention to detail, and human performance (Section O7.1).
- Operations staff personnel felt that management's support was excellent. Management oversight had improved and was effective (Section O7.2).
- Plant operational performance indicators had significantly improved over the past 3 years and employee concerns had decreased by approximately an order of magnitude, which indicated an improving corrective action program (Section O7.2).

- The licensee's recent improvement in performance appeared to be the result of: (1) the localization of all plant groups to the immediate plant site area; (2) the establishment of team sharing goals; (3) the influence of shared resources with Entergy, Inc.; (4) new policies increasing the effectiveness of the condition reporting system; and (5) employee confidence in the corrective action program (Section O7.2).
- The licensee implemented a policy to encourage employees to document all problems, no matter how minor, on condition reports. The licensee's trend information revealed that the resultant increase in condition reports correlated with a concomitant decrease in significant events. The new emphasis appeared to be capturing more problems at earlier stages, before they otherwise would have escalated into larger problems (Section O7.2).

Maintenance

- The licensee appropriately used maintenance action items for repair and replacement of plant equipment and not for modifications of the plant design (Section M2.1).
- The licensee's trending information indicated that maintenance performance had greatly improved with a large decrease in significant failures. The licensee attributed the improved performance in this area to the increased generation rate of condition reports (Section M4.1).

Engineering

- The licensee generally responded well to several Information Notices, Bulletins, Generic Letters, and 10 CFR Part 21 reports. However, the inspection noted one exception involving a weak response to two issues identified in Information Notice 96-48, "Motor-Operated Valve Performance Issues," (Section E2.1).
- Although the inspectors found several condition reports that had limited scope, insufficient documentation, a lack of conservative judgement, or contained a shallow depth of analysis, none resulted in operability concerns. These lower quality reports were all performed before March 1996. The inspection found a significant improvement in the quality of condition reports generated after this date (Section E2.2).
- The licensee had taken aggressive actions to reduce the number of temporary alterations. However, the inspectors noted a tendency to defer work on modifications if an already installed temporary alteration was performing the desired function of the modification (Section E2.5).
- Despite the increase in condition report generation, the licensee was maintaining most backlog levels steady. This was identified as a strength (Section E2.6).

- With the exception of the maintenance rule review of maintenance-preventable functional failures, the licensee was not taking an integrated, concurrent look at both condition report and maintenance action item databases to detect instances of multiple events or repetitive problems. Each database was being reviewed separately. Additionally, the 36-month time span used to search for recurrent conditions was potentially too short for certain infrequent nuclear plant activities (Section E7.1).
- Licensee self assessments in the area of corrective action were restricted in scope to individual program elements. Specifically, the licensee had not planned or performed any assessments to review how the various parts worked together to accomplish the entire corrective action process (Section E7.1).
- The licensee had implemented a new policy to formally track recommendations resulting from audits and self assessments (Section E7.1).
- Licensee performance in root-cause evaluation was strong and showed improvement over the period of review (Section E7.2).

Report Details

Summary of Plant Status

The plant was operated at 100 percent power for the duration of the inspection.

I. Operations

O1 Conduct of Operations

General Comments (40500)

The objective of this inspection was to evaluate the effectiveness of the River Bend Station controls in identifying, resolving, and preventing problems that degrade plant safety. This review was focused on the following areas:

- Safety review committee activities
- Root-cause analysis
- Corrective action
- Self assessment
- Operating experience feedback

The inspection consisted of an extensive review of plant documents, attendance at various plant meetings, employee interviews, and meetings with licensee personnel to discuss technical or administrative questions.

The inspectors conducted reviews of ongoing plant operations as it related to the corrective action process. In general, the plant operations involvement of the corrective action process was good. In particular, the inspectors observed a significant reduction in operator workarounds. This was a significant improvement from previous years.

O1.1 Day-to-Day Resolution of Problems by Operations

a. Inspection Scope (40500)

The inspectors reviewed the results of the operations staff's efforts to resolve identified problems by reviewing condition report resolutions, observing the activities of the corrective action review board in developing corrective actions, and observing the activities of the plant's safety review committees. The inspectors held discussions with operational staff personnel to determine how day-to-day resolution of problems were handled. The inspectors interviewed selected operations staff personnel to determine their knowledge of the corrective action process and procedures at River Bend Station. The inspectors interviewed 11 operational staff personnel, which included operations shift superintendent, control room supervisors, shift technical advisors, senior reactor operators, and senior nuclear equipment operators. In addition, the team interviewed personnel regarding problem issues to determine the extent and effectiveness of the resolutions.

b. Observations and Findings

The operational staff interviewed by the inspectors were knowledgeable of the corrective action process. They indicated that the day-to-day resolution of problems (e.g., equipment deficiencies) were handled through the condition report process or the maintenance action item process. The inspectors were informed that the maintenance action item process was initiated for equipment deficiencies (e.g., packing leaks) only. Condition reports were initiated for more significant issues which also included human performance and procedural compliance issues.

Upon receipt of a condition report, the shift supervisor or shift technical advisor/senior reactor operator reviewed the condition report for immediate reportability and operability. All hard copy condition reports were brought to the shift supervisor or shift technical advisor for review and signature. The inspectors verified the presence of hard copies of condition reports in the control room. Maintenance action items were reviewed constantly through the electronic database by the senior reactor operator of the work control group. The inspectors observed a shift supervisor in the work control group review a maintenance action item on the database. The inspectors concluded, through observations of activities, personnel interviews, and review of condition reports, that the day-to-day resolution of problems was handled in an effective manner through the corrective action process.

The inspectors attended a condition review group meeting and a facility review committee meeting on January 9, 1997, and a corrective action review board meeting held on January 10, 1997. These groups perform the following functions:

- The corrective action review board reviews and approves the root cause and proposed corrective action for each condition report. The inspectors observed the corrective action review board review, discuss, and approve the root cause for the inservice testing program vibration measurement discrepancies for Condition Report 96-1862.
- The condition review group reviews each condition report for significance, determines grade level, and screens each for potential hazards to nuclear safety. In the meeting attended by the inspectors, the condition review group reviewed Condition Reports 97-0008, -0009, -0010, -0011, -0012, -0013, and -0014.
- The facility review committee reviews all condition reports that are considered to be a potential hazard to nuclear safety.

The inspectors observed the following in each meeting: good communication between the various organizations, a questioning attitude, good probing questions, good constructive decisions, and appropriate management attendance. In general, the meetings were effective and well conducted.

c. Conclusions

Overall, the inspectors concluded that the operations staff handled the day-to-day resolution of problems in an effective manner. In general, the inspectors concluded that the safety review committees were effective in analyzing, assessing, and resolving issues. The committees were also effective in determining appropriate prioritization, safety significance, and appropriate root-cause determination.

O2 Operational Status of Facilities and Equipment

O2.1 Operator Workarounds

a. Inspection Scope (40500)

The inspectors held discussions with operations personnel regarding operator workarounds, defined as discrepant conditions requiring additional operator actions to compensate for a lost function. Workarounds are a concern because they can complicate operator responses to emergencies.

b. Observations and Findings

The licensee had reduced the number of operator workarounds. This was due, in part, because existing operator workarounds were tracked by the work week manager in the database. At the time of the inspection, 11 operator workarounds remained and these operator workarounds were included in the work schedule to be resolved. The inspectors verified that each operator workaround was tracked and scheduled for elimination by a maintenance action item. The inspectors' discussions with the operators indicated that the reduction in operator workarounds greatly improved working conditions.

The licensee also tracked items termed as main control room deficiencies (eight each) and "lit" annunciators (six each). The inspectors determined that the main control room deficiencies and lit annunciators did not appear to be operator workarounds, except for one lit annunciator (Maintenance Action Item 310179). The licensee informed the inspectors that this annunciator was an operator workaround, however, it was decided to track this item on one list (lit annunciators) instead of two. The licensee indicated that they placed equal importance on all three tracking methods.

c. Conclusions

The inspectors concluded that the licensee had made significant improvements in the reduction and control of operator workarounds.

O2.2 Operability and Reportability Determinations

a. Inspection Scope (40500)

The inspectors reviewed 36 condition reports handled by operations to determine the adequacy of the operability and reportability determinations.

b. Observations and Findings

The operations shift superintendent or designee (senior reactor operator certified) performs and documents operability assessment and immediate reportability determinations for all condition reports. The operations staff used Procedure RBNP-078, "Operability Determinations," Revision 1, as guidance for determining operability evaluations. In general, the immediate reportability determinations made by operations were good. However, there were some instances where, upon further review and investigation by the licensee, the determination was changed.

The inspectors reviewed the condition report operability assessments and the bases for making the operability assessments. Overall, the inspectors found the operability assessments and bases to be technically adequate. However, the bases for the assessments in some instances were not detailed or descriptive. In these cases, the inspectors could not, by sole review of the documentation, determine the thought process used to make the operability judgement. In each of these cases, though, discussion with licensee engineers afforded an explanation sufficient to justify the determination of operability. The inspectors discussed this issue with an operations staff manager, who stated that operations management was cognizant of this issue and was striving to make improvements.

c. Conclusions

The licensee was properly handling operability and reportability determinations, however, some operability determinations were not sufficiently detailed or descriptive to fully expound the thought process used in the evaluation.

O4 Operator Knowledge and Performance

O4.1 Operator Involvement in the Corrective Action Process

a. Inspection Scope (40500)

The inspectors interviewed operations personnel to determine their knowledge and involvement of the corrective action process.

b. Observations and Findings

Operation staff management personnel were present and actively participated in the condition review group, corrective action review board, and the facility review committee meetings. All condition reports were reviewed and approved by the control room shift supervisor or designee. Maintenance action items were electronically forwarded to the control room for an operability assessment by a senior reactor operator. The inspectors found that maintenance action items cannot be worked or scheduled until operations has performed an operability assessment.

Operational staff personnel were encouraged by management to write condition reports. Operators interviewed by the inspectors stated that they were not reluctant to write condition reports; although, in the past, they had often felt discouraged in documenting problems.

c. Conclusions

The inspectors concluded that operations involvement in the corrective action process was good and appeared to be effective.

O7 Quality Assurance in Operations

O7.1 Operations Department Self Assessment

a. Inspection Scope (40500)

The inspectors reviewed two operations assessments, one quality assurance audit, and one operations self assessment (internal) listed in the attachment.

b. Observations and Findings

The operations self assessment (internal) conducted in July 1996 identified some significant concerns involving the need to minimize human errors, particularly those related to procedural compliance and work practices. The inspectors reviewed approximately 36 condition reports in the operations area and confirmed the licensee's concerns. The inspectors determined that the most prevalent areas of concerns were human performance, procedural compliance, inattention to detail, and configuration control. The licensee was in the process of implementing initiatives to eliminate these concerns. For example, a departmental natural work team was established to analyze operating practices with focus on human performance improvement and procedural compliance. In addition, operations self assessments were updated every 6 months; and a presentation was made to the site lead team (i.e., the Vice President of Operations and his direct reports).

The inspectors identified some administrative deficiencies during review of condition reports, but none were of substantial safety significance.

c. Conclusions

Operations assessments were effective in identifying strengths and areas of concern. Actions were being taken to correct recurring deficiencies related to human error, procedural compliance, and configuration control.

O7.2 Effectiveness of Corrective Actions

a. Inspection Scope (40500)

In the past, management oversight of operations and corrective actions had been noted by the NRC to be weak. The inspectors discussed this issue with operations personnel. The inspectors reviewed performance indicators to measure the effectiveness of the licensee's corrective action program.

b. Observations and Findings

The operations staff unanimously (among those interviewed) agreed that management oversight has improved. Operations staff personnel felt that management support was excellent. The operations staff personnel informed the inspectors that management is involved daily on plant issues.

Performance trending information indicated that plant performance had improved significantly over the past 3 years. This was most evident in a performance index that compared all nuclear plants in the United States in the following areas:

1. Unit capacity factor
2. Unit capability loss factor
3. Safety system performance
4. Unplanned automatic scrams
5. Collective radiation exposure
6. Fuel reliability
7. Thermal performance
8. Chemistry index
9. Industrial safety accident rate

In March of 1993, the median index value was approximately 76 for all plants while River Bend had a score of approximately 45. By December of 1996, the median industry value was 84.0, whereas River Bend had improved to a better-than-median value of 89.2.

The inspectors identified five apparent reasons for the licensee's improved performance:

- 1) A policy change to encourage the writing of condition reports for all problems, no matter how minor, was instrumental in capturing problems in an infant stage before they would otherwise escalate to become major problems. The licensee found that whenever a plant group increased their production rate of condition reports, the number of significant events in that group tended to decline. The licensee stated that this policy had been recommended during a contracted study of its corrective action process.
- 2) Employee confidence in the corrective action process appeared to be high and increasing. During interviews, plant employees stated that there was no reluctance to initiate condition reports (though many said this had not been the case in the past) and that they had confidence that the corrective action system would successfully resolve their concerns. As a result, the rate of employee concerns had dropped from approximately 30 per year to about 6 per year in the past 2 years.
- 3) The completion of new office buildings enabled the relocation of all plant groups to the immediate plant site area. Previously, these groups had been scattered and much less accessible to each other.
- 4) The licensee had established a team spirit concept. At the beginning of the year, specific performance goals were set. If the goals were attained, a bonus was provided to each employee. The program was applied plant wide, such that all employees were effectively on the same "team."
- 5) The licensee was gaining expertise and shared resources resulting from the recent merger with Entergy, Inc., which provided a close association with three other nuclear power plants.

c. Conclusions

Management oversight of operations and corrective actions had improved and was effective.

II. Maintenance

M2 Maintenance and Material Condition of Facilities and Equipment

M2.1 Maintenance Action Items

a. Inspection Scope (40500)

The inspectors reviewed 30 maintenance action items to determine if repetitive problems existed and to determine if they were being used to improperly modify the plant design. The inspectors discussed a number of the maintenance action items with licensee personnel.

b. Observations and Findings

The inspectors found that the maintenance action items were used appropriately for repair and replacement of plant equipment. The inspectors did not identify any examples where the maintenance action items were improperly used to modify the plant design. In addition, no examples of repetitive maintenance were identified.

c. Conclusions

The licensee had a strong program to address maintenance action items.

M4 Maintenance Staff Knowledge and Performance

M4.1 Improved Maintenance Performance

a. Inspection Scope (40500)

The inspectors reviewed trending information to determine performance levels of various plant groups. This information resulted in a specific finding in the maintenance area.

b. Observations and Findings

The licensee's trending information detected a significant improvement in the performance of the maintenance group over the period of March 1996 to the present. During this period, the rate of significant condition reports declined substantially while the generation rate of condition reports increased by a factor of approximately four. The above correlation appeared to suggest that maintenance employees were identifying and fixing problems at the initial stages, before the problems worsened or before significant impacts may have resulted from continued operations with degraded equipment. The correlation of increased numbers of condition reports with a decreased number of significant condition reports was evident in all plant groups but the effect was most pronounced in maintenance.

c. Conclusions

Trending information revealed a significant improvement in the performance level of licensee maintenance personnel. The improvement appeared to be related to an increased generation of condition reports, identifying more problems at an incipient stage.

III. Engineering

E2 Engineering Support of Facilities and Equipment

E2.1 Engineering Support of Operating Experience

a. Inspection Scope (40500)

The inspectors reviewed the licensee's response to the following issues:

NRC Information Notices:

- | | |
|-------|--|
| 96-08 | Thermally Induced Pressure Locking of a High Pressure Coolant Injection Gate Valve |
| 96-37 | inaccurate Reactor Level Indication and Inadvertent Draindown during Shutdown |
| 96-48 | Motor Operated Valve Performance Issues |

NRC Generic Letters:

- | | |
|-------|---|
| 96-01 | Testing of Safety Related Circuits |
| 96-04 | Boraflex Degradation in Spent Fuel Pool Storage Racks |

NRC Bulletins:

- | | |
|-------|---|
| 95-02 | Unexpected Clogging of a Residual Heat Removal (RHR) Pump Strainer While Operating in Suppression Pool Cooling Mode |
|-------|---|

Part 21 Reports:

- | | |
|--------|---|
| 219511 | Terry Turbines Type GS, ZS, CS, and CCS Aux Feed Pump/RCIC/HPCI Drivers Governor Valve Linkages |
| 219604 | Safety Limit MCPR Evaluations (CR 96-0811, LER 96-10) |

219609 Cooper Energy Services Reports a Potential Manufacturing Defect of the Enterprise DSR-4 and DSRV-4 Emergency Diesel Generators (EDGs) (CR 96-1429)

b. Observations and Findings

The licensee had developed a formal response to each of the above items. The responses appeared to address each item adequately with one exception. Specifically, Information Notice 96-48, issued August 21, 1996, had not been well researched with regard to two performance issues. The first involved the possible unpredictable behavior of gate valves having carbon steel guides and disc slots with less than 1/16-inch clearance under blowdown flow conditions. The licensee had four Velan gate valves potentially susceptible to this phenomenon but had not taken any actions to quantify the clearances, either by direct measure or by comparison to other similar valves in the industry. The second issue concerned the tendency for gate valves to require more unseating (unwedging) thrust under dynamic opening conditions than under static conditions. The licensee had not reviewed its database to determine whether its valves exhibited this behavior. In response to the inspectors' concerns, the licensee performed this analysis. Within a limited sample of gate valves that were tested under both static and dynamic conditions and for which precise instrumentation was used, the licensee identified a small effect that was not statistically significant. The inspectors considered this information to be important but also determined, given the small sample (approximately ten valves), that it did not completely resolve the concern for the licensee's entire gate valve population.

The inspectors did not consider either issue to constitute an immediate operability concern. However, the lack of aggressive action on these issues reflected a weakness in the licensee's process of dispositioning this information notice. However, two extenuating circumstances existed. The licensee's motor-operated valve staff had recently suffered losses due to personnel shifts and medical conditions. Also, the wording of the information notice was sufficiently vague in the case of the unwedging thrusts to have been understandably misinterpreted by the licensee. The licensee indicated that Information Notice 96-48 was still considered open and that further analysis of these two issues would be performed.

c. Conclusions

With one exception, the licensee had satisfactorily reviewed external reports of operating experience. The licensee's response to two elements contained in Information Notice 96-48 was weak.

E2.2 Engineering Support of Condition Reports

a. Inspection Scope (40500)

The inspectors selected a sample of condition reports that were assigned to engineering for resolution. These are included in a list of condition reports in the attachment. The inspectors reviewed the reports and arranged meetings with licensee engineers to discuss questions that arose during the reviews.

b. Observations and Findings

Out of the approximately 35 engineering condition reports reviewed, the inspectors identified 5 with minor problems as listed below:

- | | |
|---------|--|
| 95-0736 | This report identified a spurious circuit breaker trip, but no review was performed of past-maintenance history to determine if similar instances of spurious breaker tripping had occurred. This type of review is necessary to properly characterize an issue and as a basis to formulate an appropriate corrective action response. |
| 95-1107 | This report involved valves found out of their proper position, however, the corrective actions were limited to returning the valves to their correct position and did not address actions to preclude recurrence. |
| 95-1240 | This report involved a valid diesel generator failure. Although it was reviewed by the corrective action review board, the root cause was not researched to the same level as is normally applied to corrective action review board condition reports. Rather, the licensee used a licensee event report. |
| 96-0254 | This report involved drifting relief valve setpoints. The corrective action was to reset the valves and to evaluate the implications of the higher relief setpoint. However, the condition report did not present information discussing the rate at which the setpoint had drifted (to confirm the adequacy of the current surveillance interval) and also did not identify the point at which a drifted relief valve could cause an operational concern. The lack of this information in the condition report made it impossible for a reviewer to assess the adequacy of the response. Upon verbal receipt of this information, the inspectors found the licensee's corrective action for this event to have been satisfactory. |

96-0848 This report involved a problem with a stop check valve. Although the licensee originally identified the root cause as incorrect installation of an internal spring, there were no corrective actions to address the installation problem (as it may have pertained to other valves). Later, the licensee determined that the actual root cause was an improper spring supplied by the vendor. Thus, the original disposition was deficient in both the root-cause identification and the scope of corrective actions.

The inspectors did not consider any of these examples to constitute an operability concern. More importantly, all of the marginal condition reports were dispositioned prior to March 1996. The inspectors noted that all the condition reports generated after this date were more comprehensive in scope, had more detailed documentation, exhibited more conservative engineering judgement, and contained a more desirable depth of analysis.

Diesel Generator Oil Cups

The inspectors reviewed Condition Report 96-0954, dated May 22, 1996, which described bracket assemblies with oil cups incorrectly installed on the main fuel control shaft at Cylinders 1, 3, 5, and 7 of both emergency diesel generators. The licensee had determined that the oil cups did not belong on these cylinders since, by design, there were no shaft bearings to lubricate (as there were on Cylinders 2, 4, 6, and 8). The main fuel control shaft was not supported at Cylinders 1, 3, 5, and 7 per design. The licensee concluded that the bearing oil cups were improperly installed at the bracket assemblies at Cylinders 1, 3, 5, and 7. The licensee could not find any documentation that installed the oil cups as an unauthorized modification. The inspectors noted that the corrective action specified on the condition report was to remove the oil cups at Cylinders 1, 3, 5, and 7 for both diesel generators and plug the holes to prevent trash from building up in the holes.

The inspectors reviewed Maintenance Action Item 306706, dated July 2, 1996, which removed the bearing oil cups from the cylinders but did not plug the holes as the condition report corrective actions stated. The licensee initiated Condition Report 97-0063, dated January 22, 1997, which identified that the corrective action to plug the holes had not been completed. The corrective action was to revise the condition report to either perform a repair disposition or change the corrective action to not require the plug installation. The inspectors concluded that the proposed corrective action to install the plugs was inadequate since it would have created an unauthorized modification if it had been implemented. However, because the installation had not occurred, a violation was not identified for this incident.

c. Conclusions

The licensee engineering organization provided a superior level of support to the condition report process following improvements evident after approximately March of 1996. Before this time, some work products had been marginal.

E2.3 Engineering Requests

a. Inspection Scope (40500)

The licensee issued engineering requests as a means to identify potential problems and improvements requiring engineering evaluation. The inspectors reviewed 12 engineering requests to determine the quality of the engineering evaluations and to determine if assigned priorities reflected the importance of the item.

b. Observations and Findings

The inspectors found that the 12 engineering requests had appropriate engineering evaluations. However, the inspectors did note that the engineering requests were not assigned priorities. The licensee stated that the priority block was optional in accordance with the engineering requests procedure. However, the licensee stated that an Engineering Task Prioritization Team had been formed which was tasked with setting up a priority system for the engineering requests.

c. Conclusions

The licensee had established an effective engineering request program, which was scheduled for further enhancement with the assignment of priorities.

E2.4 Part Interchangeability Evaluation

a. Inspection Scope (40500)

The inspectors reviewed two part interchangeability evaluations to determine if the component or part substitution was an equivalent change or an unauthorized modification. In addition, the inspectors discussed the evaluations with licensee personnel.

b. Observations and Findings

The inspectors found that the two part interchangeability evaluations were, in fact, equivalent changes. In addition, the inspectors noted that the evaluations were adequate.

c. Conclusions

Based on a limited sample, the licensee appeared to be properly handling part interchanges.

E2.5 Temporary Alterations

a. Inspection Scope (40500)

The inspectors reviewed the licensee's temporary alteration program to determine the number of temporary alterations, their age, and to determine if the 10 CFR 50.59 screening and safety evaluations were adequate.

b. Observations and Findings

The inspectors identified that the licensee had 15 temporary alterations installed in the plant. The inspectors determined that the licensee had reduced the number of temporary alterations from 73 in 1992 to 15 in December 1996. The inspectors concluded that the licensee's aggressive actions to reduce the number of temporary alterations was a strength.

The inspectors reviewed Licensee Procedure ADM-0031, "Temporary Alterations," Revision 7, which stated that, in general, a temporary alteration was to remain open only through the cycle that it was installed. The inspectors reviewed Temporary Alteration 95-008 which was installed October 10, 1995, prior to refueling outage six. The purpose of the alteration was to install temporary feedwater flow instrumentation for assessing fouling during power operation. The temporary alteration was approved for conversion to a permanent design modification and was scheduled for implementation during refueling outage seven. The temporary alteration remained installed during refueling outage six. The licensee stated that there was not enough time to prepare the permanent modification for implementation during this outage. During review of the design engineering assessment performed October 2 through 6, 1995, the inspectors noted that one of the recommendations was to discontinue the practice of using temporary alterations to accomplish design changes that were intended to be permanent in order to expedite important design changes. The assessment listed the feedwater flow meters as an example of such a practice. This was the only temporary alteration found by the inspectors, which was installed longer than one cycle.

c. Conclusions

The licensee had greatly reduced the number of temporary alterations and appeared to have properly reviewed those still installed. The licensee appeared to have some tendency to defer work on permanent modifications if an installed temporary alteration was performing the desired function of the modification.

E2.6 Engineering Backlog

a. Inspection Scope (40500)

The inspectors reviewed the licensee's engineering backlog to determine the backlog size, how the backlog was tracked and managed, and how priorities were determined. In addition, the team reviewed the backlog to determine the backlog trend (i.e., increasing, decreasing, or steady).

b. Observations and Findings

The inspectors reviewed the backlog and found that as of January 1997 there were a total of 1215 open action items. The licensee prepared a chart that plotted open action items from July 1995 through January 1997. The inspectors noted that there was a slight increasing trend over the year and a half period. The licensee stated that there was an increasing trend because the licensee's personnel were encouraged to document all problems, no matter how minor, on condition reports. The licensee's trend information indicated that the resultant increase in condition reports correlated with a decrease in significant events. The inspectors reviewed the open condition report backlog and found as of January 1997 there were 1110 open condition reports. In addition, the inspectors noted that there was a slight increasing trend in open condition reports since July 1995.

The inspectors reviewed the licensee's graphs which plotted the time to disposition condition reports from January 1995 through December 1996 and noted that there was a downward trend. In addition, the inspectors found that there was an increasing trend in due date extensions. However, this appeared to be correlated to more aggressive establishment of the initial due dates.

c. Conclusions

The inspectors concluded that the licensee was maintaining the backlog at an acceptable level for a one unit nuclear plant, especially considering the increased generation rate of condition reports. In addition, the inspectors concluded that the backlog trending was an effective tool for the licensee to maintain the backlog at a reasonable level.

E7 Quality Assurance in Engineering Activities

E7.1 Quality Assurance Audits and Self Assessments

a. Inspection Scope (40500)

To evaluate the effectiveness of the licensee's controls in identifying and resolving plant problems, the inspectors selected and reviewed the following two corporate assessments related to system and design engineering activities:

"River Bend Station Design Engineering Assessment," dated November 9, 1995

"System Engineering Assessment," dated October 24, 1995

In addition, the inspectors reviewed the design engineering 1996 self assessment, dated July 19, 1996 and the corporate assessment, "River Bend Station Corrective Action Self Assessment," dated January 8, 1997. The inspectors also reviewed Audit 96-05-1-CANC, "RBS QA Audit of RBS Corrective Action Program," dated August 8, 1996, to evaluate the effectiveness of the licensee's quality assurance audits and the licensee's effectiveness in resolving the audit findings.

b. Observations and Findings

1995 Corporate Assessments of System and Design Engineering

The inspectors found that the 1995 corporate assessments of system and design engineering were broad in scope and provided meaningful findings and recommendations for program enhancements. The corporate assessments were performed by personnel from the River Bend Station, other Entergy plants, and personnel from plants not associated with Entergy. Six of the ten team members on the design engineering assessment were from plants other than the Entergy plants. The inspectors concluded that utilizing team members from outside the River Bend Station and outside of Entergy helped to add objectivity to the assessment process.

The team reviewed the recommendations from both the system and design engineering assessments and determined that the licensee had made improvements in a number of areas because of responsive action taken on the recommendations. For example, the system engineering assessment found that only a small percentage of the system engineers had completed their certification cards and that the training and certification program was not being effectively implemented. The inspectors reviewed the system engineers qualification records and found that most of the engineers had completed their qualification cards and had passed an oral board. Another recommendation was that the system engineers should focus on system monitoring and trending. The inspectors found that quarterly system health reports were created and generated for this purpose and that the reports contained useful trending information.

The design engineering assessment recommended that the licensee discontinue the practice of using temporary alterations to accomplish design changes. As discussed in Section E2.5, the licensee had significantly reduced the number of outstanding temporary alterations. The report cited a specific example of the licensee installing feedwater flow instrumentation as a temporary alteration with the intent of creating a permanent modification later. During the inspection, the inspectors found that the same temporary alteration was still installed (see Section E2.5). With this one minor exception, the inspectors concluded that the licensee had taken adequate corrective actions for the system and design engineering assessments.

1996 Design Engineering Self Assessment

The inspectors found that the design engineering 1996 self assessment was narrow in scope and did not provide meaningful findings or recommendations for potential program enhancements. The inspectors considered the self assessment to be weak since the areas assessed dealt with specific accomplishments as strengths and programs not completed as weaknesses. After the inspectors gave these observations to the licensee, the licensee stated that this report was not meant to be a self assessment but a specific listing of areas where the licensee had either met or not met their goals. The licensee stated that the purpose was a mid-SALP evaluation to determine where they needed to improve. The inspectors concluded that use of the self-assessment label for this effort was misleading, but that, in effect, the licensee had achieved their stated purpose in this report.

1997 Corporate Corrective Action Self Assessment

The 1997 corporate corrective action self assessment found many areas in the licensee's corrective action program that needed improvement. One of these findings was the overuse of granting condition report corrective action extensions. When questioned about this finding, the licensee indicated that this finding was partly the consequence of assigning initially challenging deadlines for work products. Based on the backlog of open issues, the licensee concluded and the inspectors agreed that the use of extensions had not caused a significant concern.

Another finding from the 1997 corporate corrective action self assessment was that the staff was not sufficiently familiar with the maintenance action item database, for use in conjunction with the condition report database to identify recurring equipment problems. At the time of this inspection, the licensee had not thoroughly addressed this finding. The licensee stated that the corporate assessment team had only reviewed the condition report process and had not reviewed the maintenance action item process. The licensee's corrective action manager had requested the assessment and had set the scope and objectives, which restricted the assessment team's purview to the condition report process. The licensee stated that they had a coordinator who reviewed both the condition reports and maintenance action items and trended recurring problems. However, this individual trended only those items that fell within the maintenance rule review of maintenance preventable functional failures. From discussions with the licensee, the inspectors determined that, outside of the maintenance rule review of maintenance-preventable functional failures, the licensee was not taking an integrated, concurrent look at both the condition report and maintenance action item databases to detect instances of multiple events or repetitive problems. Each database was being reviewed separately. The inspectors identified this as a weakness.

Additionally, the inspectors concluded that the 36-month time span used to research potentially recurrent conditions was too short for certain infrequent nuclear plant activities, such as some inservice test procedures.

The inspectors concluded that the licensee's self assessments in the area of corrective actions were restricted in scope to individual program elements. No assessments had been planned or performed to review how the various parts worked together to execute the entire corrective action process. The inspectors considered this a weakness.

1996 Quality Assurance Audit

The inspectors found that the 1996 quality assurance audit was broad in scope and provided meaningful findings. The inspectors reviewed 16 condition reports generated from the audit findings and found that the licensee had closed 13 findings. The inspectors concluded that the licensee's corrective actions for these items were adequate.

The licensee stated that they had developed a new policy to formally track recommendations resulting from audits and self assessments. The inspectors identified this as a strength.

c. Conclusions

In general, the licensee had implemented an effective audit and self-assessment program of its corrective action programs. However, the inspectors concluded that the licensee's self assessments in the area of corrective actions were restricted in scope to individual program elements and that no assessment had been planned to review how the individual elements of the corrective action program worked as a whole. The inspectors considered this to be a weakness.

The inspectors concluded that the 1995 system and design engineering assessments and the 1996 quality assurance corrective action audit were broad in scope and provided meaningful findings and recommendations. In addition, the inspectors concluded that the licensee had taken appropriate corrective actions.

The inspectors identified as a weakness the fact that the licensee, with the exception of the maintenance rule review of the maintenance preventable functional failures, was not taking an integrated, concurrent look at both the condition report and maintenance action items databases to detect instances of multiple events or repetitive problems.

The licensee's new policy to formally track audit and self-assessment recommendations was considered a strength.

E7.2 Root-Cause Analysis

a. Inspection Scope (40500)

Within the condition reports listed in the attachment, the inspectors reviewed root-cause analyses performed by the licensee.

b. Observations and Findings

The licensee performed a formal root-cause analysis for every significant condition report. The inspectors observed that the formal root-cause evaluations were uniformly high quality efforts that fully explored all relevant causal mechanisms. For some of the less significant condition reports, an informal root cause was performed. These were understandably of less quality and, in some cases, were marginal efforts. One example of a deficient root-cause evaluation was Condition Report 96-0848 discussed in Section E2.2. The inspectors noted that the quality of root-cause evaluations improved significantly within the period of review (June 1995 to the present). The more recent root-cause evaluations were significantly improved in scope and depth.

c. Conclusions

The licensee had improved their root-cause evaluation process, as evidenced by improved work products performed late in the period of review. The inspectors were confident that the licensee was placing adequate emphasis in this area to ensure continued good performance.

E8 **Miscellaneous Engineering Issues (92903)**

(Closed) Violation 458/9627-01, "Failure to Translate Plant Design Basis into Plant Procedures and Calculations"

This item identified three examples of inconsistency between the design basis, plant procedures, and calculations. In the first example, the design basis for operation of the standby service water cooling water tower fans was not correctly translated into Alarm Response Procedure ARP-870-55, "P870-55 Alarm Response." A precautionary note in this procedure (stating that during a loss of offsite power concurrent with a loss of coolant accident, the standby service water cooling tower fans should not be started until 2 hours after event initiation) was inconsistent with a similar note in Procedure AOP-0004, "Loss of Offsite Power," which cautions operators to place the fans in service within 2 hours of the event. To eliminate the concern, the licensee removed the precautionary note in Procedure ARP-870-55 and replaced it with another note referring to Procedure AOP-0004.

In the second example, the design basis for operating the standby service water system, as established in Procedure TP-92-008, "Flow Balance and Design Flow Verification for the Standby Service Water System and the Normal Service Water System," was not correctly translated into System Operating Procedure SOP-0018, "Normal Service Water." After modifications to the service water system, new flow balance tests were performed per Procedure TP-92-008. The results were translated to operations via a memorandum, which incorrectly listed some of the valve throttle positions. The licensee identified that independent verification was not properly accomplished in this case and that in 1992 a process to control information transmission via memorandum was not established (it is today). As a result, flows through three valves were higher than those established in the flow balance tests. However, because of available margins, the capability of the service water system was not compromised.

As corrective action, the licensee planned to revise Procedure SOP-0018 to correct applicable throttle positions. This action was being tracked as Commitment A-14777 with a due date of February 5, 1997. The licensee also intended to sample selected system operating procedures to confirm the basis for throttle positions. This action was being tracked as Commitment A-14776, with a due date of February 12, 1997. Finally, the licensee intended to develop a new procedure for conducting flow balancing. This action was being tracked as Commitment A-14779, with a due date of October 12, 1997. The licensee initiated Condition Report CR 96-1644 to investigate the inconsistencies regarding valve throttle positions.

In the third example, Calculation 12210-PM-236, "Standby Service Water Operation with One Pump Available," which provided the analytical basis for single pump operation of the "A" subsystem of standby service water following a loss of the Division III diesel generator, had not been updated to reflect system modifications and the throttle valve positions established in the performance of Procedure TP-92-008. The licensee intended to cancel Calculation 12210-PM-236 and replace it with a computer modeling calculation. This item was being tracked as Commitment A-14778, with a due date of April 4, 1997.

The inspectors discussed this violation with the licensee and reviewed a file created by the licensee providing documentation of the completed corrective actions and commitment tracking system. Based on this review, the inspectors concluded that the licensee had proposed adequate corrective actions for the violation and had provided a positive means to ensure that each relevant corrective action would be completed in a timely manner. This violation is closed based on the NRC's confidence that the licensee's corrective action process will successfully disposition the remaining proposed actions.

V. Management Meetings

X1 Exit Meeting Summary

The inspectors presented the inspection results to members of licensee management at the conclusion of the inspection on January 24, 1997. The licensee acknowledged the findings presented.

The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

ATTACHMENT

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee

R. Biggs, Maintenance Coordinator
D. Castleberry, Quality Assurance Specialist
R. Davey, Manager, Electrical and Instrumentation and Control
M. Dietrich, Director, Quality Programs
J. Dimmette, General Manager
D. Dormanky, Manager, Plant Engineering
E. Ewing, Training Manager
J. Fowler, Supervisor, Quality
T. Fredieu, System Engineering
A. Harvey, Senior Analyst, Operations
J. Holmes, Superintendent, Chemistry
H. Hutchins, Superintendent, Plant Security
D. Jeff, Modification Support Supervisor
R. King, Director, Nuclear Safety and Regulatory Affairs
V. Klco, Senior Staff Engineer
J. Leavines, Rotational Manager
T. Leonard, Director, Site Engineering
D. Lorfing, Supervisor, Licensing
I. Malik, Supervisor, IHEA
W. Mashburn, Manager, Engineering Superintendent
C. Maxson, Senior Lead Engineer, Licensing
J. McGaha, Site Vice President
W. O'Malley, Operations Manager
J. O'Neill, Senior Technical Specialist
W. Odell, Superintendent, Radiation Control
R. Roberts, Superintendent, Maintenance Support
A. Shahkarami, Engineering Manager
A. Spencer, Operations Coordinator
D. Steinsiek, Senior Lead Engineer
B. Truder, Operations Training Supervisor
T. Watkins, Plant Engineering Supervisor
E. Weinfurter, Shift Technical Advisor
K. Zimmermann, Communications
G. Zinke, Manager, Quality Assurance

NRC

K. Brockman, Deputy Director, Division of Reactor Safety
D. Powers, Maintenance Branch Chief
W. Smith, Senior Resident Inspector

INSPECTION PROCEDURES USED

40500	Effectiveness of Licensee Controls in Identifying, Resolving, and Preventing Problems
92903	Followup - Engineering

ITEMS CLOSED, AND DISCUSSED

Closed

458/9627-01	VIO	Failure to Translate Plant Design Basis into Plant Procedures and Calculations
-------------	-----	--

LIST OF DOCUMENTS REVIEWED

Procedures

RBNP-078	"Operability Determinations," Revision 1
ADM-0002	"Charter of The Facility Review Committee," Revision 14
RBNP-030	"Initiation and Processing of Condition Reports," Revision 9
STP-609-7001	"Drywell and Pedestal Floor Drain Systems Operability Check," Revision 2

Licensee Event Reports

96-005-00	Noncompliance with License Condition by Inadequate Tagging of Hose and Cabling Due to Change Management
96-011-00	Personnel Error Results in Missed Surveillance and Dry Floor Drain Sump Leakage Detection Monitoring Instrumentation Exceeding TS Allowed Outage Times

Condition Reports

95-0181	Unanticipated Response to Manipulation of a Remote Shutdown Panel Transfer Switch
95-0620	Errors in Three I&C STPs Found During Improved Technical Specifications Review

95-0736	SVC*PNL14A1 Breaker 12 Found Tripped Reason Unknown
95-0750	Steps Omitted from Revision 12 to STP-309-0203
95-0762	Instrument Air System is Being Operated Without Appropriate MCR ARPs in Place
95-0776	E21*PTN050, E12*PTN058A/B/C are Suspected not to be Qualified for Post-Accident Operation
95-0789	Alert Setpoint was Entered Incorrectly on RMS-E107, Permit Release Rate not Exceeded
95-0810	DFT-TK1B has had Oil Intrusion Twice in the Last Six Months, Source Indeterminate
95-0824	EGS*EG1A Failed to Start When a Normal Start Signal was Received IAW STP-309-0201
95-0876	System Valve Lineup and MR 86-1407 Do Not Agree
95-0976	Performance of STP-208-6301 E33*PVF002 Failed its Acceptance Stroke Criteria
95-0981	Audit Review of Procedure Changes Made in Support of the Improved Technical Specification, Many Discrepancies Found
95-1012	Relief Valve Failed Open
95-1016	While Working MAI R222288, 9 of 24 Bolts were Found to be 1 1/2-inch Long Instead of 1 3/4-inch as Required
95-1041	Missed Required Surveillances SR 3.3.1.1.3 for Partial Calibration of RPS-APRM Flow Biased Channels
95-1059	Found Breaker 8 on SCV-PNL14A1 in the Open Position, Breaker Supplies HVC-FN1A, HVC-FN8A Motor Heaters
95-1066	Found Inservice IAS Air Dryer Control Switch in the Off Position. When Dryer Restarted, Dew Point was Above Alarm Setpoint
95-1093	Numerous Deficiencies Found During Cleaning and Inspection of Chillers HVK*CHL1A/B/C/D

95-1107	Valves E12*PIR002B-V1 and RHS*V14 were Found Closed when Performing STP-204-6302, SOP-0031 Identifies the Valves to be Open
95-1147	First Attempt to Air Roll EGS*EG1A, No Rotation Was Observed. Second Air Roll Attempt a Slight Rocking of the Diesel Generator Rotor was Observed, but not Rotating
95-1240	Manual Shutdown of EGS*EG1B was Required due to Lowering of Lube Oil Pressure
96-0023	Installation of Clearance Tag #50 on RB-96-0032 for NJS-LDC1U Breaker 452 the Operator Tripped the Incorrect Breaker 455, De-energizing NHS-MCC1E Causing Loss of HVN-CHL1A
96-0073	Performance of STP-305-1606 an Equipment Failure Caused Variations in the Test Current
96-0127	CSH*RV222B Failed Pressure Test
96-0134	Placed E12*C002B in Fuel Pool Cooling Assist Mode, TS LCO 3.9.8 Action (C) Requires Entry, Requirement not Recognized and LCO Documentation not Initiated
96-0140	Found NHS-MCC1C2 Breaker 1E Energized When Clearance RB-95-2269 Tag #5 Requires the Breaker be De-energized
96-0171	Spent Fuel Pool Temperature Approx 117 Degrees F. OSP-0027 Requires a CR be Written if Temperature Exceeds 110 Degrees F.
96-0185	RHS-PSSP2086A3, EEAR 95-E-0010 Generated to Provide Guidelines for Removing Snubbers from Systems for Testing
96-0202	Performing RF-6 Electrical Lineups, it Was Noticed that Some Breaker Field Labels did not Match the SOP-0019 Descriptions
96-0209	Tech Spec SR 3.6.1.10.1 Non-Compliance, Valves Listed in STP-000-0702 "Primary Containment Shutdown Verification were not in all Cases Deactivated nor Required to be Deactivated by Procedure
96-0253	SWC-P1A/B/C, Minimal RF-6 Plant Heat Load Requires Only 1 Pump be Placed in Service. In this Configuration, Pump is Sensitive to Flume Level, Condition of Intake Screens and Flowpath Through Cell Bypass Lines. SWC Pumps were in a Cavitating Condition Twice

96-0254	EGO*RV24B, Valve Removed from System for Testing. Lift Pressure was set at 34.94 psig, Set Point Datasheet Calls for Valve to be Set at 20 psig
96-0270	The ASME Repair/Replacement Plan for B21F065B was not Followed
96-0273	H13-PNL821, Clearance Lifted and Power Restored Even Though Clearance Had not Been Released for Work on PMs
96-0409	The 135 psig Shutdown Cooling Isolation That Was Bypassed IAW TSP-0052 was not Restored Prior to Installing the Reactor Vessel Head
96-0459	An Attempt Was Made to Open the Reactor Cavity Gate FNR-Gate1 with the Inflatable Seals Inflated
96-0476	Relief valves located on wrong heat exchangers
96-0484	Radiographs Taken of SVV*129 and SVV*130 Revealed Springs Were not Installed Properly During Valve Refurbishment
96-0486	Power Supply (H13-PNLP821-PS-1P1-D001 Blew Fuse Several Times
96-0494	EGS*EG1B Tripped on an Apparent Overspeed when Started IAW STP-309-0202
96-0503	When Troubleshooting, Discovered Isolation Valve B21-N094E-A4, Which Feeds Transmitter B21-PTN094E, Closed
96-0532	PM for 1SWP*PT32C (Task App. No. IC01630) had not been Revised
96-0559	SWP-FI64A Indicating 6,800 gpm, but no Flow was Present
96-0568	Trace of Water Found in Crankcase and Oil Pan on Diesel Generator E22*EGS001
96-0624	There is a Potential Part 21 Applicable to EGS*EG1A and EGS*EG1B Diesel Generators Voltage Regulators Manufactured by NEI Peebles Model 72-13000-100
96-0632	Inconsistencies Identified in the ECCS High/Low Pressure Interlock Logic Descriptions of the SAR, SER, SRP, and TS Basis
96-0735	Failure to Perform 10CFR50.59 Screening and Obtain FRC Review of CR 95-0761 as Required by EDP-AA-30 and RBNP-030

96-0753	E12*RVF025 has Worn Disc Ring Preventing Proper Test of Lift and Blowdown Pressures
96-0763	Mounting Screws Missing from Pressure Switches EGO-PS3B and EGT-PS2B
96-0799	Screw Missing from Mounting Bracket for EGO-PDS15B
96-0804	Performance of Weekly Diesel Air Compressor Run 3 Valves Identified which were not in the Proper SOP Position
96-0841	IAS*RV38B Lifted and Failed to Reseat for an Unknown Reason, Valve was Manually Reseated
96-0874	Chiller Declared Inoperable for Freon Level
96-0893	B21*MOVFO65A was Calculated to Exceed its Maximum Unseating Thrust Each Time it is Stroked Open
96-0905	Failure of Meet TSR 3.4.4 (Flow Testing Drywell Floor Drain Sump Inlet Piping)
96-0928	Part 21 Report Concerning Diesel Generator Relay
96-0953	Non-conservative Level Indication on Fuel Level Indicators
96-0954	Incorrectly Installed Bearing Oil Cups on Diesel Generators
96-0960	Service Water Flow for HVK*CHL1A/1B/1C/1D is Above Maximum Design
96-0964	Normally Closed Valves RHS*V130/131 were Found Open Out of their Normal Position
96-0970	IAS-C2A Failed to Load when Started Due to Normal/Unload Switch being in the Unload Position
96-1013	Diesel Generator K1 Relay Burned Up
96-1092	Relief Valve Failed Open
96-1137	CST Minimum Allowable Suction Outlet Submergence to Prevent Vortexing was not Included
96-1161	Failure to Provide Training to Operators

96-1162	Failure of Reactor Engineering to Provide Adequate Briefing to Operators
96-1163	Condition Report Closed without All Corrective Actions Complete
96-1179	Untimely Closure of Condition Reports
96-1180	Failure to Transcribe the Required Corrective Action Plan from a Condition Report into the Required Format
96-1182	Corrective Action was not Tracked as an Open Item since the Condition Report was Dispositioned as Waiting for Closure
96-1192	Failure to Attach Training Attendance Sheets to Completed Condition Report
96-1196	Revised Vendor Drawings did not Include All of the Requires Changes
96-1211	HVP-FN1C, Div III Control Room Fan was not Aligned in Accordance with SOP-61, Cause Unknown
96-1216	Failure to Attach Review of SERs and LARs to Completed Condition Report
96-1217	Failure to Perform Appropriate Evaluations and Corrective Actions on Condition Reports
96-1218	Discrepancies Found in Condition Report
96-1239	Discrepancies Noted Relative to the Closure of a Condition Report
96-1240	Condition Report Closed without Appropriate corrective Action
96-1241	Some Requirements in ANSI N45.2.12-77 were Incorrectly Eliminated
96-1242	Failure to Follow the Requirements in RBNP-030
96-1250	Action Required by Condition Report was not Satisfied
96-1259	Fan Vibration Measurement High
96-1270	Surveillance Missed on ENB*BAT01A Batteries Due to Failure to Accelerate Test Time interval
96-1285	Closure Time of MSIV Exceeded TS Limit

96-1313	STP-203-17021, Battery Performance Discharge Test was not Adequately Performed
96-1359	Circuit Breaker Data Found Unacceptable
96-1439	Failure to Convert Temporary Alteration into Permanent Modification
96-1449	Failure to Position S1-HVKB03 Test Switch to Normal
96-1462	MOV Failed to Fully Open
96-1504	Reactor Water Level Instrumentation may be Non-Conservative at Lower Reactor Pressures
96-1553	Several 10-Mile EPZ Maps in the Emergency Plan Appear to be in Error
96-1554	Breaker 2FD on NHS-MCC103B Found Open, the SOP Line Up Requires the Breaker to be Shut. No Record of Opening the Breaker Could be Found
96-1636	A Potential Discrepancy Exists Between AOP-0004 and USAR Section 9.2.7.3
96-1644	Valve Throttle Positions Identified in SOP-0018 for Service Water Valves SWP-V170, V9, V12, V538, and V912 do not Agree with the Required Throttle Positions Identified in the Last Service Water Flow Balance
96-1743	Incorrect Weld Used
96-1754	Procedure did not Address Required Operator Action
96-1831	Flow Through Heat Exchanger on Shell Side Almost Completely Blocked
96-1986	Discrepancies Exist Between Design Documentation and the As-Built Configuration for the Remote Shutdown System
97-0063	Corrective Actions of Condition Report were not Followed

Maintenance Action Items

<u>MAI NUMBER</u>	<u>DESCRIPTION</u>
R302394	Install a Diode in Annunciator Circuit
302630	Remove Existing Valve and Install Spool Piece
303236	Install Nozzle Check Valve in Place of Swing Check
303358	Investigate HVF Low Flow Exhaust Alarm
303615	Delete Control Switch and Position Lights
303995	Check Valves Failed LLRT
303999	Check Valves Failed LLRT
304000	Check Valves Failed LLRT
304008	Check Valves Failed LLRT
304204	MSIV Closure Time Out of Tolerance
304319	Temporary Controller Failed Low
304399	Penetration Seal is Leaking
304477	Elevated Temperature and Smoke in the EDG Control Room
305518	Replace EDG Excitation Control Components
305793	Install New Style Relief Valve
306146	Maintenance on EDG Cooling Water Outlet Temperature Indicator
306471	EDG Moisture Separator Drain Trap Lifting Sporadically
306472	EDG Moisture Separator Drain Trap Not Lifting
306632	Replace EDG Relay
306706	Remove EDG Bearing Oil Cups
306871	EDG Tripped on Gen. Diff.

307145	HVAC Chiller Control Panel Indicated a Trip Condition
307207	Replace EDG Relay
307215	Install Demineralizer and Replace Temporary Hoses
307448	MSIV Failed Stroke Time
307619	Pressure Relief Valve Needs to be Refurbished
308071	Remove Flow Controller
308078	MOV did not Stroke Full Open
308561	Remove Plate from Condenser Bottom Sump Drain Line
309153	EDG Vent Fan Runs Excessively

Engineering Requests

<u>ER NUMBER</u>	<u>DESCRIPTION</u>
96-0066	Add Low Temperature Alarms for the Safety-Related Battery Room
96-0502	Evaluate 14 Horizontally Mounted Safety Relief Valves
96-0544	Install Automatic Valves for the Drip Legs of Discharge Piping
96-0551	Determine any Changes Required to the Plant if MSSV Set Point Tolerances are Changed
95-0567	Request that the Normal Positions of Two MOVs be Changed
96-0612	Request Guidance to the Operations Staff Concerning SOP Procedure Changes
96-0618	Evaluate Need for a Strainer on the Standby Service Water Pump
96-0641	Determine if Two Valves Have an Active Safety Function
96-0662	Revise Set Point Data Sheets
96-0688	Replacement Required for Existing Differential Temperature and Pressure Switch Models

96-0680	Provide Bypass for Open Torque Switch on MOV
96-0696	Provide Engineering Evaluation for the Increase of Torques on the EDGs

Part Interchangeability Evaluations

<u>PIE NUMBER</u>	<u>DESCRIPTION</u>
00749	Evaluate Adjustable Blowdown Relief Valve to Replace Fixed Blowdown Relief Valve
00806	Evaluate New Model Converter Replacing Old Model

Quality Assurance Audits

Audit 96-05-1-CANC "RBS QA Audit of RBS Corrective Action Program," August 8, 1996

Self Assessments

"River Bend Station Corrective Action Self Assessment," January 8, 1997

"River Bend Station Design Engineering Assessment," November 9, 1995

"System Engineering Assessment," October 24, 1995

"Design Engineering Self Assessment," July 19, 1996

"River Bend Station Training/Operations Assessment," August 21, 1996

"River Bend Station QA Audits of Operation," July 18, 1995

"River Bend Station Operations Assessment," November 11-15, 1996

Temporary Alterations

<u>Number</u>	<u>Description</u>
95-001	Install Temporary Chlorination at the Clarifiers
95-008	Feedwater Temporary Flow Instrumentation for Fouling Assessment
95-012	Add Additional Temperature Alarm in the MS Tunnel
96-003	Delta T Interlock Bypass Switch

- 96-006 Temporary Temperature Monitoring at the Condenser Penetrations to Determine Thermal Performance
- 96-012 Disable the Injection Low Pressure Test Permissive Annunciators
- 96-020 Installation of a DRS U/C Motor into HVR-ACU2B
- 96-024 Change Alarm Setpoint on HDL-ES12A/B
- 96-025 Remove Heat Tracing Power from SLC Suction Piping
- 96-026 Delete Turbine Sump Alarm that Alarms at the Improper Setpoint