ENCLOSURE

INITIAL SALP BOARD REPORT

U. S. NUCLEAR REGULATORY COMMISSION

REGION II

SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE

INSPECTION REPORT NUMBERS

50-321/89-22 AND 50-366/89-22

GEORGIA POWER COMPANY

HATCH, UNITS 1 AND 2

JULY 1, 1988 - SEPTEMBER 30, 1989

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I. INTRODUCTION

The Systematic Assessment of Licensee Performance (SALP) program is an integrated Nuclear Regulatory Commission (NRC) staff effort to collect available observations and data on a periodic basis and to evaluate licensee performance on the basis of this information. The program is supplemental to the normal regulatory processes used to ensure compliance with NRC rules and regulations. It is intended to be sufficiently diagnostic to provide a rational basis for the allocation of NRC resources and to provide meaningful feedback to the licensee's management regarding the NRC assessment of its facility's performance in each functional area.

An NRC SALP Board, composed of the staff members listed below, met on November 20, 1989, to review the observations and data on performance and to assess licensee performance in accordance with Chapter NRC-0516, "Systematic Assessment of Licensee Performance." The guidance and evaluation criteria are summarized in Section II of this report. The Board's findings and recommendations were forwarded to the NRC Regional Administrator for approval and issuance.

This report is the NRC's assessment of the licensee's safety performance at Hatch for the period July 1, 1988, through September 30, 1989.

The SALP Board for Hatch Units 1 and 2 was composed of the following individuals:

Board Chairman

C. W. Hehl, Deputy Director, Division of Reactor Projects (DRP), Region II (RII)

Board Members

L. P. Crocker, Project Manager, Project Directorate II-3 (PDII-3), Office of Nuclear Reactor Regulation (NRR)
A. R. Herdt, Chief, Reactor Projects Branch 3, DRP, RII
D. B. Matthews, Director, PDII-3, NRR
J. E. Menning, Senior Resident Inspector, Hatch, Reactor Projects Section 3B (PR3B),DRP, RII
E. W. Merschoff, Deputy Director, Division of Reactor Safety (DRS), RII
J. P. Stohr, Director, Division of Radiation Safety and Safeguards (DRSS), RII

Other Attendees at the SALP Board Meeting

R. W. Borchardt, Regional Coordinator, Office of the Executive Director for Operations
K. E. Brockman, Chief, RP3B, DRP, RII
W. E. Cline, Chief, Nuclear Materials Safety and Safeguards Branch (NMSSB), DRSS, RII

J. L. Coley, Materials and Processes Section, Engineering Branch (EB), DRSS, RII
D. M. Collins, Director, Emergency Preparedness and Radiological Protection Branch (EPRPB), DRSS, RII
A. Gooden, Radiation Specialist, Emergency Preparedness Section, EPRPB, DRSS, RII
J. B. Hopkins, Project Manager, PDII-3, NRR
G. B. Kuzo, Senior Radiation Specialist, Facilities Radiation Protection Section, EPRPB, DRSS, RII
J. J. Lenahan, Reactor Inspector, Test Programs Section, EB, DRS, RII
D. R. McGuire, Chief, Safeguards Section, NMSSB, DRSS, RII
L. R. Moore, Reactor Inspector, Quality Performance Section, Operations Branch, DRS, RII
R. A. Musser, Resident Inspector, Hatch, RP3B, DRP, RII
S. Q. Ninh, Reactor Inspector, Technical Support Staff, DRP, RII
W. H. Rankin, Chief, Emergency Preparedness Section, EPRPB, DRSS, RII
T. A. Reed, Project Manager, PDII-3, NRR
W. E. Scott, Jr., Senior Operations Engineer, NRR
D. Thompson, Physical Security Specialist, Safeguards Section, NMSSB, DRSS, RII
L. Trocine, Project Engineer, RP3B, DRP, RII

A. Licensee Activities

During this SALP period, Unit 1 was on-line for a total of 379 days with a unit capacity factor of 79.20 percent. Unit 2 was on-line for 422 days with a unit capacity factor of 84.65 percent. The forced outage rates were 1.1 percent and 0.7 percent for Units 1 and 2, respectively. The operating history during this assessment period is described below.

Unit 1

Unit 1 began this assessment period operating at rated power. On September 4, 1988, the reactor automatically scrammed on low reactor vessel water level due to a failure of both reactor feed pump controllers. The unit was placed back on-line on September 6, 1988. On September 25, 1988, a shutdown was initiated for a scheduled refueling outage. The unit was returned to service from the outage on December 9, 1988. On December 17, 1988, the reactor automatically scrammed due to a main turbine trip caused by low electrohydraulic control system pressure. The unit was placed back on-line on December 20, 1988, and ended the assessment period operating at rated power.

Unit 2

Unit 2 began this assessment period operating at rated power. On August 5, 1988, the reactor automatically scrammed on low reactor vessel water level due to trips of the condensate booster and reactor feed pumps. The unit was placed back on-line on August 7, 1988. On December 15, 1988, a shutdown was initiated for a scheduled maintenance outage. This outage was to perform automatic depressurization system modifications in accordance with discretionary enforcement action granted on October 26, 1988. Steam leaks on the secondary side of the plant were also repaired. The unit was placed back on-line on December 20, 1988. On December 25, 1988, the reactor was manually scrammed when both recirculation pumps unexpectedly tripped during the performance of main turbine stop valve surveillance testing. The unexpected trips of the recirculation pumps were attributed to the failure of a limit switch on the No. 4 turbine stop valve. The unit was placed back on-line on December 26, 1988. On April 22, 1989, an end-of-cycle power coastdown was begun. On September 3, 1989, the reactor automatically scrammed on low reactor vessel water level caused by a failure of the master feedwater controller. The condenser retubing/refueling outage that was scheduled to begin on September 6, 1989, commenced at that time.

B. Direct Inspection and Review Activities

In addition to 37 routine inspections, 4 special inspections were performed for the Hatch facility by the NRC staff during the assessment period. These special inspections are listed in Section V.K of this report.

II. CRITERIA

Licensee performance is assessed in selected functional areas, depending upon whether the facility is in a construction or operational phase. Functional areas normally represent areas significant to nuclear safety and the environment. Some functional areas may not be assessed because of little or no licensee activities or lack of observations. Special areas may be added to highlight significant observations.

The following evaluation criteria were used, as applicable, to assess each functional area:

- assurance of quality (including management involvement and control),
- approach to the resolution of technical issues from a safety standpoint,
- responsiveness to NRC initiatives,

- enforcement history,

- operational and construction events (including response to, analyses of, reporting of, and corrective actions for),

- staffing (including management), and

- effectiveness of training and qualification programs.

However, the NRC is not limited to these criteria and others may have been used where appropriate.

On the basis of the NRC assessment, each functional area evaluated is rated according to three performance categories. The definitions of these performance categories are as follows:

- Category 1 - Licensee management attention and involvement are readily evident and place emphasis on superior performance of nuclear safety or safeguards activities with the resulting performance substantially exceeding regulatory requirements. Licensee resources are ample and effectively used so that a high level of plant and personnel performance is being achieved. Reduced NRC attention may be appropriate.

- Category 2 - Licensee management attention to and involvement in the performance of nuclear safety or safeguards activities are good. The licensee has attained a level of performance above that needed to meet regulatory requirements. Licensee resources are adequate and reasonably allocated so that good plant and personnel performance is being achieved. NRC attention may be maintained at normal levels.

- Category 3 - Licensee management attention to and involvement in the performance of nuclear safety or safeguards activities are not sufficient. The licensee's performance does not significantly exceed that needed to meet minimal regulatory requirements. Licensee resources appear to be strained or not effectively used. NRC attention should be increased above normal levels.

The SALP Board may also include an appraisal of the performance trend of a functional area. This performance trend will be used only when both a trend of performance within the evaluation period is discernible and the Board believes that continuation of the trend may result in a change of performance level. The trend, if used, is defined as:

- Improving - Licensee performance was determined to be improving during the assessment period.

- Declining - Licensee performance was determined to be declining during the assessment period, and the licensee had not taken meaningful steps to address this pattern.

III. SUMMARY OF RESULTS

A. Overall Facility Performance

Overall operational performance during the assessment period was excellent. Actual plant operations resulted in both units achieving high levels of availability with the number of automatic scrams dramatically reduced for both units. A new General Electric (GE)-Boiling Water Reactor (BWR), world record of 251.4 days for dual unit on-line operation was established, surpassing the previous record of 180 days. The plant also achieved an electrical utility record of 15 million man-hours worked without a lost-time accident, making the plant an industry leader in industrial safety. Management involvement with plant operations continued at a high level during this assessment period. Both plant housekeeping and the professionalism and attentiveness of operations personnel were observed to be strengths. Responses to NRC initiatives were generally very good, and significant efforts to improve the Fire Brigade Training Program have been made. Additionally, operator training appears to be very effective.

The licensee's Radiation Protection Control Programs were determined to be adequate to protect the workers and the general public, to provide radiation protection coverage during routine and outage activities, and to identify significant issues regarding radiation protection activities. Early in the assessment period, concerns regarding management's involvement in controlling and minimizing the dose associated with the Unit 1 outage were noted. In addition, a licensee audit identified a general lack of knowledge regarding the as low as reasonably achievable (ALARA) concept among employees and an unacceptable sense of personal responsibility. Corrective actions regarding these specialized training issues have been implemented, and the effectiveness of these actions will be reviewed by the NRC during the next the assessment period.

Overall, maintenance performance during the assessment period was good. Improved preventive maintenance played a key role in attaining the plant's excellent operating record. There exists a strong program for controlling the maintenance backlog. Due to management's continued attention in reducing the number of outstanding non-outage corrective maintenance work orders (MWO), this backlog has been significantly reduced. The Predictive Maintenance Program has continued to improve the condition of rotating equipment and to detect equipment problems prior to failure. The program for identification of deficiencies and initiation of corrective action was identified as a strength. Weaknesses were identified in the level of detail in the maintenance procedures and in implementation by the licensee of its corrective action program.

The Emergency Preparedness Program received strong management support to ensure that the licensee maintained the basic elements needed to promptly identify, correctly classify, and implement the key elements of the Radiological Emergency Plan and the respective procedures for responding to emergency events. Management emphasis was reflected in improved training and effective licensee audits and self-critiques.

An improving trend was noted in the area of security and safeguards. Authority and responsibilities associated with the security organization were adequately delineated and, in general, appeared to be effective. The licensee has continued to work toward upgrading the Security Program and has taken an active role to upgrade facilities. The site's Security Training Program was found to be excellent. It was noted, however, that the licensee has had a long standing inoperative intrusion section alarm zone requiring compensatory measures, that an increase in the number of security-related violations has been experienced, and that a lack of sensitivity has been displayed by management on some of these security issues.

Performance in the area of engineering and technical support has been good with the exception of deficiencies in the Welding and Nondestructive Examination (NDE) Programs. Design change development and implementation has been thorough and well documented. Improvements have been achieved in the quality of 10 CFR 50.59 evaluations. Both the post-installation follow-up activity and Maintenance Program updates have been adequate. The licensee has been aggressive in accelerating completion of the Procedure Upgrade Program. This program was originally scheduled to be completed in December 1989 and was actually completed on August 28, 1989. This upgrade effort has resulted in a significant improvement in plant procedures and in the process by which they are developed and maintained.

During this assessment period, a technical support weakness was identified in the Welding and NDE Programs. Programmatic deficiencies included poor procedural guidance for welding and NDE, inadequate qualification of welders, and inadequate weld quality verification. Both the Welding and NDE Programs have demonstrated a tendency to meet only the minimum industry and regulatory requirements with the result being limited performance margins. These programmatic weaknesses resulted in poor quality welds on the reactor water cleanup system piping replacement project and in deficient NDE performance in identifying inadequate welds. The actual work, performed by a contractor, was inadequately controlled by the licensee, and the licensee's qualification and selection process for contract welders was inadequately supervised. The

Welding Program was subsequently upgraded to include enhanced qualifications of welders and engineering overviews of welding. Additionally, Quality Control (QC) personnel responsible for NDE have received formal training in these functions. Increased attention is recommended in the area of control of special processes with particular emphasis on technical oversight of contractor performance in the welding and NDE areas.

In the area of safety assessment and quality verification, the Plant Review Board contributed to the prevention of problems by monitoring and evaluating plant performance, providing assessments and findings, and communicating and following up on corrective actions.

Self-assessment programs were also effective during this evaluation period, and trending was performed to identify repetitive events and adverse trends. Site Quality Assurance activities were aggressively pursued and responsive to changes in plant activities and problems. In general, the licensee stayed abreast of industry experiences and approaches to plant safety issues and also stayed informed of programs, problems, and resolutions at other plants. The licensee's approach to the identification and resolution of technical issues from a safety standpoint was consistently good, and the reporting and analysis of operational events continued to be timely and adequate.

B. Facility Performance Overview

Functional Area	Rating Last Period	Rating This Period
Plant Operations (Operations/Fire Protection)	2/2	1
Radiological Controls	2	2
Maintenance/Surveillance	2/2	1
Emergency Preparedness	2	1
Security and Safeguards	2	2(I)
Engineering/Technical Support (Engineering/Training/Outages)	NR/2/2(I)	2(I)
Safety Assessment/Quality Verification (Quality Programs/Licensing)	2/1	1

NR - Not Rated
(I) - Improving Trend
(D) - Declining Trend

IV. PERFORMANCE ANALYSIS

A. Plant Operations

1. Analysis

During this assessment period, inspections of plant operations and fire protection were performed by the resident and regional inspection staffs.

Overall operational performance during the assessment period was excellent. Actual plant operations resulted in both units achieving high levels of availability. At the end of the period, Unit 1 had been on-line continuously for 284 days, and Unit 2 completed a continuous on-line run of 251 days prior to the start of the condenser retubing/refueling outage on September 3, 1989. A new, GE-BWR, world record of 251.4 days for dual unit on-line operation was established, surpassing the previous record of 180 days.

The number of automatic scrams was dramatically reduced for both units during this assessment period. Fifteen automatic scrams occurred during the last period - seven for Unit 1 and eight for Unit 2. A total of four automatic scrams occurred during the current assessment period, two on each unit. Two of the scrams were caused by equipment failures, one was caused by a design deficiency, and one was attributed to non-licensed personnel error. Only one automatic scram occurred during the second half of this period. The significant reduction in reactor scrams is a direct result of licensee management initiatives and operator attentiveness and professionalism.

Management involvement with plant operations continued at a high level during this assessment period. Members of the managerial staff were frequently observed in plant operating areas during all modes of operation. There was consistent evidence of prior planning and assignment of priorities. Daily meetings were effectively used to establish and implement work priorities. Manager level meetings were used to review plant status, establish daily work priorities, and assign work responsibilities. Superintendent/supervisor level meetings were used to review work in progress, identify additional work to be done, assign additional responsibilities, and resolve problem or priority issues. When deemed necessary, management convened in the Technical Support Center to better oversee and provide more focussed technical support for ongoing plant activities.

Many initiatives have contributed to improvements in plant operations during this assessment period. The Scram Reduction Committee reviewed procedures that could cause unanticipated reactor protection system actuations and made changes necessary to minimize the potential for such actuations. The "black board" philosophy for control room annunciators has continued to be implemented. This has resulted in a high awareness of off-normal plant conditions and enhanced the responsiveness of control room personnel. An improved Equipment Clearance Tracking Program has also been developed and implemented. The new program provides for the cross referencing of clearances to work orders and has reduced the administrative load on Shift Supervisors. Outstanding As-Built Notices are now included on microfilm drawing cards that are maintained in the control room. Changes in the control of critical drawings have made it easier for operations personnel to review these drawings. Reliance has been placed on short-term load reductions rather than weekend outages to perform many scheduled maintenance activities. This philosophy was implemented to preclude reactor trips that have historically occurred during unit startups and shutdowns. Density compensation for Unit 1 feedwater instrumentation has been eliminated in accordance with vendor recommendations. This action resulted in the elimination of fourteen instruments and increased the stability of the Unit 1 feedwater control system. (Similar changes are being implemented in Unit 2 during the current condenser retubing/refueling outage.)

The professionalism and attentiveness of operations personnel were observed to be strengths. The control room atmosphere has been quiet, controlled, and well-organized, which has contributed to the safe operation of the units. Staffing, knowledge of plant status, and adherence to procedures have all been positive. Events were properly reported. Inspectors observed several instances in which control room operators and their supervisors were alert to changes in equipment status and responded promptly and effectively to degrading performance to minimize plant transients. For example, on June 25, 1989, a licensed operator detected a rapid drop in the Unit 2 reactor vessel level and immediately placed the feedwater control system in the manual mode thereby averting an unnecessary plant transient.

Responses to NRC initiatives were generally very good. The responses were timely, technically sound, and effective. An example of this was the licensee's response to NRC Bulletin 88-07, "BWR Power Oscillations," and subsequent industry guidance. The bulletin recommended that licensee's brief operating crews on the March 9, 1988, La Salle Unit 2 event and verify the adequacy of procedures, procedure-related instrumentation, and operator training programs for the

detection of and response to uncontrolled power oscillations. The briefings and verification reviews were thorough, expeditiously performed, and resulted in numerous procedure changes. After the issuance of NRC Bulletin 88-07, the licensee received new interim industry recommendations for power oscillations which were intended to supplement the information provided in GE SIL 380, Revision 1. The licensee's consideration of this additional guidance was again expeditious and resulted in procedure changes that accurately implemented the interim recommendations.

Plant housekeeping continued to be a strength. Throughout the assessment period, the licensee has emphasized housekeeping practices. Management personnel made plant tours with the specific objective of checking on the status of housekeeping. Personnel were critical and thorough in documenting housekeeping deficiencies. Emphasis continued to be placed on the minimization of contaminated areas within the plant. The painting of floor areas within the reactor buildings also enhanced the level of housekeeping and improved the facility's appearance.

During the previous SALP evaluation period, the training and performance of the Fire Brigade was identified as a significant weakness in the Fire Protection Program. Since the training deficiencies resulted in a decline in the licensee's performance in this area, increased management attention in this area was recommended by the previous SALP Board. During this SALP assessment period, significant efforts to improve the Fire Brigade Training Program were made by including additional plant specific information in the Fire Brigade leadership training. These changes enhanced the training and resolved previously identified concerns in this area.

Fire Brigade performance was observed during an unannounced drill. The inspector concluded that the performance of both the Fire Brigade Leader and the Fire Brigade was satisfactory. The overall Fire Protection Program meets NRC requirements.

During the previous SALP assessment period, problems were noted with the lack of proper emphasis on training for non-standard situations, including the effective implementation of the Emergency Operating Procedures (EOP). The effectiveness of the licensee's corrective actions were demonstrated by the performance of the licensed (and license candidate) personnel on operating examinations. During this assessment period, an initial license examination was administered by the NRC in June 1989. Nine of twelve Senior Reactor Operator (SRO) candidates

and two of two Reactor Operator (RO) candidates passed. A weakness was noted regarding the candidates' implementation of the EOPs which resulted in nonconformance to EOP step sequence and disregard for EOP notes. The licensee immediately responded to this observation and was able to determine that the EOP usage problems were limited to the initial license candidates and were not present in the on-shift operating crews.

NRC administered requalification examinations were also given to twelve SROs and twelve ROs in September 1989. All SROs and eleven ROs passed the examinations. The licensee's Requalification Program was rated satisfactory in all evaluation areas. To date, this program evaluation is the best that has been given in the Region.

2. Performance Rating

Category: 1

Trend: None

3. Recommendations

None

B. Radiological Controls

1. Analysis

During the assessment period, inspections were performed by both the resident and regional inspection staffs. They included three routine radiation protection audits, a radiological effluents and chemistry review, a confirmatory measurements inspection, and a special inspection reviewing allegations concerning health physics (HP) issues. In addition, HP issues were reviewed during a team inspection concerning licensee activities associated with the site maintenance program. For the assessment period, the licensee's Radiation Protection Control Programs were determined to be adequate to protect the workers and the general public.

The licensee's HP organization and staffing, consisting of permanent and temporary contract personnel, were adequate to provide radiation protection coverage during routine and outage activities. However, the low number and temporary nature of personnel initially assigned ALARA responsibilities for outage planning activities was identified as a weakness. HP staffing was sufficient to conduct routine and special radiological surveys and to provide thorough job coverage. Chemistry Department manning remained stable, and radiation protection and chemistry personnel were well trained. Two separate violations for the failure of an HP technician to conduct an adequate radiation survey and to follow procedures for sampling

breathing-air systems were identified but were regarded as isolated incidents.

The licensee's General Employee Training Program improved during the assessment period. Initial improvements to the program included an emphasis on individuals' responsibilities and included videotape presentations showing the proper use of protective clothing. Both NRC and subsequent licensee quality assurance (QA) audits identified that the mock-up training for major outage activities had lacked detail regarding the use of appropriate protective clothing and equipment. This lack of detailed mock-up training contributed to the inadequate welds, which resulted in subsequent rework, during the reactor water cleanup (RWCU) system pipe replacement project with attendant additional personnel exposure.

In addition, a licensee audit identified a general lack of knowledge regarding the ALARA concept among employees and an unacceptable sense of personal responsibility. Corrective actions regarding these specialized training issues have been implemented.

In general, QA programs were adequate to identify significant issues regarding radiation protection activities. The knowledge and experience levels of the site HP staff were adequate to resolve technical issues and to maintain adequate radiological controls. During a Maintenance Team Inspection, a detailed review of the HP implications in maintenance activities resulted in only one finding involving radiation protection activities (failure to complete adequate corrective actions for deficiencies in the service breathing-air outlets). Other licensee identified QA issues (e.g., whole body and extremity dosimetry placement, scaling factors used in radwaste classification, and contamination controls during radioactive waste processing) were resolved in a timely and appropriate manner. Licensee procedures and records were indicative of an adequate Radiation Protection Program.

Management support and involvement in matters related to radiation protection and radioactive waste issues improved during the assessment period. Early in the assessment period, the licensee's actions and procedures regarding the Unit 1 RWCU system pipe replacement project did not indicate a thorough understanding of, or commitment to, basic ALARA principles. Licensee planners initially estimated an expenditure of approximately 559 person-rem to complete outage activities. The final collective dose for the outage was approximately 761 person-rem, 35 percent above the projected values. The

increase was attributed to problems with the RWCU pipe replacement task. Details were available regarding the extensive welding rework and the subsequent dose accumulation above the projections for the RWCU task, but management actions to minimize dose expenditure were not effective. Factors that contributed to that increase included substandard planning, inadequate mock-up training, and the lack of a system requiring management review when actual doses exceeded projected doses. Subsequently, licensee corporate office personnel conducted a site ALARA program review and identified additional issues. These programmatic inadequacies were illustrated by inadequate ALARA reviews of procedures, designs, and work practices; ineffectiveness of the Plant ALARA Review Committee; inadequate dose projections for Radiation Work Permits; and lack of worker understanding of ALARA responsibility. To increase management awareness and strengthen the ALARA Program, the licensee has proposed and is implementing corrective actions, which include providing ALARA training to managers and workers, involving section supervisors in the establishment of ALARA goals, and improving guidelines for the Plant ALARA Review Committee.

The licensee's percentage of contaminated space at the facility continued to remain low throughout the assessment period. Of the approximately 679,000 square feet of area monitored, the largest amount of contaminated area, 57,000 square feet (approximately 8 percent of the total floor space) occurred in January 1989 during the Unit 1 outage. Following completion of all outage activities, the licensee reduced the area of contaminated space to approximately 20,000 square feet (2.9 percent of total area) by August 1989. As a result of outage activities, the contaminated floor space for September 1989 has increased to approximately 32,000 square feet (4.7 percent).

Licensee actions resulted in a decline in the number of Personnel Contamination Events (PCE) during the assessment period. During 1988, approximately 1120 PCEs were documented. From January 1 through September 30, 1989, only 129 PCEs were reported. The licensee's actions included wearing "scrub suits" beneath protective clothing, additional training, and administrative changes regarding personal responsibility for minimizing contamination. The comparison of the average number of identified PCEs for non-outage months, which decreased from 45 per month in 1988 to 12 per month in 1989, was further evidence of the effectiveness of the licensee's actions.

The average annual collective dose per unit at Hatch for 1986 through 1988 was 619 person-rem. Since January 1989, following completion of the Unit 1 outage, the licensee has demonstrated progress in maintaining collective dose low, with an accumulated dose of 197 person-rem per unit for the first nine months of 1989. For the Unit 2 outage activities in September 1989, approximately 144 person-rem have been expended. Most of the

dose intensive activities (e.g., pulling control rod drives) have been completed. The projected 1989 composite exposure accumulation is expected to be at the 450 person-rem/unit goal.

Liquid and gaseous effluents for calendar year 1988 and the first half of 1989 were within the dose limits specified by the technical specifications and within the radioactivity concentrations specified in 10 CFR Part 20, Appendix B. Chemical and radiochemical determinations were accurate and complete. Trend charts displaying radiochemical and chemical parameters were informative and were used by management to monitor performance. The hydrogen water chemistry in use on Unit 1 appeared to be effective in maintaining copper and other metals within administrative limits. In Unit 2, which did not use hydrogen water chemistry, copper was consistently above administrative limits, and other metals were occasionally above administrative limits.

2. Performance Rating

Category: 2

Trend: None

3. Recommendations

None

C. Maintenance/Surveillance

1. Analysis

During the assessment period, maintenance and surveillance inspections were performed by the resident inspectors and regional inspection staff. A Maintenance Team Inspection was performed and directed toward the evaluation of equipment conditions, the observation of in-process maintenance activities, the review of equipment histories and records, and the evaluation of maintenance control procedures and the overall Maintenance Program. In addition, maintenance and surveillance activities related to the emergency diesel generators were inspected during a Safety System Functional Inspection. Overall, maintenance performance during the assessment period was good.

As discussed previously, both Hatch units had successful operating cycles during the assessment period. Improved preventive maintenance, which addressed equipment problems prior to on-line failure, played a key role in attaining the previously mentioned excellent operating record. The licensee's scheduled Preventive Maintenance Program was increased by more than 50 percent during this assessment period.

The maintenance organization is adequately staffed and has good morale which is reflected in a low turnover rate. Overtime work performed by maintenance personnel was not excessive. Maintenance management is qualified, enthusiastic, and instrumental in maintaining the teamwork displayed by craft personnel.

The licensee has a good skills training program for maintenance personnel. Training facilities include the use of actual components as training aids. All craftsmen are required to complete formal training prior to performing maintenance operations in the various designated areas.

The maintenance shops are well organized, contain adequate equipment, and are well stocked with the spare parts required to perform a variety of maintenance functions. The "Hot" and "Clean" Machine Shop facilities were considered to be strengths in the Maintenance Program.

There exists a strong program for controlling the maintenance backlog. Due to management's continued attention in reducing the number of outstanding non-outage corrective MWOs, this backlog has been reduced by approximately 54 percent. Interfaces between the maintenance organization and other organizations were clearly defined and working well. Daily planning meetings were organized and were a strong point in the maintenance process.

A number of additional management initiatives in the maintenance area showed positive results. These included the establishment of a well organized and qualified QC staff, who was heavily involved in the maintenance process; the use of performance indicators; and the use of a maintenance data base and equipment records which were readily retrievable, provided information for documenting the history and status of equipment maintenance, and provided information for trending failed equipment.

The licensee's Predictive Maintenance Program continued to improve the condition of rotating equipment and to detect equipment problems prior to failure. This program, which included vibration and lube oil analysis, identified numerous equipment problems prior to failure. During the assessment period, 82 machines were added to the vibration analysis program making a total of 460 in the program. Additionally, the ratio of machines in the normal vibration range to the total number of machines in the Predictive Maintenance Program improved from 80 percent in 1988 to 92 percent in 1989.

The NRC staff identified the need for more detail in procedures to ensure that sufficient functional/operability testing was conducted when changes were made to an MWO, to provide a methodology for root cause analysis, to ensure that vendor recommendations pertaining to equipment maintenance were incorporated into maintenance procedures, and to define the responsibility of the system engineers. A violation was identified for a failure to include vendor generated preventative maintenance requirements in the licensee's implementing maintenance procedures for some electrical equipment.

The NRC staff noted that the licensee's program (Deficiency Card system) for the identification of deficiencies and the initiation of corrective action was working well. However, weaknesses were identified by the NRC staff in the implementation by the licensee of their Corrective Action Program. Two violations were identified in this area. A minor weakness was also identified regarding the lack of precise definition and details on some MWOs which made it difficult to determine the corrective actions performed to close out the MWO.

Plant surveillance activities were routinely examined by the NRC staff. The surveillance procedures were found to be technically adequate and in conformance with both technical specification and NRC requirements. Conduct of surveillance activities was found to be satisfactory with the exception of two violations identified for failure to follow procedures when performing routine surveillance tests. A violation was also identified pertaining to a failure to follow procedures for the inservice testing of check valves and relief valves. Post-refueling startup tests, thermal power monitoring, and nuclear instrument calibration were reviewed. All testing met design predictions and test methods were acceptable. During the assessment period, only a few surveillance deficiencies were identified by the licensee. These problems were either attributable to personnel error or procedural inadequacy. As a result, the licensee implemented a program that, on a daily basis, informed the department managers of surveillances due in their respective areas. The isolated problems were not considered to be indicative of a programmatic breakdown in the Surveillance Program.

2. Performance Rating

Category: 1

Trend: None

3. Recommendations

None

D. Emergency Preparedness

1. Analysis

This functional area involved the evaluation of activities related to the implementation of the Emergency Plan and procedures, the support and training of onsite and offsite emergency response organizations, and the licensee's performance during emergency exercises. Performance was also evaluated in event notifications, recovery actions, protective actions, and interactions between onsite and offsite emergency response organizations. During this assessment period, inspections included two routine emergency preparedness inspections and the observation of an annual exercise.

The Emergency Preparedness Program received strong management support to ensure that the licensee maintained the basic elements needed to promptly identify, correctly classify, and implement the key elements of the Radiological Emergency Plan and the respective procedures for responding to emergency events.

Improvements were made in emergency planning training. During walkthroughs, four individuals, who would be Interim Emergency Directors during backshift operations, demonstrated familiarity with the Emergency Plan and implementing procedures, equipment, protective action recommendations, non-delegable responsibilities, and emergency exposure limits. Three shift clerks, who would be Initial Offsite Communicators, showed familiarity with the communications procedures and equipment which they would be using. This demonstrated an effective consideration by the licensee of Information Notice No. 85-80, "Timely Declaration of an Emergency Class, Implementation of an Emergency Plan, and Emergency Notifications."

The licensee maintained adequate facilities and equipment to respond to an emergency, including the Technical Support Center (TSC), Emergency Operating Facility (EOF), and communications systems. The communications system was tested during an inspection. The Emergency Notification Network (a dedicated ring-down telephone system) and a radio system were both operational. Some minor discrepancies were noted in the controls used to ensure emergency kits' contents were being maintained current.

The licensee conducted detailed and comprehensive plant and corporate audits of the Emergency Preparedness Program. Audit findings, proposed corrective actions, and schedules were reviewed by plant and corporate management and were tracked to completion.

Program strengths were noted in the documentation of and corrective actions for discrepancies in equipment inventories and periodic tests. Root cause evaluation to determine corrective actions to findings from the staff augmentation drill was also noted as a strength. It was noted that the licensee did not meet the augmentation times for staffing the TSC and EOF. During a May 1989 drill, it took 70 minutes to staff the TSC and Operations Support Center and 85 minutes to augment the EOF, versus the 60 minutes specified in the Emergency Plan. As a result, the licensee performed a Management Oversight and Risk Tree analysis for the failure to staff in 60 minutes and for the implemented corrective actions.

The 1988 annual exercise was a partial participation exercise in which the licensee adequately tested and generally demonstrated its ability to implement the Emergency Plan and supporting procedures during a radiological emergency. The exercise was run from the plant simulator thus adding realism. The licensee promptly staffed its emergency response facilities with a trained emergency organization, promptly detected and classified the emergency conditions, made required notifications to offsite authorities, and took necessary actions to mitigate the accident. During the exercise, engineering, maintenance, and technical support functions were well implemented and were factored into problem solving. The Emergency Director demonstrated effective command and control, transfers of command were clear, and staff briefings were frequent and accurate. One exercise weakness was identified for the prolonged delay in extending the protective action recommendation from the initial default recommendation to include the 10-mile downwind sector. The notification of the state of the General Emergency did not include a protective action recommendation, but the recommendation was made shortly thereafter. In addition, the observance of the drill showed that the Operations Support Center was noisy, which detracted from the orderly conduct of operations. It also showed that only a few members of the Fire Brigade, who were responding to the simulated fire, were briefed on the health physics controls and the plant status. This finding is similar to one noted in the 1987 exercise. Following the exercise, the licensee conducted a comprehensive critique.

Overall, the licensee demonstrated a capability to implement critical aspects of emergency preparedness during simulated and actual emergency events. The licensee was also adequately maintaining its Emergency Plan, emergency facilities, emergency equipment, and the staffing levels of the emergency response organization.

2. Performance Rating

Category: 1

Trend: None

3. Recommendations

The improved performance rating in the area of emergency preparedness was the result of the continuing management emphasis that was evident throughout the SALP period. The emphasis was reflected in improved training and effective licensee audits and self-critiques. Continued attention should be applied to this area in order to sustain this overall level of performance.

E. Security and Safeguards

1. Analysis

The physical security and safeguards functional area involved the evaluation and assessment of the adequacy of the Security Program to provide protection for plant vital systems and equipment. To determine the adequacy of the security protection provided, specific attention was given to the identification and resolution of technical issues, responsiveness to NRC initiatives, enforcement history, staffing, effectiveness of training, and qualification of personnel. The scope of this assessment included all licensee activities associated with access control, physical barriers, detection and assessment, armed response, alarm stations, power supplies, communications, and compensatory measures for degraded security systems and equipment.

Authority and responsibilities associated with the security organization were adequately delineated and, in general, appeared to be effective. The site's proprietary security force was adequately staffed and appropriately trained and equipped. The facility Guard Training and Qualification Plan was implemented on a continuing basis at all levels of the security organization using the onsite training staff. The security force had adequate procedures. The site's Security Training Program was found to be excellent. The program was using very innovative methods to train and motivate the security force staff (e.g., site specific shoot/no shoot ranges).

Five Security Plan changes were submitted pursuant to the requirements of 10 CFR 50.54(p). Four of the revisions were evaluated by the regional staff as acceptable and one required further clarification. The licensee was responsive to this request. Overall, the maintenance of the plan and the reporting

of changes were appropriately managed by the licensee. During this assessment period, licensee representatives met with the NRR staff to resolve the new miscellaneous amendment and search requirements that were added to 10 CFR 73.55, "Requirements for Physical Protection of Licensed Activities in Nuclear Power Reactors Against Radiological Sabotage." The closeout of those requirements was delayed because the Georgia Power Company Security Plan revision had to be modified several times before all the new requirements were addressed. The licensee's responsiveness was judged to be marginal on that issue.

The licensee's independent security program audit covered the following areas of the Site Security Program: access control, searches, alarm station operations, intrusion detection systems, training, and compensatory measures. The auditors were thorough and knowledgeable of Security Program requirements and commitments.

The licensee continued to work toward upgrading the Security Program and took an active role to upgrade facilities. A new plant entry building with four process lanes is open and is used by all personnel. The turnstiles are equipped with card readers with personal identification numbers needed to allow access. A "sally port" vehicle gate for better control of vehicles and personnel during entry search has been constructed and is in use. Additionally, the licensee recently added a new base radio station and purchased new hand-held and vehicle radios to improve communications. Also the licensee has identified and trained a specialized Tactical Response Team which has enhanced the licensee's capability to respond to emergency contingencies.

While the licensee experienced an increase in the number of security-related violations, the violations were not indicative of a major security program problem. Of the four violations cited during this reporting period, two were related to failure of the security force to adhere to procedures. The other two violations were attributed to personnel error and failure of supervisory personnel to fully recognize deficiencies which required proper reporting. These violations indicated a need for additional attention to detail and increased regulatory sensitivity on the part of security supervisors.

The licensee has had a long standing inoperative intrusion section alarm zone requiring compensatory measures and has expended considerable effort and resources to identify and implement an effective intrusion and detection system for the perimeter area involved. The licensee has continued to employ considerable effort to make the alarm system work even though the environmental conditions and the unique nature of the area involved are normally not acceptable to the type system the licensee is attempting to install. The long-term use of compensatory measures is detrimental to the effectiveness of the Security Program.

2. Performance Rating

Category: 2

Trend: Improving

3. Recommendations

The Board recognizes that many improvements have been made in the security and safeguards functional area. However, an overall rating of 2 is most appropriate given the long-term compensatory actions required to support the intrusion alarm system, the increased number of regulatory violations, and the lack of sensitivity displayed by the management on some of these security issues.

F. Engineering/Technical Support

1. Analysis

The engineering/technical support functional area addressed the adequacy of engineering and technical support for all plant activities. It included licensee activities associated with plant modifications; technical support provided for operations, maintenance, testing, and surveillance; and configuration management. This evaluation was based on routine and special inspections conducted in this area and related functional areas. Special inspections during this assessment period which included reviews of engineering support performance were a Safety System Functional Inspection and a Maintenance Team Inspection. Performance in this functional area has been good during this assessment period with the exception of deficiencies in the Welding and Nondestructive Examination (NDE) Programs.

Design change development and implementation have been thorough and well documented. Improvements have been achieved in the quality of 10 CFR 50.59 evaluations. Both the post-installation follow-up activity (e.g., procedure and drawing revisions) and Maintenance Program update have been adequate. A failure to properly update plant drawings due to modifications was identified during this assessment period. The failure to update the main turbine electrohydraulic control system drawings was a contributor to one of the four scrams discussed in Sections IV.A and V.I of this report. Initiatives to enhance the design change development activity during this assessment period included an increased interface between engineering and plant groups early in the design development process and the establishment of a Modification Review Committee. The Modification Review Committee reviews all modification packages to verify adequate implementation development and verifies the implementing engineer's cognizance of the modification and implementation process. Efforts to reduce design change

packages awaiting closure have been effective. A backlog of 400 design packages has been reduced by approximately 50 percent.

Although plant Hatch has a small onsite engineering staff, engineering support was adequately provided by corporate engineering, architect engineering, and contractors. The permanent onsite engineering staff consists of approximately 79 personnel. This is supplemented by 75 contractors assigned to specific long-range engineering activities. Engineering support was evident in the elimination of the backlog of engineering assistance requests (i.e., Requests for Engineering Reviews (RER)) which were reduced from approximately 500 to 0. Engineering support was also evident in a similar elimination of MWOs requiring engineering assistance. The lack of an adequate tracking mechanism for RERs and MWOs contributed to the backlog of these items. Actions to reduce this backlog included development of an engineering tracking program, increased engineering staff accountability and responsibility for the timely processing of MWOs and RERs, establishment of timeliness requirements, and increased management attention.

Technical support for maintenance was adequately provided by a Maintenance Engineering Group whose duties included the resolution of problems related to maintenance performance, component trending for repetitive failures, and monitoring of the Preventive and Predictive Maintenance Programs. Engineering efforts have contributed to a substantial reduction in the number of lit control room annunciators and a reduction in the number of outstanding temporary modifications. System evaluations have resulted in reducing problems of air inleakage in both the main condenser and secondary containment.

Efforts to increase the level of technical support were noted in several additional areas. An American Society of Mechanical Engineers (ASME) Section XI repair and replacement program was established. An engineer was hired and dedicated to environmental qualification. A computer program (TRISIC) was acquired for snubber database management. The As-Built Notice backlog was eliminated. A single individual was identified to be responsible for ASME Section XI pressure tests.

The responsiveness and timeliness of engineering to NRC requests for information was good during an Safety System Functional Inspection of the emergency diesel generators and support systems. Various concerns were identified by this inspection concerning design, fuel chemistry, surveillance, and maintenance of the emergency diesel generator and its support systems; however, these concerns did not represent a major impact on the overall functional status of the systems. A general concern in the engineering area was the lack of documented design base information. This inspection noted good performance by the technical staff in the incorporation of vendor information in plant programs and documents.

The licensee has been aggressive in accelerating completion of the Procedure Upgrade Program. This program was originally scheduled to be completed in December 1989 and was actually completed on August 28, 1989. This upgrade effort has clearly resulted in a significant improvement in plant procedures and the process by which they are developed and maintained. One violation was identified, however, that related to Procedure Upgrade Program activities. The violation identified that daily checks of certain alternating current circuits within primary containment had not been performed because the incorrect check frequency had been introduced into the related procedure during the validation process. The licensee has taken steps to ensure that upgraded procedures do not degrade in quality over time. A Plant Procedures Group has been formally organized and staffed within the General Support Department. The group is supervised by a former senior QA auditor and includes senior, experienced personnel from the Engineering, Operations, Maintenance, and Health Physics and Chemistry Departments. The group is responsible for procedure review, procedure status tracking, and monitoring the quality of the procedure development and review process.

During this assessment period, a technical support weakness was identified in the Welding and NDE Program. Programmatic deficiencies included poor procedural guidance for welding and NDE, inadequate qualification of welders, and inadequate weld quality verification activity. Both the Welding and NDE Programs have demonstrated a tendency to meet only the minimum industry and regulatory requirements with the result being limited performance margins (e.g., minimum welder training contributed to deficient production welds). Licensee acceptance of minimal quality radiography and weak film interpretation by responsible QC personnel contributed to their failure in identifying weld defects. These programmatic weaknesses resulted in poor quality welds on the RWCU system piping replacement and a deficient NDE performance in identifying inadequate welds. The actual work, performed by a contractor, was inadequately controlled by the licensee. The licensee's welder qualification and selection process for contract welders was inadequately supervised. For example, the verification of welder skills did not simulate the actual production conditions (e.g., piping configuration and protective clothing requirements such as face masks). In a management meeting conducted in the Region II office on November 23, 1988, licensee management demonstrated that the scope of the problem had been identified and effective short-term and long-term corrective actions had been initiated. The Welding Program was upgraded to include enhanced qualifications of welders and engineering overviews of welding. Additionally, QC personnel responsible for NDE have received formal training in these functions. This issue resulted in a violation for failure to adequately control special processes for welding and nondestructive testing.

Except as noted above, the licensee continually demonstrated both the adequacy and the responsiveness of engineering and other technical support. Examples are the licensee's activities to resolve the torus rock bolt issue, completion of the Procedure Upgrade Program, participation in the Seismic Margins Program, efforts to upgrade the EOPs and to revise the EOPs in accordance with Revision 4 to the Emergency Procedure Guideline strategy, support for NRC team inspections, and responses to NRC staff questions regarding various licensing actions.

Review and evaluation of "Edwin I. Hatch Nuclear Plants, Units 1 and 2 Second Ten-Year Interval In-Service Inspection Program Plan" were completed during this assessment period. The review and evaluation process assessed the plan's compliance with regulations, Section XI of the ASME Code, technical specifications, and augmented examination requirements to which the licensee committed prior to plant operation. The plan was found to be well prepared, in compliance with appropriate requirements, and acceptable for implementation. That finding reflected a high level of technical understanding of, and appreciation for, requirements specified in regulations, industry standards, plant-specific technical specifications, and other plant-specific commitment documents.

2. Performance Rating

Category: 2

Trend: Improving

3. Recommendations

Overall performance in this area has been very good with the exception of the welding and NDE deficiencies noted early in the SALP period and additional NDE deficiencies noted late in the period. The Board recommends that the licensee provide increased attention in the area of control of special processes with particular emphasis on technical oversight of contractor performance in the welding and NDE areas.

G. Safety Assessment/Quality Verification

1. Analysis

The safety assessment/quality verification functional area included all licensee review activities associated with the implementation of licensee safety policies, licensee activities related to exemption and relief requests, responses to Generic Letters and NRC Bulletins, and resolution of Three Mile Island items and other regulatory initiatives. This functional area also included licensee activities related to the resolution of

safety issues, 10 CFR 50.55 requirements, 10 CFR Part 21 assessments, safety committee and self-assessments, analyses of industry's operational experience, use of feedback from plant quality assurance/quality control reviews, and participation in self-improvement programs. Finally, this functional area included the effectiveness of the licensee's quality verification function in identifying and correcting substandard or anomalous performance, in identifying precursors or potential problems, and in monitoring the overall performance of the plant.

The Plant Review Board (PRB) contributed to the prevention of problems by monitoring and evaluating plant performance, providing assessments and findings, and communicating and following up on corrective actions. Documentation of meetings was generally thorough and useful in determining topics discussed and the bases for conclusions. Action items were clearly identified and followed up. Reviews were generally thorough and oriented towards safety. The PRB maintained an independent perspective and returned many reviewed items to the originating groups in response to questions or concerns raised by PRB members. Follow-up of weaknesses and problem areas was not restricted to the specifics being discussed or to technical specification-related activities.

Review of the licensee's 10 CFR Part 21 program revealed that procedures were in place to fully support regulatory requirements and that these procedures were being implemented. Information and data used in evaluations for reportability were factual, and the evaluation findings were appropriate.

The plant continued to have an excellent problem identification program which involved the generation of Deficiency Cards (DC). Plant personnel at all organizational levels were critical and thorough in documenting deficient conditions on DCs. Deficient conditions that were determined to be more significant by virtue of reportability, safety considerations, or identification of adverse trends required the initiation of Significant Occurrence Reports (SOR). Event reviews were performed for SORs.

Steps were taken to further enhance the licensee's event analysis and resolution process. A new administrative control procedure was put into place that clearly delineated the requirements for Event Review Team composition and activation, data collection, event analysis and reporting, and the follow-up of resulting action items. In addition, many plant supervisors and engineers have received specialized Management Oversight and Risk Tree training, plus additional root cause training, conducted by the plant training organization.

Self-assessment programs were effective during this evaluation period. Trending was performed on DCs, SORs, Licensee Event Reports (LER), and Quality Assurance (QA) audit and surveillance findings to identify repetitive events and adverse trends. There was evidence that management reviewed and frequently implemented corrective action recommendations included in these trend reports. Effectiveness audits of the Operating Experience Program (OEP) were also performed. The OEP consists, in part, of the translation of operating experience into plant actions. The effectiveness audits represented earnest efforts at self-assessment and were useful in assessing OEP effectiveness.

Site QA activities were aggressively pursued and responsive to changes in plant activities and problems. Audits were not limited to Final Safety Analysis Report commitments or technical specification requirements, but included areas that were judged to be currently, or potentially, of high regulatory interest. Such areas included computer software, the EOP project, hazardous materials and spill control, outage activities, and contract administration. Surveillances were effectively used to augment the audit program by assessing plant activities, contractor activities, material conditions, and plant systems. The site QA organization continued to be staffed by well-qualified, motivated technical specialists, as evidenced by consistently sound audit findings and surveillance observations.

In general, the licensee stayed abreast of industry experience and approaches to plant safety issues and stayed informed of programs, problems, and resolutions at other plants. The level of participation in, and support of, industry group activities was significant. For instance, Plant Hatch is the lead BWR/4 plant in the BWR Owner's Group program to improve technical specifications.

Early in the assessment period, a corporate engineering review identified that a single failure of the station battery "A" train would result in the loss of the automatic actuation function of both trains of the automatic depressurization system (ADS). That design deficiency had been introduced into the system when the ADS of each unit had been updated to an analog transmitter trip system three years earlier. The units had been operating in an unanalyzed condition for the small break loss of coolant accident since that time. Although the design deficiency was primarily a result of poor support by a vendor, the responsibility for ensuring that vendor work meets the requirements lies with the licensee. Thus, the finding of that deficiency raised a question regarding the licensee's previous effectiveness at assuring the quality of vendor activities while it demonstrated a current capability to find and correct such deficiencies.

During a review of training material, plant personnel discovered that with a loss of offsite power and the subsequent automatic start of the Unit 2 emergency diesel generators, both trains of the standby gas treatment system (SBGT) would not automatically start until the high-high temperature trip on the SBGT fans was reset. The licensee was unaware that the NRC had issued Information Notice (IN) 85-63, "Potential for Common-Mode Failure of Standby Gas Treatment System on Loss of Off-Site Power," and also INs 83-25 and 84-81, which dealt with other SBGT-related problems.

The licensee's approach to the identification and resolution of technical issues from a safety standpoint has been consistently good. The submittals were of high quality and the analyses of non-significant hazards issues associated with requests for amendments were complete and correct. In general, the licensee's activities exhibited evidence of prior planning and assignment of appropriate priorities. Decisions were made at a level that ensured adequate management review. The documents submitted in support of licensing actions almost always reflected clear understanding of the technical and regulatory issues involved. The licensee consistently demonstrated advance planning. The licensee's staff was effective in anticipating and identifying potential problems related to technical specification and regulatory requirements that could require licensing actions by the NRC, and in notifying the NRC promptly so that resolutions could be obtained on other than an emergency basis. As an example, the discovery of bent rock bolts in the Unit 1 torus early in the assessment period resulted in immediate licensee action to assess the extent of the problem, engineering evaluations of the safety impact of the bent bolts, a meeting with the staff to present the results of the evaluations, and a comprehensive final report to close the issue. The licensee actions on the rock bolt issue were indicative of strong management interest and support, an awareness of the potential impact of the bent bolts, and the immediate accessibility of adequate technical and engineering support to resolve the issue.

The licensee maintained an adequate staff, both at the plant and at the corporate office, to support licensing activities. All individuals involved in the licensing activities were technically competent, forthright, and cooperative. Management contacts outside the licensing arena demonstrated the same attributes. At the end of the previous SALP period, the NRC staff was concerned with the proposed move of the licensee's corporate level nuclear staff from Atlanta to Birmingham, Alabama. However, the move was made during the early part of this SALP period with little ill effect on licensing activities. Once the physical move had been completed, the corporate licensing support returned to the same high level that had existed prior to the move.

The licensee has continued to report and analyze operational events in a timely manner, including telephone notification of operational events pursuant to 10 CFR 50.72 and written LERs pursuant to 10 CFR 50.73. In general, the LERs adequately described all the major aspects of each reportable event, including component or system failures that contributed to the event and corrective actions taken or planned to prevent recurrence. The narrative sections of the LERs typically contained specific details of the event (e.g., valve identification, model numbers, operable redundant systems, repairs made and date of completion, etc.) to enable a good understanding of the event and the challenge to plant safety. Events were studied and evaluated by an Event Review Team, and the root cause of each event was reported, where such root cause could be identified. The LERs were consistently thorough, well written, and easy to understand. Follow-up reports were submitted for those events where additional pertinent information became available.

In general, management involvement and control to assure quality were evident throughout the assessment period. The actions toward forming an operating company for the Southern Company system involved the movement of the Corporate Nuclear Department from Atlanta to Birmingham and the transfer of the Vice President-Nuclear from the site to Birmingham. These moves have had no apparent adverse impact on plant operations or plant licensing activities. Support has been evident in the smooth functioning of the plant and in the absence of unanticipated problems regarding plant licensing. The management personnel at the site and at the corporate office are readily accessible and willing to involve themselves in technical and safety issues.

2. Performance Rating

Category: 1

Trend: None

3. Recommendations

None

V. SUPPORTING DATA AND SUMMARIES

A. Investigation Review

There was one minor investigation regarding security during this SALP assessment period.

B. Escalated Enforcement Action

None

C. Significant Management/Enforcement Conferences

1. NRC/Licensee Meetings

Date	Purpose
November 23, 1988	Management controls of Welding and ALARA Programs, NRC Region II, Atlanta, GA
December 19, 1988	GPC Corporate organization for SONOPCO, GPC Corporate Office, Birmingham, AL

2. Commission Meetings

None

D. Confirmation of Action Letters

None

E. Discretionary Enforcement Action

On October 26, 1988, discretionary enforcement action was granted to permit continued operation of Unit 2 until a design change could be implemented to correct a design deficiency in the automatic depressurization system power supply circuitry.

F. Review of Licensee Event Reports

During the assessment period, a total of 35 Licensee Event Reports were analyzed (21 for Unit 1 and for 14 for Unit 2). The distribution of these events by cause, as determined by the NRC staff, is as follows:

Cause	Unit 1	Unit 2	Total
Component Failure	4	4	8
Design	2	2	4
Construction, Fabrication, or Installation	0	0	0
Personnel			
- Operating Activity	4	1	5
- Maintenance Activity	1	3	4
- Test/Calibration Activity	6	2	8
- Other	3	1	4
Other	1	1	2
Total	21	14	35

Note 1: With regard to the area of "Personnel," the NRC considers lack of procedures, inadequate procedures, and erroneous procedures to be classified as personnel error.

Note 2: The "Other" category is comprised of LERs where there was a spurious signal or a totally unknown cause.

G. Licensing Activities

1. Licenses Issued

None

2. Reliefs Granted

None

3. Exemptions

October 7, 1988 - Exemption from the schedule requirements of the Property Insurance Rule for Units 1 and 2

October 25, 1988 - Exemption and authorization for use of solvent iodine canister for Units 1 and 2

4. Emergency Technical Specification Amendments

None

5. Significant License Amendments

Amendment Number Unit 1/Unit 2	Description	Date
157/---	Revise APLHGR limits, add LHGR limit for new fuel type, revise MCPR and MAPFAC figures	September 12, 1988
159/097	Extend license expiration date	December 30, 1988

H. Enforcement Activities

Functional Area	No. of Deviations and Violations in Each Severity Level					
	Dev.	V	IV	III	II	I
Plant Operations	0	1	2	0	0	0
Radiological Controls	0	0	2	0	0	0
Maintenance/Surveillance	0	0	6	0	0	0
Emergency Preparedness	0	0	0	0	0	0
Security and Safeguards	0	1	3	0	0	0
Engineering/Technical Support	2	0	3	0	0	0
Safety Assessment/Quality Verification	0	0	1	0	0	0
Total	2	2	17	0	0	0

I. Reactor Trips

A total of four automatic scrams occurred during this assessment period, two on Unit 1 and two on Unit 2. (Fifteen automatic scrams occurred during the previous assessment period.) One manual scram occurred for reasons other than initiation of planned outage activities. This manual scram was initiated on December 25, 1988, when both recirculation pumps tripped while Unit 2 was at full power. The automatic trips are described in more detail below.

Unit 1

- On September 4, 1988, the reactor tripped from rated power. The unit tripped on low reactor vessel water level due to failure of both reactor feed pump controllers.

- On December 17, 1988, the reactor tripped from approximately 85 percent of rated power. The main turbine tripped on loss of electrohydraulic control system pressure, resulting in a reactor scram on turbine stop valve closure.

Unit 2

- On August 5, 1988, the reactor tripped from rated power on low reactor vessel water level. A fuse blew when a repaired feedwater minimum flow controller was reinstalled, causing minimum flow valves for the condensate, condensate booster, and reactor feed pumps to fail open. This resulted in a loss of pump suction pressures and subsequent tripping of the condensate booster and reactor feed pumps.

- On September 3, 1989, the reactor tripped from approximately 70 percent of rated power. The master feedwater controller's self-synchronized control unit failed, resulting in a unit trip on low reactor vessel water level.

J. Gaseous and Liquid Effluent Release Summary

EFFLUENT RELEASE SUMMARY
for Hatch, Units 1 and 2

Activity Released (curies)	1986	1987	1988	(First Half) 1989
Gaseous Effluents				
Fissions and Activation Products	1.99E+4	2.11E+4	3.46E+3	2.99E+2
Iodines	3.28E-2	3.69E-1	4.30E-1	2.70E-3
Liquid Effluents				
Fissions and Activation Products	7.90E-1	8.15E-1	9.82E-1	1.04E-1
Tritium	2.85E+1	2.82E+1	4.40E+1	2.57E+1

K. Special Inspections

IR No.	Date	Type
88-41	December 19-21, 1988	Corporate Organization, Functions, and Responsibilities
88-37	November 22, 1988 - January 6, 1898	Security Operational Activities and the Handling and Protection of Safeguards Materials
89-02	February 27 - March 3 and March 13-17, 1989	Maintenance Team Inspection
89-08	May 15-19, June 5-9, and June 19, 1989	Safety System Functional Inspection