

ENCLOSURE

INITIAL SALP REPORT

U. S. NUCLEAR REGULATORY COMMISSION
REGION II

SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE
INSPECTION REPORT NUMBERS
50-321/92-14 AND 50-366/92-14

GEORGIA POWER COMPANY

HATCH, UNITS 1 AND 2

MARCH 3, 1991 THROUGH MAY 30, 1992

TABLE OF CONTENTS

Page		
I.	INTRODUCTION	1
II.	SUMMARY OF RESULTS	1
III.	CRITERIA	3
IV.	PERFORMANCE ANALYSIS	3
	A. Plant Operations	3
	B. Radiological Controls	6
	C. Maintenance/Surveillance	8
	D. Emergency Preparedness	10
	E. Security	12
	F. Engineering/Technical Support	14
	G. Safety Assessment/Quality Verification	17
V.	SUPPORTING DATA AND SUMMARIES	20
	A. Licensee Activities	20
	B. Direct Inspection and Review Activities	20
	C. Escalated Enforcement Actions	21
	D. Management Conferences	21
	E. Confirmation of Action Letters	21
	F. Review of Licensee Event Reports	22
	G. Licensing Activities	22
	H. Enforcement Activity	23
	I. Reactor Trips	23

I. INTRODUCTION

The Systematic Assessment of Licensee Performance (SALP) program is an integrated 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 normal regulatory processes used to ensure compliance with NRC rules and regulations. It is intended to be sufficiently diagnostic to provide rational basis for allocation of NRC resources. It is also intended to provide meaningful feedback to the licensee's management regarding the NRC's assessment of their facility's performance in each functional area.

An NRC SALP Board, composed of the staff members listed below, met on June 30, 1992, to review the observations and data on performance, and to assess licensee performance in accordance with the guidance in NRC Manual Chapter NRC-0516, "Systematic Assessment of Licensee Performance". 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 the Hatch Nuclear Plant, Units 1 and 2 for the period March 3, 1991 through May 30, 1992.

The SALP Board for Hatch was composed of:

- J. R. Johnson, Acting Director, Division of Reactor Projects (DRP), Region II (RII) (Chairperson)
- A. F. Gibson, Director, Division of Reactor Safety, RII
- B. S. Mallett, Deputy Director, Division of Radiation Safety and Safeguards, RII
- A. R. Herdt, Chief, Reactor Projects Branch 3, DRP, RII
- D. B. Matthews, Director, Project Directorate II-3, Office of Nuclear Reactor Regulation (NRR)
- K. N. Jabbour, Project Manager, Project Directorate II-3, NRR
- L. D. Wert, Senior Resident Inspector, Hatch, DRP, RII

Attendees at SALP Board Meeting:

- P. H. Skinner, Chief, Project Section 3B, DRP, RII
- R. A. Musser, Resident Inspector, Hatch, DRP, RII

II. SUMMARY OF RESULTS

Hatch continued to demonstrate excellent operational performance while being managed in a safe and conservative manner. The total number of trips and licensed operator errors were significantly reduced from the last SALP period.

The overall professionalism of control room personnel and management involvement were again significant strengths. Late in the assessment period the licensee was taking additional steps to improve adherence to procedures and to strengthen the fire protection program.

Overall, the Radiation Protection and Controls program continued to adequately control personnel exposure and protect the health and safety of plant personnel and the public. Management oversight and support was effective. The licensee effectively initiated several efforts to reduce dose although further improvement in this area is needed. Management initiatives to correct repetitive procedural adherence deficiencies and inattention to detail in the chemistry controls area need to be continued.

Overall, Maintenance and Surveillance activities were effective to maintain strong performance which has improved from the previous assessment period. Maintenance activities did not result in any forced outages or reactor trips. Management was actively involved in ongoing maintenance activities. Significant improvement was noted in several areas of the surveillance testing program. Housekeeping also continued to improve.

The licensee continued to maintain a strong Emergency Preparedness program. Strengths included a continuing emphasis on addressing the emergency response aspects of a plant casualty, increased emphasis on the use of unannounced drills, and aggressive and detailed exercise critiques. Good performance was observed during the annual exercise. The licensee maintained its emergency response facilities and equipment in a reliable state of readiness.

Management support of the Security program remained effective in ensuring overall performance. As noted in the previous assessment period, a major strength continued to be security training. Corrective actions have been initiated at both site and corporate levels for deficiencies observed with controlling Special Nuclear Materials and detection and equipment status information. The licensee continued to implement a strong Fitness for Duty program.

In general, the licensee demonstrated responsive and conservative Engineering/Technical Support. Several initiatives were taken by engineering management this period to strengthen the overall quality of engineering support. However, several problems involving inadequate or untimely corrective actions were noted despite indications of degraded safety system performance. Several deficiencies involving inadequate engineering review, design control, and incomplete Final Safety Analysis Report (FSAR) descriptions

were receiving increased licensee attention.

In the area of Safety Assessment/Quality Verification, the various audit groups and root cause analysis program continued to be strong assets. The licensee's programs to identify and document weaknesses and track action items were strong, although timeliness of the implementation of final resolution could be improved.

Overview

Performance ratings assigned for the last rating period and the current period are shown below.

<u>Functional Area</u>	<u>Rating Last Period</u> <u>10/1/89 - 3/2/91</u>	<u>Rating This Period</u> <u>3/3/91 - 5/30/92</u>
Plant Operations	1 (Declining)	1
Radiological Controls	2 (Improving)	2 (Improving)
Maintenance/Surveillance	2	1
Emergency Preparedness	1	1
Security	2	1
Engineering/Technical Support	2	2
Safety Assessment/ Quality Verification	1	1

III. CRITERIA

The evaluation criteria which were used to assess each functional area are described in detail in NRC Manual Chapter MC-0516, which can be found in the Public Document Room files. Therefore, these criteria are not repeated here, but will be presented in detail at the public meeting to be held with licensee management. However, the NRC is not limited to these criteria and others may have been used, where appropriate.

IV. PERFORMANCE ANALYSIS

A. Plant Operations

1. Analysis

This functional area addresses the control and performance of activities directly related to operating the facility, including fire protection.

Hatch continued to demonstrate excellent operational performance while being managed in a safe and conservative manner. During this assessment period

unit 1 experienced four automatic trips while unit 2 experienced no automatic trips. This compares to a total of nine automatic trips that occurred during the previous assessment period. During this assessment period, licensed operator error was involved in the initiation of one of the trips. Two of the trips were directly related to equipment problems. The other trip was caused by an error involving a health physics technician. On several occasions, licensed operators responded effectively to unexpected system or equipment performance to reduce the severity of the transient. An example was a rapid power reduction on unit 1 following a loss of two of the three cooling towers. Management consistently displayed conservative safety judgement in their approach to operation of the facility. An example was a shutdown of unit 1 due to increased upper drywell temperatures which caused a potential cabling environmental qualification concern.

As noted during the previous assessment period, the overall professionalism and high level of ability of control room personnel were significant strengths. All crews have a large number of operators that are well qualified and experienced. This performance level continued throughout this assessment period, as observed by excellence in control room demeanor, access controls, and watchstanding practices. Detailed and informative shift turnover briefings also continued to be a strong factor. A change to the present shift schedule has resulted in the utilization of the relief shift personnel to complete some tasks that the on-shift operators previously were assigned, thereby reducing the administrative burden. The high experience levels of the control room operators and operations staffing has resulted in a skilled operations department. Significant attention continued to be focused on control room annunciator status and has resulted in effective implementation of the black board concept.

Active involvement of management in the daily operation of the facility continued to be a significant strength. Through the use of a daily priority list, responsibilities and expectations were prioritized and clearly promulgated by plant management. Management has initiated several efforts to improve the overall quality of the operations department. Examples include increased use of computers to improve information flow within the department, preparation of clearances by off shift personnel, and vigorous efforts to further reduce radiation doses received by operators.

Although procedural compliance demonstrated by control room operators was a strength, there were several instances of failure to follow procedures and less than appropriate attention to detail identified by the NRC. Examples include the use of temporary release tags simultaneously with other clearance tags, and mis-positioning of the control room heating, ventilation, and air conditioning (HVAC) standby unit control switch. Other examples were identified by the licensee. Among the attention to detail problems were two examples of operators manipulating incorrect control room switches. One of these resulted in a reactor trip. Management has focused an increased emphasis on the use of self verification techniques. Following a series of trips and personnel error events late in the last assessment period, management produced a training video to increase sensitivity to attention to detail and independent verification issues.

During the previous assessment period, problems were noted regarding entry into Technical Specification (TS) Limiting Condition for Operation (LCO) Action Statements during equipment inoperability. During this period improvements were noted in the sensitivity to instrumentation inoperability status. An example was the questioning of operators during a secondary containment surveillance test procedure which unnecessarily rendered the fission product monitor inoperable. A second example was the detailed review and change made for an excess flow check valve testing procedure. During this period, improvement was also observed associated with the misuse of the two hour allowed testing period for corrective maintenance. Significant licensee resources and effort have been devoted to the effective resolution of this issue.

The licensee continued to address concerns regarding entry into action statements during certain routine surveillance testing. Several violations of TS requirements occurred this assessment period involving inoperable equipment in which the appropriate TS LCO action statement was not entered. The most significant example involved inoperability of excess flow check valves during sampling evolutions.

The fire protection program as a whole was well implemented, with the fire protection staffing being effectively utilized. The plant training group was well qualified, and contributed to a well trained and equipped fire brigade. A secondary fire brigade composed of maintenance and other personnel was considered a strength. Fire protection program audits

were comprehensive and thorough and corrective action was generally prompt.

Some weaknesses in the fire protection program were observed such as; deficiencies in fire brigade drilling; smoke detectors not being inspected semi-annually and functionally tested annually as required; and deviations of the Fire Hazards Analysis. While several fire protection problems were identified by the licensee, in some cases resolution was not timely.

Three violations were cited.

2. Performance Rating

Category: 1

3. Recommendations

None

B. Radiological Controls

1. Analysis

This functional area addresses those activities directly related to radiological controls and primary chemistry control.

Overall, the radiation protection program continued to adequately control personnel exposure to radioactive materials and protect the health and safety of plant personnel and the public. The licensee continued to be challenged to pursue avenues to reduce exposure of plant workers to radiation. During the last SALP assessment, the NRC noted the need for a stronger ALARA Review Committee and an improved dose goal awareness for plant workers. Late in this assessment period, the licensee reorganized to allow dedicated staff (ALARA group) to improve the coordination/planning with other site departments and to conduct detailed ALARA reviews during planning for work involving worker dose. The licensee tracked dose to workers by department during this assessment period in an effort to heighten worker's awareness to reducing dose.

Dose due to the radiation source term remained high during the assessment period, although management oversight and support was noted to be effective in prioritizing efforts in an attempt to reduce dose. As a result of these efforts, during 1991 the collective dose was reduced from the dose received in 1990, for

similar work performed. One of these efforts was the performance of a chemical decontamination of the unit 1 recirculation piping and reactor water cleanup system heat exchanger and piping. The estimated dose savings for this was 430 person-rem. In other efforts to reduce dose, the licensee used a vendor control rod drive (CRD) mockup to train workers prior to the change-out of 20 CRDs. This resulted in the lowest person-rem per drive removal ratio since Unit 1 operation. In addition, health physics briefings and monitoring of radiation workers performing inservice inspection (ISI) activities was noticeably effective. The licensee used an automated ultrasonic piping weld examination system to perform ISI activities where high radiation dose would have been received by examiners.

The licensee continued to experience problems with high radiation area access controls. The licensee continued to identify unlocked high radiation doors as part of the surveillance program. In addition, several instances of improper entry into high radiation areas were identified. In response, the licensee has initiated extensive material upgrades on the controlled area doors. A program was also initiated which distinctively identified radiation areas, and other actions have been taken to increase personnel awareness.

The licensee continued to maintain a low contaminated square footage (less than two percent of the radiation controlled area) during this assessment period. The plant goal was to maintain contaminated area below six percent. Housekeeping and cleanliness were considered program strengths.

The licensee's radiological effluent control program was effectively implemented and maintained. There were no unplanned releases. The doses calculated from the liquid and gaseous effluent releases were significantly less than the limits specified in the TS and federal regulations.

The licensee demonstrated the capability to accurately perform radiological measurements. Agreement was achieved on each of the 138 radionuclide concentration measurement comparisons made with the NRC mobile laboratory.

The licensee continued to perform well with regard to environmental monitoring. Their evaluation of the environmental monitoring data, as reported in the 1990 and 1991 Annual Radiological Environmental Surveillance

Reports, indicated there was no adverse radiological impact on the environment resulting from plant discharges. The licensee's performance in the Environmental Protection Agency's interlaboratory crosscheck program indicated that an effective quality assurance program had been maintained for analysis of environmental samples.

The licensee's programs for solid radioactive waste management and transportation of radioactive material were implemented well during the assessment period. Adequate facilities were provided for storing and preparing solid radioactive waste for shipment. Training and qualification of plant personnel involved in preparing radioactive material for shipment were very effective and were an overall program strength. No incidents involving transport of radioactive material from the facility were reported during the assessment period.

Several examples of failure to follow procedures and of inattention to detail involving chemistry department personnel were identified. Similar deficiencies had been noted during the last assessment period. Corrective actions included training of chemistry personnel to increase sensitivity to TS requirements. Previously noted weaknesses involving inadequate chemistry procedures were resolved through completion of a verification program.

Two violations were cited.

2. Performance Rating

Category: 2

Trend: Improving

3. Recommendations

The licensee should continue efforts to reduce the source term or take other available actions which will lead to a reduction in the radiation dose to personnel.

C. Maintenance/Surveillance

1. Analysis

This functional area addresses those activities related to equipment condition, maintenance, surveillance, and equipment testing.

Overall, maintenance and surveillance activities improved from the previous assessment period. Maintenance activities did not result in any forced outages or reactor trips. Senior maintenance management continued to be highly involved in ongoing maintenance activities and remained committed to continuing to improve the quality of maintenance programs.

A large portion of available resources and management attention continued to be dedicated to the preventive maintenance programs. Preventive maintenance accounted for about 70% of the total maintenance hours. This percentage was slightly lower than the previous assessment period due to an increase in the total corrective workload. However, the preventive effort has not been decreased. There were 18 Licensee Event Reports (LERs) attributed to component failures and an additional 22 LERs attributed to maintenance and surveillance activities. Management continued to be sensitive to the potential challenges involving aging of equipment. The scope of advanced predictive technique programs such as vibration, oil, and infrared analyses continued to be expanded. Each of these programs identified several significant potential problems. An example was the identification of a plant service water motor lower bearing wear problem. Other examples of increased emphasis on preventive maintenance include increased instrumentation related preventive maintenance activities and more use of specific vendor training.

A strong test program that went beyond the TS requirements for relays and breakers has been established. There was an aggressive program for the control and replacement of fuses.

Management continued to provide a well trained staff to support maintenance of the plant. Examples of expeditious corrective maintenance activities include repairs of tube leaks in an emergency diesel generator heat exchanger and implementation of several modifications which corrected deficiencies in the control room ventilation system. The maintenance work order backlog continued to be well managed.

The formation of the Plant Modification and Maintenance Support Department during this assessment period assisted in a further reduction in the modification backlog. This group significantly decreased necessary field changes and other rework efforts. It has enabled maintenance management to focus on maintenance related

issues instead of efforts associated with modifications and use of contractors.

Management continued to dedicate attention and resources toward continued improvement of all maintenance programs. Management continued its material upgrade project effort. Detailed tours of specific plant areas by management teams remained effective. Overall housekeeping continued to improve.

During the previous two assessment periods, the NRC staff identified various weaknesses involving surveillance testing procedures. During this period, improvement was noted in surveillance testing and in procedure adherence involving maintenance personnel. Several surveillance procedure problems which resulted in LERs were identified by the licensee through vigorous self assessment activities. Significant efforts have been made which improved performance in this area. The use of retractable jumpers for surveillance testing was implemented to reduce the potential for shorting or grounding during testing. Surveillance packages have been utilized which incorporate testing preparations such as completed jumper and link tags.

Three violations were cited.

2. Performance Rating

Category: 1

3. Recommendations

None

D. Emergency Preparedness

1. Analysis

This functional area includes activities related to the Emergency Plan and its implementing procedures, support for and training of onsite and offsite emergency response organizations, and licensee performance during exercises and actual events.

During the assessment period, the licensee continued to maintain a strong emergency response organization (ERO). Management's support of and involvement in the emergency preparedness (EP) program was evident as the licensee maintained a state of readiness for effectively implementing the Emergency Plan. Program

strengths included: (1) a continuing emphasis, during selected training exercises, upon addressing the emergency response aspects of a simulated plant event, (2) a well-developed public information/education program, and (3) an aggressive and detailed exercise critique. EP training of plant staff was well supported and coordinated through the licensee's organizational structure, which combines EP and plant training in the same department.

The licensee has established and maintained excellent working relationships with local offsite support agencies. The licensee demonstrated the ability to staff the ERO with qualified personnel during the annual NRC evaluated emergency response exercise in October 1991. The capability for coordinated EP efforts was displayed through the production of a high-quality exercise scenario (driven by the Control Room simulator) which provided for the full participation of State and local emergency organizations. The ERO responded to the scenario events in a capable and efficient manner, indicating a well-developed EP program with effective training. No exercise weaknesses were identified.

The licensee maintained its emergency response facilities and equipment in a state of readiness. The Emergency Notification Network was established and was functional during this period. The required annual independent audit of the EP program was thorough. Deficiencies identified by such audits, as well as during drills and exercises, received timely follow-up through the use of a corrective action program.

During this period, several revisions to the Emergency Plan were reviewed by the NRC. One revision incorporated changes in the emergency classification scheme which were determined to be inconsistent with NRC guidance. The licensee took appropriate action to resolve the inconsistencies through a combination of written justifications and changes included in subsequent revisions.

During the assessment period, the licensee experienced no situations or conditions which warranted an emergency declaration.

No violations were cited.

2. Performance Rating

Category: 1

3. Recommendations

None

E. Security1. Analysis

This functional area addresses those security activities related to protection of vital plant systems and equipment, Special Nuclear Material (SNM), and the Fitness for Duty (FFD) program.

Management support of the security program remained effective in ensuring overall regulatory compliance. The degree of management support was demonstrated by the completion of the Security Equipment Upgrade Project. Site security management provided the security organization with policy and priorities to sustain and improve its operation. During the last assessment period, the NRC noted that the licensee did not recognize certain deficiencies in the security program. During the assessment period, the Site Security Manager and his staff placed increased attention in this area. Security shift supervisors were observed to be sensitive in identifying deficiencies in daily operations and were well informed of activities of officers on duty.

The need to improve and upgrade security systems and hardware was discussed in the previous SALP. In response to this need, the licensee initiated its Security Equipment Upgrade Project. The licensee has completed extensive refurbishment of its camera assessment capability, protected area lights, security computers, alarm stations, and vital area door card readers. This effort was considered a milestone in the improving safeguards program. The success of this major project was largely attributable to the engineering support directed from the site and corporate departments, and also the use of consultants. Several instrument/calibration technicians continued to be dedicated to the security organization to maintain security equipment. This effort has greatly improved the man-machine interface problem experienced during prior assessment periods. There were isolated problems identified in detection and equipment status information. The NRC identified an alarm zone being inactive for 24 hours without a compensatory measure being posted, and, the lack of a power supply indication in an alarm station. These issues were not

indicative of a programmatic breakdown but did result in violations.

The licensee took thorough corrective actions to address concerns regarding protection of sensitive equipment. Audits were thorough, and the audit concerns received timely corrective actions.

The Safeguard Event Logs showed favorable trends toward reduced compensatory measures and timely maintenance of security systems. These logs also showed significant reductions of human errors by members of the security force. The logs were used by site management to identify those areas of repetitive problems which were addressed by the licensee's engineering support staff.

The security force staffing remained stable and adequate, vacancies were filled quickly, and morale remained high during the assessment period. The security force was provided with technically sound procedures and was supervised by knowledgeable officers.

As noted in the previous assessment period, a major strength continued to be security training. The dedication and professionalism of the security instructors was again recognized. The firearms range and tactical exercise buildings were examples of the licensee's commitment to a high quality security program.

The licensee's FFD program was found to be effective. Strengths were noted in the professionalism of the medical staff, thorough audits, and more extensive testing than required by NRC regulations.

Concerns were raised about the licensee's SNM Control program early in the assessment period. The licensee had not established and maintained procedures for irradiated fission chambers in the areas of receiving, storing, shipment, physical inventory, record keeping and reporting. The licensee failed to account for 31 incore fission detectors and to confine the use and possession of SNM to those areas authorized. Corrective actions for these concerns have been initiated at both site and corporate levels.

Revisions to the security plan continued to be accurate and timely, with only minor clarifications needed. The licensee continued its program to decrease the amount of Safeguards Information it generates.

Six violations were cited. Four of these violations were associated with the control of SNM.

2. Performance Rating

Category: 1

3. Recommendations

None

F. Engineering/Technical Support

1. Analysis

This functional area addresses those activities associated with engineering and technical support. This includes activities associated with the design of plant modifications, maintenance, and licensed operator training.

The licensee generally demonstrated responsive and conservative engineering/technical support for plant Hatch. Engineering's major projects this period included station blackout modifications, traversing incore probe system upgrade, security system upgrades, and the service water system improvement project.

The corporate engineering organizations, Southern Nuclear Operating Company (SNC), Southern Company Services (SCS), and Bechtel provided dedicated staffing to support the facility. SNC interacted with both SCS and Bechtel to establish priorities for engineering activities. Good communications and a close working relationship was demonstrated on numerous interfacing issues during the period. However, several issues required a long time to fully resolve. Examples included; the installation of filter material on the emergency core cooling system (ECCS) room coolers and problems with the hydrogen injection system. Recent initiatives in this area included bi-weekly management meetings for work scheduling and prioritization, the Worklist Management process, and development of the Significant Plant System/Component List for management.

Despite early indications of degraded safety system performance, several problems were noted involving inadequate or untimely corrective actions. Examples include control room HVAC service water strainers frequently clogging, service water cooling coil

failures, and high pressure core injection (HPCI) flow controller problems. These examples indicate that weaknesses exist in the trending and problem recognition programs. The licensee has initiated changes to enhance these programs. These changes include revision of the threshold for repetitive corrective maintenance concerns and incorporation of probabilistic risk assessment information into assessment of maintenance trending information.

During the assessment period, several deficiencies involving inadequate engineering review for modifications were identified by the NRC. Examples include changing of transformer tap settings and load additions, modification of the unit 2 spent fuel racks, and filter material installation on the ECCS room coolers.

Effective engineering reviews identified design deficiencies involving single failure vulnerabilities associated with the main control room environmental control (MCREC) system and MOV overloads being bypassed. For some safety related MOVs, the status of permanent bypasses around the thermal overload trip functions was unknown by the licensee. The thermal overload functions of several valves which should have been bypassed were

During the assessment period, problems were identified in which insufficient attention was placed on ensuring that the FSAR accurately reflected the way plant systems were designed or operated. These problems were the subject of several NRC identified deviations and reportable events. These problems included the MCREC system, the Fire Hazards Analysis commitments, and failure to identify a containment penetration which required local leak rate testing. Additionally, other weaknesses in design documentation were identified, such as incorrect setpoints in the plant Setpoint Index Document, and incorrect MOV control circuitry drawings.

Several program initiatives were taken by engineering management this period to strengthen the overall quality of engineering support. A design basis indexing (DBI) project was under development to cross-reference all major plant components to the various design and vendor information. In addition, a Plant Modifications and Maintenance Support Department (PM&MS) was established onsite to strengthen the planning, installation, and testing of plant design changes. This department provided effective interface between onsite plant organizations and offsite design

personnel

Significant improvements were observed in the ISI, Welding, and Radiography Programs this period, due in part to increased management and engineering involvement. The use of an automated ultrasonic piping weld examination system to perform ISI has been successful in identifying feedwater weld cracks which were missed when manual equipment was used. In addition, engineering involvement was extensive for the long-term plant piping system erosion/corrosion program. The latest methods and computer programs were used to aid the implementation of the program.

An MOV testing and surveillance program had been developed for Hatch which addressed the recommendations in Generic Letter 89-10, Safety-Related MOV Surveillance and Testing. Several strengths were noted in the program, such as corporate involvement, site implementation, and training for personnel. The Electrical Distribution System Functional Inspection (EDSFI) clearly demonstrated that corporate management was effectively involved in site activities and that a good interface between management and technical support disciplines existed.

The Outage and Planning department continued to implement conservative measures regarding system or component inoperability, especially during refueling outages. Even before the NRC focused attention on planning and risk management of shutdown activities, the facility utilized conservative policies beyond TS requirements. During this assessment period, increased emphasis was placed on items such as service water, electrical, and core cooling systems during outage management and planning activities.

The Operator Training program was effective and improving. During this assessment period, one initial licensing examination and one requalification examination was administered. All candidates passed the initial examination. Five of six (83%) individuals passed the Generic Fundamentals Examination section, which was an improvement from the previous assessment period (74%).

The Requalification program was determined to be satisfactory. Fourteen of fifteen Senior Reactor Operators and 100% of nine Reactor Operators passed the requalification examination. Strengths were observed, in that the licensee's evaluators were above average in their identification of operator weaknesses during

simulator exams, and crew teamwork and the effectiveness of the shift technical advisor was good. The scenario bank had an adequate number of scenarios most of which were short in duration and had few alternate decision paths once the emergency operating procedures were entered. At the end of the assessment period, the licensee had improved the question bank, and had provided a plan for improvement of the scenario bank.

Five violations were cited.

2. Performance Rating

Category: 2

3. Recommendations

Licensee attention is needed in the areas of problem recognition and trending programs to improve actions regarding degraded equipment performance.

Attention is needed to improve the quality of engineering reviews for modifications and some aspects of the design control program.

G. Safety Assessment/Quality Verification

1. Analysis

This functional area addresses those activities related to license amendments, implementation of safety policies, exemption and relief requests, responses to Generic Letters (GL), and Information Notices. It also addresses resolution of safety issues, safety reviews of plant modifications performed under 10 CFR 50.50, safety review committee activities, and the use of feedback from self-assessment programs and activities.

Extensive management involvement was evident in the handling of licensing actions, responses to NRC staff requests and licensee commitments. Management consistently assured that commitments were met in a complete and timely manner. The various audit groups and root cause analysis program continued to be strong assets.

Licensee responses to GLs were well prepared and accurate. Examples include the Individual Plant Examination (IPE), MOV testing, and service water improvement programs. Installation of an enhanced chemical treatment system for service water is expected

to resolve longstanding silting problems in the service water system. The IPE program resulted in the identification of single failure vulnerabilities and weaknesses in several systems, including HVAC equipment. The licensee's responses to concerns during review of the station blackout issue demonstrated an excellent understanding of the issues as well as an effective coordination between management and various engineering disciplines.

License amendment requests have consistently been of a high quality and reflect clear understanding of the technical and regulatory issues involved. Examples include TS changes for the traversing incore probe, the emergency diesel generators, and the allowed outage times for surveillance testing of instrumentation.

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 and cooperative and consistently exhibited a proper safety attitude.

Hatch Unit 2 is the lead BWR-4 plant in the BWR Technical Specification Improvement program. Unit 1 has been the lead BWR participating in the NRC/EPRI Seismic Margin program. The licensee has also demonstrated initiative in the planned implementation of modifications to resolve the safety relief valve issue. The licensee has supported prompt resolution of technical issues. Examples include meetings on the pressure sensor actuation for the safety-relief valves, the EDSFI followup actions, and a meeting on entering LCO Action statements when performing surveillance testing. During interface meetings with GPC, the licensee's concerns were freely communicated, and their actions and initiatives were candidly presented. These meetings were normally attended by senior managers from corporate and the site.

LERs were timely and usually provided adequate and accurate information about the event. Early in the assessment period, the NRC observed that the comparison to previous events section of some LERs was not adequate. Additionally, the corrective actions stated for some LERs did not include all significant actions actually implemented in response to the event. On two occasions, the NRC identified that the root cause of equipment problems as stated in LERs was incorrect. The licensee quickly responded to these observations, and the quality of LERs has improved. A conservative approach was demonstrated in LER submittal. The

licensee submitted two voluntary LERs to inform the NRC and other utilities of problems.

During the previous assessment period, some weaknesses in interpretation of regulatory requirements had been identified. Improvement in this area was noted during this assessment period. The licensee maintained a low threshold on reporting of inadvertent engineered safety features (ESF) actuations. On several occasions, a conservative notification was made. Subsequent analysis or review indicated that the reports were not required, and were later withdrawn. The problems noted last assessment period in the area of misuse of instrumentation surveillance testing operability periods have been corrected.

The Event Review Team (ERT) continued to be a significant strength. Rigorous review and analysis of routine ESF actuations and equipment performance issues resulted in the identification and resolution of several problems. Examples include the improper installation of certain relays, problems involving the piston assemblies on some containment isolation valves, and failures of certain models of solenoid valves. Additionally, the process used for post trip reviews was highly effective and identified some equipment malfunctions.

The Safety Audit Engineering Review (SAER) group continued to be effective. Experienced personnel from different plant disciplines continued to be assigned to this group. Some audits conducted by SAER identified significant discrepancies, and were considered vigorous and highly effective. While a few examples were noted of untimely corrective actions, generally corrective actions were implemented appropriately to address audit findings. The Safety Review Board and the Plant Review Board continued to perform effective reviews of plant activities and performance.

The licensee's programs to identify and document weaknesses and track action items were strong, however, implementation of final resolution was not always thorough. Deficiencies in incorporation of design information and inadequate corrective actions noted in the previous assessment period continued to be identified this period. Some adverse trends were not identified or the safety significance was not fully understood, which resulted in inadequate or untimely corrective actions. Problems with the HPCI flow control system were not initially fully corrected and additional periods of inoperability resulted.

Repetitive clogging of the MCREC system service water strainers and other longstanding problems with the MCREC system were not promptly addressed. Inadequate corrective actions to several service water pump motor cooling coil coupling failures permitted the eventual loss of a plant service water pump.

The licensee continued to be effective in communicating to all plant personnel the safety and performance goals of the plant. Examples of these goals include the number of unplanned trips, radiological exposure, industrial safety plant reliability and efficiency, and NRC violations. The goals were prominently posted throughout the plant and were routinely discussed in morning meetings.

No violations were cited.

2. Performance Rating

Category: 1

3. Recommendations

None

V. SUPPORTING DATA AND SUMMARIES

A. Licensee Activities

Unit 1 began its thirteenth refueling outage on September 18, 1991. The outage was completed on November 22, 1991.

Unit 2 began its ninth refueling outage on March 20, 1991. The outage was completed on June 2, 1991.

B. Direct Inspection and Review Activities

In addition to the routine inspections performed at the Hatch facility by the NRC staff, special inspections were conducted as follows:

June 10 - July 12, 1991, Electrical Distribution System Functional Inspection

February 24 - 28, 1992, Generic Letter 89-10 Motor Operated Valve Inspection

C. Escalated Enforcement Actions

None

D. Management Conferences

May 16, 1991, NRC/Licensee meeting to present the findings of the SALP board

June 20, 1991, NRC/GPC interface meeting at plant Hatch

June 6 and July 30, 1991, NRC/Licensee meetings to discuss allowed outage times for surveillance testing

July 23, 1991, NRC/Licensee meeting to discuss pressure sensor actuation of safety relief valves

August 6, 1991, NRC/Licensee meeting to discuss degraded grid voltage setpoints

October 10, 1991, NRC/Licensee meeting to discuss seismic margin issue

November 19, 1991, NRC/GPC interface meeting at plant Vogtle

May 5 and 6, 1992, NRC/GPC interface meeting at NRR

May 28, 1992, NRC Licensee meeting on Hatch TSS as they relate to entering Action Statements

E. Confirmation of Action Letters

None

F. Review of Licensee Event Reports

During the assessment period 60 LERs were analyzed. The distribution of these events by cause as determined by the NRC staff was as follows:

Cause	Totals	Unit 1	Unit 2
Component Failure	18	12	6
Design/Procedures	4	2	2
Construction/Fabrication Installation	0	0	0
Personnel			
- Operating Activity	5	3	2
- Maintenance Activity	7	6	1
- Test/Calibration Activity	15	10	5
- Other	3	2	1
Other	8	4	4
Totals	60	39	21

- Notes:
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.
 2. The Other category is comprised of LERs where there was a spurious signal or an unknown cause.
 3. Two voluntary LERs were submitted for each unit, and are not included in the above tabulation.
 4. The above information was derived from a review of LERs performed by the NRC staff and may not coincide with the licensee's cause assignments.

G. Licensing Activities

In support of licensing activities, various communications were maintained with the licensee. These consisted of meetings, telephone and written correspondence. There have been approximately 87 active licensing actions for the Hatch units during this assessment period, of which 56 were completed. Of these, 23 were license amendments.

H. Enforcement Activity

	No. of Deviations and Violations in Each Functional Area (Unit 1/Unit 2)					
	Dev.	V	IV	III	II	I
	Plant Operations	2/2		3/1		
Radiological Controls			1/1			
Maintenance/Surveillance			1/3			
Emergency Preparedness						
Security			6/6			
Engineering/Technical Support			4/4			
Safety Assessment/Quality Verification						
TOTAL	2/2		15/15			

I. Reactor Trips

This summary includes the unscheduled manual and automatic reactor trips that have occurred since the beginning of the assessment period.

Unit 1

On August 9, 1991, Unit 1 automatically tripped from 100% power due to a generator/turbine trip. The generator trip was caused by the generator/exciter field ground fault relay.

On September 11, 1991, Unit 1 automatically tripped from 100% power due to a generator/turbine trip. The trip resulted when a high reactor water level signal tripped the main turbine and reactor feed pumps. The high reactor water level signal was caused by an excess flow check valve closing. Closure of an excess flow check valve occurred when a contract HP technician's radiation measuring instrument fell and struck a drain valve handle.

On March 28, 1992, Unit 1 automatically tripped from 100% power on low reactor water level. While preparing to transfer a 600 volt non-essential bus to an alternate power supply, an operator error resulted in a loss of an essential 600 volt bus. This caused the feedwater master controller to decrease feedwater flow.

On May 23, 1992, Unit 1 automatically tripped from 48% power when all four turbine stop valves went closed. The cause of the stop valves closing was a clogged servo valve strainer, which prevented proper flow of hydraulic fluid to the number 2 stop valve.

Unit 2

None

AUG 28 1992

MEMORANDUM FOR: Donald R. Taylor, Resident Inspector
North Anna Power Station
Division of Reactor Projects

FROM: Stewart D. Ebnetter, Regional Administrator

SUBJECT: INTERIM CERTIFICATION AS A PWR OPERATIONS INSPECTOR

The Regional Qualification Board which convened on August 3, 1992, with Jon Johnson, Marvin Sinkule, William Cline, Paul Fredrickson and Mark Lesser as members has recommended interim certification as a fully qualified PWR Operations Inspector. This recommendation is based on the satisfactory completion of the following requirements set forth in NRC Inspection Manual Chapter 1245 and Regional Office Instruction 0402:

1. Completion of the Training and Qualification Journal
2. Completion of formal course work with the exception of the OSHA Indoctrination course.
3. Acceptable knowledge level demonstrated through oral examination and a plant walkthrough.

I am pleased, therefore, to approve the recommendation and certify you as an interim qualified NRC PWR Operations Inspector.

Original signed by
Stewart D. Ebnetter

cc: E. Merschoff
M. Sinkule
P. Fredrickson
M. Lesser
Board Members
Training File

RII:DRP
PF
PFredrickson
08/21/92

RII:DRP
MS
MSinkule
08/25/92

JTG 8/27/92
RII:DRP
EM
EMerschoff
08/28/92

RII:ORA
LR
LReyes
08/28/92

IE42