UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W., SUITE 2900
ATLANTA, GEORGIA 30323-0199

Report No.: 50-416/95-12

Licensee: Entergy Operations, Inc.
Jackson, MS 39205

Docket No.: 50-416 Licensee No.: NPF-29

Facility Name: Grand Gulf Nuclear Station

Inspection Conducted: July 9 - August 12, 1995

Inspectors: _____ 8/23/95
J. Tedrow, Senior Resident Inspector Date Signed

_____ 8/23/95
C. Hughey, Resident Inspector Date Signed

Approved by: _____ 8/24/95
H. Christensen, Chief Date Signed
Reactor Projects Branch 1B
Division of Reactor Projects

SUMMARY

Scope:

This routine inspection was conducted by two resident inspectors in the areas of plant operations, review of nonconformance reports, followup of onsite events, effectiveness of licensee controls, maintenance observation, surveillance observation, onsite engineering, plant housekeeping, radiological controls, security, fire protection, emergency preparedness, review of licensee event reports, and licensee action on previous inspection items. Numerous facility tours were conducted and facility operations observed. The inspectors conducted backshift inspections on July 30, 31, and August 1, 2, 7, and 10.

Results:

Operations

Two automatic reactor scrams occurred during this inspection period (paragraph 2). A downpower to adjust the rod pattern was well controlled (paragraph 3.a(2)(a)). Good electrical safety precautions were taken when racking out a high voltage breaker (paragraph 3.a.(2)(b)). Good command and control was exhibited during recovery from a reactor scram (paragraph 3.b(1)). Operator response during a reactor scram was hindered by numerous

equipment problems (paragraph 3.b(1)). A non-cited violation was identified regarding an improper change to the scram recovery procedure (paragraph 3.b(1)(a)). A review of the recent scrams by a licensee task force was considered thorough and a strength of the licensee's self assessment program (paragraph 3.d). Problems were noted with the identification of deficiencies by licensee personnel (paragraph 3.b(1)).

Maintenance

Preliminary planning for troubleshooting a circulating water pump discharge valve was deficient and almost resulted in a reactor scram (paragraph 3.b(3)). Troubleshooting efforts for a faulty unit differential relay was extensive and thorough (paragraph 4.a(3)). Cleanup following an oil leak and an inspection of an exposed expansion joint were deficient which contributed to failure (paragraph 3.c). Improperly controlled drawings were present in the field during troubleshooting of a load shedding and sequencer (paragraph 4.a(4)).

Engineering

Good engineering involvement was evident during troubleshooting of a reactor core isolation and cooling valve, unit differential relay, and load shedding and sequencer (paragraph 5.b).

Plant Support

No significant strengths or weaknesses were identified in housekeeping, radiological protection, security control, and emergency preparedness programs. A survey of the licensee's self contained breathing apparatus program was performed with no significant strengths or weaknesses noted (paragraph 6.b). The results of a fire brigade survey indicated that the safe shutdown staffing was minimal (paragraph 6.d).

REPORT DETAILS

1. PERSONS CONTACTED

Licensee Employees

D. Bost, Director, Nuclear Plant Engineering
*C. Bottemiller, Superintendent, Plant Licensing
W. Deck, Security Superintendent
*M. Dietrich, Manager, Training
*J. Dimmette, Manager, Performance and System Engineering
*C. Dugger, Manager, Plant Operations
C. Hayes, Director, Quality Assurance
C. Hicks, Operations Superintendent
*C. Hutchinson, Vice President, Nuclear Operations
*M. Meisner, Director, Nuclear Safety and Regulatory Affairs
R. Moomaw, Manager, Plant Maintenance
A. Morgan, Manager, Emergency Preparedness
D. Pace, General Manager, Operations
S. Saunders, System Engineering Superintendent
T. Tankersley, Radiation Control Superintendent

Other licensee employees contacted included office, operations, engineering, maintenance, chemistry, health physics, and corporate personnel.

*Attended exit interview

Acronyms used in this report are defined in paragraph 10.

2. PLANT STATUS and ACTIVITIES

The plant began this inspection period in power operation (Mode 1). At 2:03 a.m., on July 12, 1995, an automatic reactor scram occurred due to a main turbine trip from low condenser vacuum. A plant cooldown was performed and the cold shutdown (Mode 4) condition reached at 9:08 p.m. Following replacement of the expansion joint on the "A" main condenser, a reactor startup was commenced. The reactor was taken critical at 11:40 a.m., on July 16. Power operation was resumed at 4:40 p.m., on July 17. At 11:48 a.m., on July 30, another automatic reactor scram occurred due to a main turbine trip from a generator loss of load. After extensive troubleshooting, the cause for the loss of load was identified and a reactor startup was commenced on July 31. The reactor was taken critical at 6:08 a.m., on August 1. Power operation was resumed at 11:53 p.m., on August 1. The plant continued in power operation for the remainder of this inspection period.

3. OPERATIONS

a. Plant Operations (71707)

(1) Shift Logs and Facility Records

The inspector reviewed records and discussed various entries with operations personnel to verify compliance with the Technical Specifications (TS) and the licensee's administrative procedures. The following records were reviewed: shift superintendent's log, control room operator's log, shift technical advisor's log, night order book, limiting condition for operation log, clearance log, temporary alterations log, and selected radwaste logs. In addition, the inspector independently verified selected clearance order tagouts.

The inspectors found that the logs provided sufficient information on plant status and events. Clearance tagouts were found to be properly implemented. No violations or deviations were identified.

(2) Facility Tours and Observations

Throughout the inspection period, facility tours were conducted to observe activities in progress. Licensee meetings were attended by the inspectors to observe planning and management activities. The facility tours and observations encompassed the following areas: security perimeter fence, control building, diesel generator building, auxiliary building, radwaste building, turbine building, containment building, battery rooms, electrical switchgear rooms, technical support center, standby service water building, and outside areas.

During these tours, observations were made regarding monitoring instrumentation which included equipment operating status, electrical system lineup, reactor operating parameters, and auxiliary equipment operating parameters. Indicated parameters were verified to be in accordance with the TS for the current operational mode. The inspectors also verified that operating shift staffing was in accordance with TS requirements and that control room operations were being conducted in an orderly and professional manner. In addition, the inspector observed shift turnovers on various occasions to verify that the continuity of plant status, operational problems, and other pertinent plant information were discussed during these turnovers. The licensee's performance in these areas was satisfactory.

(a) The inspectors observed a downpower and rod pattern adjustment to reach the final target pattern after restart. The downpower was commenced at 12:08 a.m., on August 4, 1995, using attachment VI of procedure 03-1-01-2, Temporary Downpower, and Control Rod Movement Sequence 1-08-0000-A2-11. The inspector observed the pre-task briefing given by the Reactor Engineer, and the operator's actions taken during the rod movement. The actions taken by the operators were deliberate, well controlled, and demonstrated good independent verification techniques.

During the downpower, operators noted that the "A" recirculation pump had variations in seal pressure, seal temperature and vibration that occurred with an approximate 15 minute frequency. The variations disappeared prior to reestablishment of full flow after the rod pattern was established. Similar incidents have been noted with this pump prior to this event. The inspector discussed this phenomenon with the system engineer and was informed that the pump's performance is being monitored. During steady state plant conditions the seal parameters are also steady. When plant power is changed however using the recirculation flow control valve, the variations in seal parameters are observed. Although licensee personnel have contacted the seal vendor and believe that the seal is simply wearing in, the pump seal performance will continue to be closely monitored.

(b) On August 2, the inspector observed auxiliary operators rack in a 4160 VAC breaker for the "A" CRD pump. Good use of electrical protection devices such as a face shield, apron, rubber mat, and rubber gloves was noted. The inspector discussed this with licensee management and was informed that this was a common practice.

No violations or deviations were identified.

b. Followup of Onsite Events (93702)

(1) A reactor scram from 100 percent power occurred at 2:02 a.m., on July 12, 1995. Prior to the scram, at approximately 2:00 a.m., alarms indicating low seal water level in the "A" main condenser-turbine expansion joint and off-gas panel trouble were received in the control room. Off-gas flow indications were extremely high (400 SCFM) and an operator was dispatched to check the expansion joint level controller. The operating shift properly entered procedure 05-1-02-V-8, Loss of Condenser Vacuum, after indications of low condenser vacuum were received. Power

was reduced to approximately 80 percent in an attempt to maintain condenser vacuum above the turbine trip setpoint of 21 inches. Operators were preparing to trip the unit manually when the main turbine tripped on loss of condenser vacuum resulting in turbine stop valves fast closure and an automatic reactor scram signal. Turbine bypass valves and reactor feedwater pumps were initially used to control reactor pressure and level. The MSIVs were manually closed at approximately 3:00 a.m., due to the continuing decrease in condenser vacuum. Pressure control was then established by manually opening designated safety relief valves to the suppression pool. A reactor cooldown was begun. Reactor vessel level was recovered and maintained using the RCIC and CRD systems. Reactor pressure was further reduced using safety relief valves and RCIC as the plant was taken to cold shutdown. When reactor vessel pressure reached 500 PSIG, condensate booster pumps were utilized to maintain vessel level.

The initial loss of condenser vacuum was later verified by the licensee to be a severe rupture of the expansion joint between the condenser neck and the "A" low pressure turbine (see paragraph 2.c).

The resident inspector responded to the site shortly after being notified and observed scram recovery activities in the control room. The following observations were made:

- Problems were encountered with reopening the RCIC turbine trip/throttle valve which closed after numerous closures of the steam supply valve (E51-F045) on high reactor water level. The trip and throttle valve should not have tripped on the high reactor vessel water level. After the trip/throttle valve tripped closed, the reactor operator could not relatch the valve from the control room as expected. A non-licensed operator was dispatched to manually reset it locally. The valve was reset after three attempts. Troubleshooting efforts to correct these problems are discussed in more detail in paragraph 4.a(1). These problems hindered the operators ability to maintain reactor water level.

- While attempting to maximize CRD flow to the vessel, the CRD pumps tripped on low suction pressure. The pumps were restarted.

- The main condenser mechanical vacuum pumps tripped several times while the operators were attempting to re-establish condenser vacuum. Operators stated that this is a common problem when the pumps have not been operated for a period of time.

Command and control during the scram recovery was good. Extra operators were called in by the operations superintendent to supplement the on-shift operating crew. In summary, the inspector concluded that the operating crew handled this extremely unusual transient generally well. However, response was hampered by numerous equipment failures.

The inspector discussed the various equipment problems with licensee personnel following the scram. The problems with the condenser vacuum pumps and the RCIC mechanical overspeed trip had been previously experienced. However the RCIC problem was not documented. Licensee personnel were in the process of evaluating these deficiencies for corrective action. Although the system engineer was aware of the CRD pump tripping problem, no formal corrective action or deficiency documentation had been generated to track this review. The inspector considered these omissions to be indicative of a problem in the licensee's corrective action process.

(a) Safety relief valves B21-F041K and B21-F047H were used during the cooldown to relieve pressure to the suppression pool during the entire scram recovery. Both of these valves relieve to the same quadrant of the suppression pool. Valve B21-F041K is also an ADS valve. Integrated Operating Instruction 03-1-01-4, Scram Recovery, paragraph 6.2.1.b (1) requires that if suppression pool cooling is in service (both trains of suppression pool cooling were in service at the time), then use non-ADS relief valves 180 degrees apart to reduce or maintain reactor pressure vessel pressure. Licensee management decided to use the two adjacent safety relief valves for pressure control since they had previously been identified to exhibit seat leakage and it was undesirable to expose additional valves to potential seat leakage which can occur following usage. Although the procedure change process was initiated, insufficient time was available to implement a change prior to using these valves for reactor pressure control.

Prior to this event, licensee personnel had placed information tags on these two SRVs indicating that they exhibited seat leakage and directing that these valves be used before other SRVs. However, procedure changes were not initiated at this time to address the potential use of two adjacent SRVs.

The inspectors reviewed the safety significance of this issue. The requirement for using SRVs 180 degrees apart was to equalize the heat load in the

suppression pool. Since suppression pool cooling was in operation, this requirement was not necessary. The use of non-ADS valves was intended to conserve the air in the ADS air reservoirs in case instrument air was not available. Since instrument air was available throughout this transient, this requirement was likewise not significant. The inspectors concluded the use of the adjacent SRVs to achieve pressure control in this case was not safety significant.

However, failure to implement a temporary change to the procedure prior to SRV usage for pressure control is contrary to the requirements of TS 5.4.1 and TRM 7.4.3.1. This licensee-identified and corrected violation is being treated as a Non-Cited Violation, consistent with Section VII of the NRC Enforcement Policy.

Non-Cited Violation (416/95-12-01): Failure to implement a temporary change to allow adjacent SRV usage for pressure control.

(2) A spurious initiation of the high pressure core spray system occurred on July 17, 1995, at 10:14 a.m. The unit was in startup at rated pressure and approximately 4 percent reactor power after a forced outage to replace the "A" condenser expansion joint. The HPCS pump started after spurious low reactor water level signals (channels C and G) were received. The signals reset almost immediately. The HPCS injected for 10 seconds (approximately 500 gallons) before being secured by the reactor operator. Reactor water level, which was being maintained by the feedwater control system, increased approximately 10 inches during the injection and then immediately returned to normal. The operators verified that actual low reactor water level did not exist and secured the pump, restoring the HPCS to standby. The Division III SDG and its associated service water pump automatically started as required. A one-hour report was made to the NRC Operations Center.

The inspector discussed this event with the operating shift and reviewed the sequence of events logs and other documentation. The inspector concluded that the operators responded appropriately during the injection.

Initial suspicions by the licensee pointed to a radio being keyed in primary containment where the HPCS reactor water level transmitters are located. However, after a more detailed review of the event by the system engineer, it appeared that a mechanical agitation of either the transmitters or its associated variable leg caused the spurious signals. The transmitters for channels C and G are

located next to each other on the same instrument rack. During the incident there were numerous people in the same area moving gas bottles very near the transmitters. The inspector discussed this scenario with the system engineer and reviewed pressure graphs of the transmitters during the event, and concluded this to be the most likely cause of the spurious HPCS injection. The inspectors considered the licensee's investigation of this event to be satisfactory.

(3) On July 18, 1995, at 5:18 p.m., a condenser low vacuum alarm was received in the control room. Reactor power was approximately 55 percent. Troubleshooting of the "A" circulating water pump discharge valve, 1N71-F002A, was in progress. The circulating water system was aligned for single pump/train operation. Upon completion of troubleshooting, valve 1N71-F002A was reopened allowing stagnant warm water, which had accumulated in the piping between the condenser and the cooling water tower, to flow through the condenser causing the vacuum reduction. Although the resultant low vacuum condition (25 inches) was insufficient to cause a turbine trip, a turbine trip was narrowly averted. The inspectors considered the preliminary planning to allow this troubleshooting before the consequences to the unit were fully understood to be deficient.

(4) An automatic reactor scram from 100 percent power occurred at 11:48 a.m., on July 30, 1995. The scram was caused by the tripping of the "A" phase unit differential relay which sensed differential current between the generator output and two switchyard breaker (J5232 & J5228) outputs. The differential current relay actuated 86 lockout relays which opened switchyard breakers J5232 and J5228. The opening of these breakers resulted in a generator loss of load and turbine stop valve fast closure. The turbine stop valve fast closure initiated the reactor scram signal.

The resident inspector responded to the site shortly after the reactor scram occurred and verified that plant systems responded normally. Reactor vessel level was being maintained by a reactor feedwater pump in conjunction with the startup level control valve. Reactor pressure was maintained by the turbine bypass control valves. No safety valves lifted. ECCS systems were not required to actuate.

Troubleshooting of the differential relay revealed that the differential relay current transformer (CT) on the A phase of breaker J5228 was faulty. A plant startup was initiated on July 31. While repairs were in progress on breaker J5228, the unit was placed back on line through the redundant J5232 breaker.

The inspector monitored the startup and extensive troubleshooting activities. In addition, the licensee's initial post-trip analysis of the scram was reviewed. The inspector considered restart of the unit to be appropriate.

One non-cited violation was identified.

c. Review of Nonconformance Reports (71707)

Quality Deficiency Reports (QDRs) and Material Nonconformance Reports (MNCRs) were reviewed to verify that TS were complied with, corrective actions and generic items were identified, and items were reported as required by 10 CFR 50.73.

MNCR 0220-95 reported the failure of the expansion joint between the condenser neck and the "A" low pressure turbine. The failed expansion joint was replaced. The cause of the failure was determined to be oil in contact with the expansion joint material. An oil leak in this area from the number 3 turbine pedestal had previously occurred in May 1995. Cleanup and inspection of the expansion joint following the spill was not sufficient to prevent failure.

No violations or deviations were identified.

d. Effectiveness of Licensee Controls (71707)

Due to the increase in the number of automatic reactor scrams which have occurred recently, licensee management formulated a task force to review the events for common factors. The inspector attended a licensee meeting held on August 3 during which the results of the task force review were presented. The task force was comprised of senior licensee personnel from licensing, operations, maintenance, system engineering, and quality programs. The last seven reactor scrams (five automatic and two manual) were reviewed by the task force. This covered the period from November 1994 through July 1995. The task force concluded that six of the scrams could have been prevented from a work practice or design change aspect. In addition, the trip critical concept was not adequately incorporated into the design process or the quality program assessment process. Also the task force noted that the corrective action process was not followed through for scram related items. Licensee management listened to the findings and stated that appropriate action would be taken to address the task force items. The inspector considered this very critical assessment process to be a strength of the licensee's self assessment program.

The inspector was also informed by licensee management that an 11 member team, which includes personnel from other licensee nuclear plants, corporate personnel, and four outside personnel, has been assembled to independently review the scram events. This team will be onsite August 14-18, 1995.

No violations or deviations were identified.

e. Licensee Action on Previous Operation Inspection Findings (92901)

(Closed) Violation 416/95-05-01, Failure to properly control the configuration of the ADHR shutdown cooling system.

The inspector verified completion of the corrective actions stated in the licensee's response letter dated June 28, 1995. To address the configuration control problem, the licensee has revised the ADHR system operating instruction to allow a partial isolation of the system when not in Modes 4 or 5. In addition, a procedure requirement was added to verify cooling water flow by installing a flow instrument to measure this value. Operations management met with operations personnel to stress the importance of self-verification techniques and the protective tagging procedure. The informal status board concept has been formalized in procedure 02-S-01-2, Control and Use of Operations Section Directives, to handle valves which are temporarily not in the required positions specified in operating procedure valve lineups.

4. MAINTENANCE

a. Maintenance Observation (62703)

The inspector observed maintenance activities to verify that correct equipment clearances were in effect; work requests and fire prevention work permits were issued; and TS requirements were being followed. The following maintenance activities were issued; observed and work packages reviewed:

- Change motor bearing oil in the LPCS pump.
- Relap refueling water shutoff valve (G14-F401B) seat surfaces.
- Inspect RCIC trip/throttle valve linkage for wear.
- Troubleshoot/inspect isophase bus.
- Troubleshoot division I load shedding sequencer.

In general, the performance of work was satisfactory with proper documentation of removed components and independent verification of the reinstallation.

(1) The troubleshooting efforts for the RCIC trip throttle valve revealed that trunion screws holding the trip latch lever to the sliding nut were loose. The inspector met with the system engineer to discuss the design of this component. The design of this device uses linkage connected between a mechanical overspeed trip device and the latch lever, which disengages from a trip hook when the overspeed trip device is actuated. Once disengaged, the sliding nut and valve stem is forced downward by spring force closing the valve. The loose screws allowed the latch lever to "cock" and not fully engage the trip hook. In addition, insufficient space was found between the trip linkage and latch lever causing tension to be applied to the latch lever which contributed to disengagement from the trip hook and inability to relatch the hook to the latch lever. These deficiencies were corrected.

The inspector noted extensive involvement by system engineering in troubleshooting these problems. The inspector observed the subsequent testing of the device. During this testing the mechanical overspeed trip device actuated inadvertently. Additional inspection by licensee personnel revealed that the metal surface between the tapit nut and head lever of the overspeed trip device were worn and that successive cycling of the trip and throttle valve could cause the mechanical overspeed trip device to actuate. Testing showed that three successive trip and throttle valve cycles could trip the overspeed device. When actuated the mechanical overspeed trip device must be locally reset. The licensee plans to replace the worn parts during the next RCIC system outage when parts are available. In addition, the inspector discussed the preventive maintenance checks performed on this device to detect these types of deficiencies with licensee personnel. Maintenance procedures were being revised to address this aspect.

Inspector Followup Item (416/95-12-02): Follow the licensee's activities to replace worn parts on the RCIC pump mechanical overspeed trip device and to revise preventive maintenance procedures.

(2) Following relap of the refueling water valve seat surfaces, bluing of the surfaces still indicated the valve discs were not seating properly. Licensee personnel subsequently decided to order a new valve for replacement.

(3) The inspector observed portions of the troubleshooting performed following the July 30 reactor scram. Troubleshooting efforts involved inspection, megger and high potential testing of the isophase bus, Doble testing on the "A" phase main transformer and lightning arrestors, calibration checks on protective relaying which included the

unit differential, generator differential, and transformer differential relays, and sampling oil in the main transformer. Although the initial resistance checks on the differential relay current transformer did not indicate a potential problem, more thorough saturation tests identified a faulty current transformer on the "A" phase of breaker J5228. The inspector considered the troubleshooting efforts to be extensive and thorough.

(4) The load shedding and sequencer work was performed under a priority 2 work order due to the short 24 hour action requirement of TS 3.8.1.F. The inspector observed extensive involvement from work planning and system engineering during the performance of this troubleshooting. A faulty 15 VDC power supply was determined to be the cause and the power supply was replaced. To assist the craft, licensee personnel had non-controlled drawings in the field which contained informal notes and annotations. The inspector was informed that these drawings were being utilized only as reference material and not for actual performance of work. The work planners had used controlled drawings, which contained the latest drawing revisions, to specify the actual work to be performed. The inspector verified that the uncontrolled drawing used in the field was the same revision as the controlled drawing. Although the uncontrolled drawings were helpful to the craft in troubleshooting efforts, the inspector considered the lack of a controlled copy in the field during the troubleshooting activity to be a bad practice.

No violations or deviations were identified.

b. Surveillance Observation (61726)

The inspector observed surveillance tests to verify that approved procedures were being used; qualified personnel were conducting the tests; tests were adequate to verify equipment operability; calibrated equipment was utilized; and TS requirements were followed. The following tests were observed or data reviewed:

- 06-OP-1R21-M-0002, Division I and II Load Shedding and Sequencing Functional Test
- 06-IC-SC85-0-1006, Peak Acceleration Recorder Calibration

The performance of these procedures was found to be satisfactory with the proper use of calibrated test equipment, necessary communications were established, notification/authorization of control room personnel was performed, and knowledgeable personnel performed the tasks.

No violations or deviations were observed.

5. ONSITE ENGINEERING (37551)

a. Engineering calculation MC-Q1111-90207, Supplement 2, was reviewed by the inspector. Following the reactor scram which occurred on July 3, 1995, a thermal transient occurred which caused a cooldown rate in the recirculation loops and reactor vessel bottom drain lines in excess of the allowable TS limits. Technical Specification 3.4.11 requires that when a limit is exceeded, an evaluation be performed to determine if the RCS is acceptable for continued operation. This calculation was performed to accomplish this evaluation and determine the net effect of this and previous thermal cycles on the RCS. The calculation showed that only a small fraction of the allowable thermal cycles have occurred and that continued operation was acceptable. The inspector considered the calculation to be satisfactory.

b. As mentioned in paragraph 4.a(1), 4.a(3), and 4.a(4), the inspector considered the licensee's troubleshooting efforts for the RCIC trip throttle valve, unit differential transformer, and the load shedding/sequencer failure to be extensive. Engineering personnel involvement was good.

No violations or deviations were identified.

6. PLANT SUPPORT

a. Plant Housekeeping Conditions (71707) - Storage of material and components, and cleanliness conditions of various areas throughout the facility were observed to determine whether safety and/or fire hazards existed.

b. Radiological Protection Program (71750) - Radiation protection control activities were observed to verify that these activities were in conformance with the facility policies and procedures, and in compliance with regulatory requirements. The inspectors also verified that selected doors which controlled access to very high radiation areas were appropriately locked. Radiological postings were likewise spot checked for adequacy.

Due to a recent toxic gas release at another nuclear facility, the inspector performed a survey on the licensee's Self Contained Breathing Apparatus (SCBA) controls and availability. Although no toxic gas is contained onsite which would require donning an SCBA, this equipment is available for fire brigade members and for radiological respiratory protection. The inspector toured plant areas and verified that this equipment was available in the specified designated areas.

c. Security Control (71750) - The performance of various shifts of the security force was observed in the conduct of daily activities which included: protected and vital area access controls; searching of personnel, packages, and vehicles; badge issuance and

retrieval; escorting of visitors; patrols; and compensatory posts. In addition, the inspector observed the operational status of closed circuit television monitors, the intrusion detection system in the central and secondary alarm stations, protected area lighting, protected and vital area barrier integrity, and the security organization interface with operations and maintenance.

d. Fire Protection (64704)(71750) - Fire protection activities, staffing and equipment were observed to verify that fire brigade staffing was appropriate and that fire alarms, extinguishing equipment, actuating controls, fire fighting equipment, emergency equipment, and fire barriers were operable. During plant tours, areas were inspected to detect potential fire hazards. No fire hazards were noted.

Due to a recent fire event at another nuclear facility, the inspectors performed a survey of the licensee's fire brigade to ascertain fire brigade composition, activation, and training. The inspector interviewed licensee fire protection personnel and on-shift operators and also reviewed the following procedures:

- 01-S-03-2, Response to Fires
- 01-S-08-4, Respiratory Protection Program
- 01-S-10-1, Fire Protection Plan
- 10-S-03-7, Fire Protection Training Program

The licensee utilizes four on-shift auxiliary operators to comprise the fire brigade. In addition, the fire brigade leader is usually the plant supervisor (licensed SRO). Usually one experienced auxiliary operator will remain off the fire brigade to perform safe shutdown functions. In the event of a fire, the plant supervisor functions would be carried out by the STA/shift supervisor. The fire brigade would be activated when anyone in the plant discovers evidence of a fire such as flame, smoke, or sparks. Fire alarms are displayed on a dedicated computer terminal which provides an accompanying audible alarm. In addition, an annunciator panel exists which alarms when actuated fire equipment, such as a fire pump, start. Fire brigade personnel receive live-fire training and participate in two fire drills per year.

The inspector reviewed fire drill records for the last four calendar quarters. No discrepancies were noted. The inspector considered the safe shutdown manning in the event of a fire to be minimal. This was discussed with licensee management who stated that staffing was sufficient to accomplish a safe plant shutdown. Also the inspector commented that the audible alarm on the dedicated computer was not very loud and may not be heard if fire is coincident with another plant event.

e. Emergency Preparedness (71750) - Emergency response facilities were toured to verify availability for emergency operation. Duty rosters were reviewed to verify appropriate staffing levels were maintained.

The inspectors found plant housekeeping and material condition of components to be satisfactory. The licensee's adherence to radiological controls, security controls, fire protection requirements, emergency preparedness requirements, and TS requirements in these areas was satisfactory.

No violations or deviations were identified.

7. OTHER NRC PERSONNEL ON SITE

From July 10 - 14, 1995, Mr. J. Canady, Resident Inspector, Hatch, Region II, was on-site to assist the resident inspectors. From July 24-28, 1995, Mr. E. Lea was on-site to administer operator licensing exams. On August 3 and 4, 1995, Mr. R. Bernhard, Senior Project Engineer, Region II, was on-site to monitor plant operation during potential bad weather predicted from hurricane Erin.

8. REVIEW OF LERs (92700)

a. (Open) LER 95-06: This LER reported a TS violation due to improper sampling of the Division I SDG fuel oil storage tank. This matter was previously discussed in NRC Inspection Report 50-416/95-11 and was the subject of NCV 50-416/95-11-03. A subsequent sample was obtained with satisfactory results. The licensee's corrective actions will include a revision to the sampling procedure to specify which results are TS requirements and the limits associated with each. In addition, written expectations for supervisory reviews will be written. This LER will remain open pending completion of these corrective actions.

b. (Closed) LER 95-07: This LER reported the reactor scram which occurred on July 3, 1995. This event was also previously discussed in NRC Inspection Report 50-416/95-11. The inspector verified completion of the licensee's corrective actions which included revising the monthly reactor feedwater pump high reactor vessel water level trip functional test.

An ECCS actuation occurred following the reactor scram due to the loss of feedwater. The HPCS and RCIC systems automatically initiated to control reactor vessel water level. Although the reactor scram was properly reported, the valid ECCS actuation was not reported to the NRC Operations Center within one hour as required by 10 CFR 50.72.b.1.iv. This omission was self-identified by the shift supervisor who made a subsequent notification approximately five hours after the event.

9. EXIT INTERVIEW

The inspection scope and findings were summarized on August 11, 1995, with those persons indicated by an asterisk in paragraph 1. The inspector described the areas inspected and discussed in detail the inspection results listed below. Proprietary information is not contained in this report. Dissenting comments were not received from the licensee.

Type	Item Number	Status	Description and Reference
NCV	416/95-12-01	Closed	Failure to implement a temporary change to allow adjacent SRV usage for pressure control, paragraph 3.b(1)(a).
IFI	416/95-12-02	Open	Follow the licensee's activities to replace worn parts on the RCIC pump mechanical overspeed trip device and to revise preventive maintenance procedures, paragraph 4.a(1).
VIO	416/95-05-01	Closed	Failure to properly control the configuration of the ADHR shutdown cooling system, paragraph 3.e.
LER	95-06	Open	Violation for improper sampling of fuel oil storage tank, paragraph 8.a.
LER	95-07	Closed	Reactor scram due to loss of both reactor feedwater pumps, paragraph 8.b.

10. ACRONYMS

ADS - Automatic Depressurization System
ADHR - Alternate Decay Heat Removal
CFR - Code of Federal Regulations
CRD - Control Rod Drive
ECCS - Emergency Core Cooling System
HP - Health Physics
HPCS - High Pressure Core Spray
I&C - Instrumentation and Controls
IFI - Inspector Followup Item
LER - Licensee Event Report
LPCS - Low Pressure Core Spray
MNCR - Material Nonconformance Report
MSIV - Main Steam Isolation Valve
NCV - Non-cited Violation
NRC - Nuclear Regulatory Commission
PSIG - Pounds per square inch - gauge

QDR	-	Quality Deficiency Report
RCIC	-	Reactor Core Isolation Cooling
RCS	-	Reactor Coolant System
SCBA	-	Self Contained Breathing Apparatus
SCFM	-	Standard Cubic Feet per Minute
SDG	-	Standby Diesel Generator
SRO	-	Senior Reactor Operator
SRV	-	Safety Relief Valve
STA	-	Shift Technical Advisor
TRM	-	Technical Requirements Manual
TS	-	Technical Specifications
VAC	-	Volts Alternating Current
VDC	-	Volts Direct Current