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

Report Nos.: 50-321/92-02 and 50-366/92-02

Licensee: Georgia Power Company
P.O. Box 1295
Birmingham, AL 35201

Docket Nos.: 50-321 and 50-366 License Nos.: DPR-57 and NPF-5

Facility Name: Hatch Nuclear Station Units 1 and 2

Inspection Conducted: January 19 - February 15, 1992

Inspectors: S. J. Vias 2/26/92
for Leonard D. Wert, Jr., Sr. Resident Inspector Date Signed

S. J. Vias 2/26/92
for Randall A. Musser, Resident Inspector Date Signed

Accompanying Personnel: Nancy Salgado, Region II Intern

Approved by: Angel A. Boyle for 2/28/9
Pierce H. Skinner, Chief Date Signed
Reactor Projects Section 3B
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SUMMARY

Scope: This routine, announced inspection involved inspection on-site in the areas of operations including review of control room drawings and several improper procedure changes, surveillance testing, maintenance activities, drywell airlock problems, review of problem resolution program, ESF system walkdown, visit to the local public document room, and review of open items.

Results: One unresolved item, one inspector followup item, and one non-cited violation was identified:

The unresolved item addresses a temporary change made to a special purpose testing procedure, involving control rod movements at power to identify a small fuel leak. This item was identified late in the inspection period and is unresolved pending further review and determination if a procedure revision should have been processed. (paragraph 2c)

The inspector followup item addresses several examples of improper use of the editorial change process. The example includes an inspector identified NCV (NCV 366/91-34-02) and two missed TS surveillances discussed in LER 321/92-02. (paragraph 2b)

A non-cited violation was identified regarding an improper change to TS surveillance records. The issue was identified by the inspectors during routine control room tours. (paragraph 3b)

The inspectors conducted a review of recent problems associated with the unit two drywell airlock. The inspectors concluded that the problem was primarily a potentially significant personnel safety hazard which involved several long-standing deficiencies. Indications are that the seriousness and magnitude of past problems with the doors were not adequately communicated to management for resolution. (paragraph 5)

An issue was identified in which the operability status of a plant service water pump was not properly determined. Questioning by the inspectors helped lead to the determination that missing seismic restraints rendered the pump inoperable and a TS LCO should have been entered. TS requirements were not exceeded and the event is considered an isolated instance. The inspectors have previously noted consistently conservative judgement on the part of operations personnel with regards to the operability status of safety components. (paragraph 2e)

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*J. Betsill, Unit 2 Operations Superintendent
*K. Breitenbach, Acting Engineering Support Manager
C. Coggin, Training and Emergency Preparedness Manager
D. Davis Plant Administration Manager
D. Edge, Nuclear Security Manager
P. Fornel, Maintenance Manager
O. Fraser, Safety Audit and Engineering Review Supervisor
*G. Goode, Acting Assistant General Manager - Plant Support
*J. Hammonds, Regulatory Compliance Supervisor
*W. Kirkley, Health Physics and Chemistry Manager
J. Lewis, Operations Manager
D. Read, Assistant General Manager - Plant Operations
*P. Roberts, Acting Outages and Planning Manager
*K. Robuck, Manager, Modifications and Maintenance Support
H. Sumner, General Manager - Nuclear Plant
*S. Tipps, Nuclear Safety and Compliance Manager
*P. Wells, Unit 1 Operations Superintendent

Other licensee employees contacted included technicians, operators, mechanics, security force members and staff personnel.

NRC Resident Inspectors

*L. Wert
*R. Musser

Accompanying NRC personnel:

*N. Salgado, Region II Intern

*Attended exit interview

Acronyms and initials used throughout this report are listed in the last paragraph.

2. Plant Operations (71707)

a. Operational Status

Unit 1 operated at power for the entire reporting period.

Unit 2 began the reporting period operating at power. As discussed in the previous inspection report (50-321,366/91-34), the licensee was preparing to shut down the unit to effect repairs in the drywell

due to increased unidentified floor drain leakage. On January 23, 1992, at 7:00 p.m., a power reduction was commenced to bring the unit to cold shutdown for the forced outage. At 10:48 a.m. on January 24, the unit was manually scrammed from approximately 12 percent rated thermal power. The licensee entered the drywell in the hot shutdown condition in order to identify the leakage. The main source of leakage was identified as a small split in a section of braided metal piping which contained packing leakoff from the 'B' recirculation pump discharge valve. During the initial drywell entries, numerous problems were encountered with the drywell airlock. This matter is further discussed in paragraph 5 of this report. The unit reached cold shutdown on January 25, at 5:30 p.m. During the outage numerous items were repaired in addition to the source of the drywell leakage, including replacement of a TIP indexer and repair of numerous condenser bay valves. On January 28, at 6:10 p.m., the unit was brought critical. After a 35 hour delay caused by an improperly installed balance shot on the low pressure turbine, the unit was tied to the grid at 3:32 a.m. on January 31, 1992. The unit was returned to rated thermal power on February 4, at 12:12 p.m. Power was increased in a slow and deliberate manner to minimize the possibility of increasing a previously identified small fuel leak discovered earlier in the cycle. The unit remained at power for the remainder of the reporting period.

The inspectors reviewed plant operations throughout the reporting period to verify conformance with regulatory requirements, Technical Specifications (TS), and administrative controls. Control room logs, shift turnover records, temporary modification logs, LCO logs and equipment clearance records were routinely reviewed. Discussions were conducted with plant operations, maintenance, chemistry, health physics, instrumentation and control (I&C), and nuclear safety and compliance (NSAC) personnel.

Activities within the control rooms were monitored on an almost daily basis. Inspections were conducted on day and on night shifts, during weekdays and on weekends. Observations included control room manning, access control, operator professionalism and attentiveness, and adherence to procedures. Instrument readings, recorder traces, annunciator alarms, operability of nuclear instrumentation and reactor protection system channels, availability of power sources, and operability of the Safety Parameter Display system were monitored. Control Room observations also included ECCS system lineups, containment integrity, reactor mode switch position, scram discharge volume valve positions, and rod movement controls. Numerous informal discussions were conducted with the operators and their supervisors. Some inspections were made during shift change in order to evaluate shift turnover performance. Actions observed were conducted as required by the licensee's administrative procedures. The complement of licensed personnel on each shift met or exceeded the requirements of TS.

Several safety-related equipment clearances that were active were reviewed to confirm that they were properly prepared and executed. Applicable circuit breakers, switches, and valves were walked down to verify that clearance tags were in place and legible and that equipment was properly positioned. Equipment clearance program requirements are specified in licensee procedure 30AC-OPS-001-0S, "Control of Equipment Clearances and Tags." A very detailed review was conducted of clearance 2-92-158 on the unit two "B" PSW pump (2P41-C001B). No discrepancies were identified.

Selected portions of the containment isolation lineup were reviewed to confirm that the lineup was correct. The review involved verification of proper valve positioning, verification that motor and air-operated valves were not mechanically blocked and that power was available (unless blocking or power removal was required), and inspection of piping upstream of the valves for leakage or leakage paths. Paragraph 7 discusses additional containment isolation valve verifications which were performed.

Plant tours were taken throughout the reporting period on a routine basis. The areas toured included the following:

Reactor Buildings and Radwaste Addition
Station Yard Zone within the Protected Area
230/500 kV Switchyard and Relay House
Turbine Building
Intake Building
Diesel Generator Building
Fire Pump Building
Unit Two Drywell
Central and Secondary Alarm Stations

During the plant tours, ongoing activities, housekeeping, security, equipment status, and radiation control practices were observed. Minor discrepancies noted were communicated to the appropriate shift supervisor.

b. Improper Use of the Editorial Correction Process

The inspectors reviewed LER 321/92-002: Personnel Errors Result in Missed TS Surveillances, dated February 6, 1992. The LER addressed two missed TS surveillances due to errors made during a procedure change. The licensee identified that incorrect changes had been made to procedure 34SV-SUV-019-1S: Surveillance Checks. The frequency of instrument checks on Suppression Chamber Water Temperature and APRM indicators was changed to daily instead of once per shift as required by TS. The changes were made through two separate applications of the editorial correction process. Section 8.8.3 of Procedure

10AC-MGR-003-05: Preparation and Control of Procedure, contains explicit guidance on changes which may be classified as editorial corrections. These changes clearly were not within the scope of an editorial correction. Editorial corrections are usually applied to items such as obvious typographical errors and minor labeling discrepancies. Request for editorial corrections are reviewed by the applicable manager to ensure they are correct and within the scope of an editorial change. Once the manager approves the editorial correction, the normal review process provided to other procedure changes is not required.

The incorrect change to the suppression chamber temperature instrument check was implemented on December 12, 1991. The APRM instrument check was incorrectly changed on January 12, 1992. On January 15, 1992, both of the errors were corrected. Qualitative instrument checks (comparison of indications to ensure within an allowable difference) were being performed once per day instead of once per shift. The licensee ensured by a review of the deficiency card and MWO data bases that no problems occurred with this instrumentation during the interval which could have been identified by an instrument check.

The inspectors had identified a similar inappropriate use of the editorial correction process. NCV 366/91-34-02: Improper Procedure Change, addressed a change made to TS required instrument check acceptance criteria by inappropriate use of the editorial correction process. Although the inspectors identified the issue, the change was supported by a detailed operability assessment on the instrumentation and was primarily an administrative deficiency. Although the inspectors had communicated this concern to some personnel in operations near the end of December 1991, the finding was not formally communicated to management until January 22, 1992. The two inappropriate editorial corrections discussed in the LER were made prior to this date.

The inspectors concluded that the technical safety significance of performing the instrument checks daily instead of once per shift is in itself small. The discrepancies were identified, corrected, and reported by the licensee. However, the pattern of improper applications of the editorial correction process is a concern. In addition to the corrective actions listed in the LER, the plant manager has temporarily suspended the use of all editorial corrections. IFI 321,366/92-02-02: Improper Use of the Editorial Correction Process, will be utilized to follow the licensee corrective actions and monitor their effectiveness.

c. Temporary Change to Flux Tilt Testing Procedure

On February 13, 1992, during observation of testing in accordance with 42SP-111491-OV-1-2S: Use of Flux Tilt to Find Failed Fuel, the inspectors identified several concerns associated with a temporary change to the procedure. The procedure provided guidance for a series of single control rod insertions/withdrawals to be performed to identify the core location of fuel leaks. Rods were to be sequentially inserted in those cells suspected to contain the leaking fuel and offgas pretreatment radiation indications were monitored. After approximately 30 minutes, the rod was to be withdrawn to it's prior position. The test did identify a probable fuel leak in the vicinity of rod 30-19. This information will be utilized by reactor engineering and management personnel to help minimize unnecessary contamination of plant components and also reduce radioactivity releases during operations.

The inspectors noted that Temporary Change 92-41 had been made to the procedure. Two sections of the procedure were affected. A limitation (section 5.2.2) on minimum successive rod separation was changed from two rod cells to one cell. Reduction in power to the initial testing level had been constrained to being accomplished by reducing core flow. The second change (section 7.3.1) removed this restriction and permitted power reduction with rods and/or recirculation flow reduction in accordance with 34GO-OPS-005-2S: Power Changes.

Because this procedure involved core reactivity manipulations not often performed at power, the inspectors reviewed the changes closely. Personnel involved in the procedure change provided documents from SCS which provided justification for the changes. Available information indicates that the change did not result in any safety problems. Unit 2 TS 6.8.3 states that temporary changes (to the procedures required by 6.8.1) may be made provided; the intent of the original procedure is not altered, the change is approved by two members of management (one of which holds an SRO license) and the change is documented, reviewed by the PRB and approved by senior plant management within 14 days. "Intent" is not defined by the TS or the TS bases. Section 8.7 of 10AC-MGR-003-0S: Preparation and Control of Procedures, contains guidance on Temporary Procedure changes (or SRO'd procedures). A note specifically states that the temporary procedure change process is not to be used as a vehicle of convenience, when sufficient time is available for a normal revision. There is some information indicating that the data which supported the changes was received onsite before the end of January. This would permit a revision to be processed before February 12. The inspectors also noted that section 8.6.5 of 10AC-MGR-003-0S states that special purpose procedures may be revised only to correct problems that prevent proper performance of the procedure.

Section 8.7 of 10AC-MGR-003-05 contains guidance on when the intent of a procedure is not considered altered. Additionally, a list is provided of changes which would be specifically considered as changing the intent of the procedure. The inspectors noted that this guidance would permit virtually any safe or proper procedure change to be processed as a non-intent change. (An exception would be deleting or altering a surveillance requirement or the manner in which it is met). Discussions with personnel involved in the change indicate that "intent" is considered on a very general basis and the predominant consideration on whether a change is intent or non-intent is if the change is justified and safe.

This item is identified as URI 366/92-02-01: Improper Temporary Change to Testing Procedure. It was identified very late in the inspection period and is unresolved pending further review by the inspectors.

d. Review of Control Room Drawings

The inspectors reviewed the licensee's programs for the updating of control room drawings. Drawings are updated to reflect changes in plant equipment through Work Completion Notices (WCNs) and As Built Notices (ABNs). WCNs are used to initiate changes to drawings (or documents) to reflect changes made during implementation of a DCR. ABNs are utilized to update drawings or documents for other reasons, including; updating to reflect 'as found' conditions, adding supplemental data, and reflecting temporary changes. Procedure 42EN-ENG-002-05: Work Completion and As Built Notices, provides guidance on processing of these updating mechanisms. Main Control Room (MCR) drawings at Hatch are maintained on an aperture card file at each Shift Supervisor work area. Department Instruction DI-ENG-31-0488N: Processing WCN or ABN for Single Line, Primary Elementary, and P&ID Drawing, Maintaining MCR Aperture Card File, contains specific instructions on updating the MCR drawings. 'Critical' MCR drawings are all single line diagrams, certain primary elementary diagrams, and P&IDs. These drawings are marked up by the Drafting Services Group to show current plant configuration. ABNs and WCNs affecting these MCR drawings are generated separately from ABNs and WCNs for other drawings types. Although not specifically required by the procedures, the general practice is that critical MCR drawings are updated by the drafting services group within 24 hours of receipt of the changes. The changes are marked on drawings, reviewed and approved, and new aperture cards are generated (by document control personnel) for the CR files expeditiously.

The inspectors reviewed 20 critical MCR drawings on each unit which contained ABNs or WCNs. In all of the selected examples the ABNs/WCNs were clearly annotated and referenced on the drawings. Most of the drawings had only one ABN or WCN applicable. About 10 percent of the drawings had two WCNs. No critical drawings were found with more than two ABNs/WCNs outstanding. The inspectors

noted that the critical drawings are also being expeditiously revised to incorporate the ABNs and WCNs. The oldest ABN/WCN (except temporary ABNs) on a critical card was dated November 1991. The majority of the ABNs/WCNs were dated in January and February 1992. Several recently completed DCRs were verified to be reflected on the drawings. Directive: DI-ENG-31-0488N requires that the critical drawings be updated within 30 days of declaring a system operable.

The inspectors also reviewed a sampling of CR aperture cards which were not considered critical. These cards have the applicable ABN/WCN listed on the front of the drawings. The ABNs and WCNs are maintained in files in the SOS office section of the CR and in document control. Several drawings were noted to have three ABNs/WCNs listed. The inspectors verified by a sampling of the non-critical aperture cards that the applicable ABNs/WCNs were available. The inspectors noted that in the case of a lengthy ABN/WCN (one was noted to be 137 pages), incorporating the information from the ABN/WCN documents with the operative card drawings would be a tedious and difficult process. During their review the inspector noted that "Primary" Elementary diagrams (considered Critical) are the elementary diagrams for the A71, C51, C61, C71, E11, E21, E41, E51 and R43 systems only. The inspectors noted the classification of several elementary diagrams (RWCU, RMCS, EDG relaying, CR HVAC) as "non-critical" and requested information on how elementary diagrams are classified. Operations management informed the inspectors that when the previous process (redlining) of updating was established, these elementary drawings were designated as critical. The list will be reviewed for the possible inclusion of other system elementary drawings as critical. The inspectors concluded that the program for updating control room drawings continues to be effective. No significant discrepancies were noted.

e. Failure to Enter LCO Action Statement For Inoperable Plant Service Water Pump (Unit 1)

On January 12, 1992, while performing preparations for preventive maintenance on the 1C RHRSW pump at the intake structure, plant maintenance personnel discovered that the two seismic supports on plant service water pump 1A were loose and had missing spacer blocks. As required by plant procedures, the mechanics promptly wrote a deficiency card and delivered it to the main control room. Discussions on this matter were held between the Unit 1 Shift Supervisor, Operations Superintendent on Shift and the Maintenance Supervisor on Shift. It was determined that the loose supports did not affect the operability of the pump.

The next day, the inspector questioned the basis for this operability determination. Discussions were held with Operations, Engineering and NSAC personnel. The inspector was informed by site engineering personnel that the supports in question did not affect the

operability of the pump. When the inspector requested the operability determination and its supporting documentation, he was informed that site NSAC were pursuing the same information. Subsequent to this request, the inspector was informed that a miscommunication between the site and off-site engineering personnel had occurred. Evidently, off-site engineering personnel believed that a RHRSW pump and not a PSW pump had been discovered with the deficient restraints and because an operability determination for the RHRSW pumps with loose and/or missing seismic supports had previously been performed (which had demonstrated the ability of the pumps to meet seismic requirements in this condition), off-site engineering verbally concurred that the pump was operable. One of the inspectors was in the corporate offices and followed some of the actions taken at that level. Subsequent to the involvement of inspectors in this matter and off-site engineering being correct informed that the PSW pump (in lieu of a RHRSW pump) supports were degraded, the pump was declared inoperable and the LCO entered.

Upon closer examination of this issue, the inspectors determined the question of operability of the pump should have been more vigorously pursued by the operations shift team. Operations Supervision did not utilize other site organizations expertise (such as NSAC and Engineering) to assist with an operability determination. The TS requirements for an inoperable PSW pump were not exceeded and the matter is considered an isolated instance. The inspectors have previously noted consistently conservative judgement on the part of operations personnel with regards to the operability status of safety components.

No violations or deviations were identified. One IFI was identified concerning improper use of the editorial correction process. An URI was identified regarding a temporary change to a testing procedure.

3. Surveillance Testing (61726)

a. Surveillance tests were reviewed by the inspectors to verify procedural and performance adequacy. The completed tests reviewed were examined for necessary test prerequisites, instructions, acceptance criteria, technical content, authorization to begin work, data collection, independent verification where required, handling of deficiencies noted, and review of completed work. The tests witnessed, in whole or in part, were inspected to determine that approved procedures were available, test equipment was calibrated, prerequisites were met, tests were conducted according to procedure, test results were acceptable and systems restoration was completed.

The following surveillances were reviewed and witnessed in whole or in part:

1. 34SV-E21-001-1S: Core Spray Operability Test

2. 42SP-111491-OV-1-2S: Use of Flux Tilt to Find Failed Fuel

3. 34SV-SUV-019-1/2S: Surveillance Checks

4. 34SV-E41-001-1S: HPCI Operability Test

Paragraph 7 of this report discusses several additional surveillance tests which were reviewed in detail.

The inspectors reviewed an issue involving surveillance testing which had been identified by an SAER audit. The audit identified that during performance of 57SV-SUV-004-1S: Reactor Coolant Instrumentation Lines Excess Flow Check Valve (EFCV) Operability, instrumentation was removed from service which placed the unit in a TS LCO requiring insertion of control rods within 4 hours. The involved instrumentation (RPS and PCIS) was not declared inoperable and operations personnel were not aware of the LCO entry. Further review of the issue by NSAC indicated that the instruments involved were inoperable for only 30 minutes. It was concluded that no control rod insertion was required and no report in accordance with 50.73 was required.

The cause of this event was that personnel reviewing the procedure for instrument inoperability and LCO requirements did not realize that the instrumentation was rendered inoperable during a "return to service" portion of the procedure. By I&C practice, links were utilized to ensure that inadvertent trips due to pressure transients on the sensing line would not occur during restoration of the instrumentation. Recommended corrective actions included training operations and I&C personnel on the event and correcting 57SV-SUV-004-1/2S as necessary.

The inspectors concluded that the licensee's reportability determination was reasonable and in accordance with requirements. The fact that the instrumentation inoperability and LCO were not realized by operations licensed personnel is a concern. The licensee has significantly increased attention in the area of instrumentation inoperability and TS LCO compliance since the issue was raised by the inspectors in late 1990. IFI 321,366/90-26-02: Failure to Enter Appropriate TS LCO during Instrumentation Surveillance Testing remains open pending NRR approval of a lengthy revision to TS. During previous testing of the EFCVs, LCOs were not entered. The licensee had recently reviewed the testing procedure and restricted performance of several portions to shutdown conditions due to the TS

LCOs and instrumentation inoperability involved. The inspectors verified that corrective actions in response to the SAER finding are being taken. The actions are being tracked through the action items associated with the applicable SOR. The inspectors noted that this SAER audit finding reflected that a detailed audit was performed by personnel highly qualified and experienced in the audit area.

b. Improper Corrections Made to Surveillance Records (Unit 2)

On January 29, 1992, during routine morning rounds in the Unit 2 control room, the inspector discovered that several entries in procedure 34SV-SUV-019-2S: Surveillance Checks, were not within the as expected range for a unit in cold shutdown (Unit 2 was in a forced outage due to high unidentified floor drain leakage in the drywell). The inspector questioned the reactor operator that had taken the readings the previous day. The operator indicated that he was aware of the matter and further explained that he had taken the readings in question from the Unit 1 panels in lieu of the Unit 2 ATTS panels (Unit 1 was operating at 100 percent rated thermal power and the readings in question were consistent with those expected for a unit in this condition). Unit 1 and Unit 2 ATTS panels are in close proximity of each other and are very similar in appearance. The operator implied that he would correct the problem during his (ongoing) shift. Later that day, the inspector returned to the control room and reviewed the procedure in question. Examination of the procedure revealed that operator had changed the readings in question. The incorrect readings were lined through, initialed, dated, and different readings were entered.

The inspector questioned the operator about the new entries and the authenticity of the data. The operator stated he had been monitoring the parameters in question the previous day and that he specifically remembered the readings in question. In addition, the inspector noted that the corrections made were dated the previous day. This matter was brought to the attention of the operator and operations management. The inspectors emphasized the significance of not backdating any changes made to data in permanent plant records such as TS required surveillances to the involved personnel and operations management. Operations management immediately initiated corrective actions. A deficiency card (2-92-459) was written documenting the matter. Beginning of shift training was held with all shift teams which specifically stressed the importance of not backdating corrections made in procedures. The inspectors concurred with the conclusion reached by plant management that the surveillance had actually been performed by the operator as required by the TS.

Paragraph 8.2.3 of procedure 20AC-ADM-002-0S: Plant Records Management, requires that corrections or additions to plant records be made by drawing a single line through the incorrect entry and the correct entry recorded, dated and initialed by an authorized person.

The intent in this matter is to date the corrected entry with the date on which the correction is being performed. Since the corrections in question were backdated, this matter is a violation of TS 6.8.1. The violation is not being cited because the criteria specified in Section V.A. of the Enforcement Policy were satisfied. Although the issue was identified by the inspectors, it is an isolated case of a primarily administrative nature and will be closely monitored for future occurrences. The licensee promptly investigated the issue and initiated corrective actions. The inspectors have not noted any previous instances of improper changes to data. This matter is identified as NCV 366/92-02-03: Incorrect Change to TS Surveillance Records.

One NCV was identified concerning incorrect changes to TS surveillance records.

4. Maintenance Activities (62703)

Maintenance activities were observed and/or reviewed during the reporting period to verify that work was performed by qualified personnel and that approved procedures in use adequately described work that was not within the skill of the trade. Activities, procedures, and work requests were examined to verify; proper authorization to begin work, provisions for fire, cleanliness, and exposure control, proper return of equipment to service, and that limiting conditions for operation were met.

The following maintenance activities were reviewed and witnessed in whole or in part:

1. MWO 2-92-431: Repair of the Unit 2 Drywell Airlock Door

2. MWO 1-91-618: Rebuilding of the Diesel Generator Fuel Oil Transfer Pump 1C2 IAW Procedure 52CM-Y52-001-0S

During the forced outage discussed in paragraph 2a, the inspectors observed portions of numerous other maintenance activities.

No violations or deviations were identified.

5. Unit 2 Drywell Airlock Problems (71707) (62703) (Unit 2)

During the forced outage discussed in paragraph 2a above, several problems occurred involving the Unit 2 drywell airlock. Two breaches of primary containment occurred on January 24, 1992. On January 25, a HP technician was unable to exit the DW for about 30 minutes due to problems with the outer door.

After completion of 34SV-T23-001-2S: Primary Containment Air Lock Doors Interlock Operability Test, the initial drywell entry was made. While some difficulty was noted in operation of the inner door, no significant problems were noted with the airlock. About one hour later, another drywell entry (an electrician and a contract HP) was made because 120 volt electricity (for air sampling equipment) and lighting were not available in the drywell. This team shut the inner DW door upon entry. The other personnel had not shut the inner door while inside the DW. When they attempted to exit the DW, the inner door would not open. Apparently they then manipulated the door operating handwheels improperly. After they had forcefully opened the inner door, they found the outside door about 45 degrees open. They immediately shut the inner door, exited the airlock, and shut the outer door. It should be noted that these personnel were in SCBAs, were not very familiar with the operation of the doors and perhaps understandably grew frustraced while attempting to exit the drywell.

They informed the SS that a breach of containment had occurred. Several minutes later an HP technician entered the airlock and upon opening the outer door, found the inner door slightly open. Apparently, the previous team had shut the inner door too rapidly and it bounced open enough to enable the latch mechanism to close under the roller on the door rather than over it as necessary to secure the door. Since the indicating lights used to operate the doors function from the latch, the lights had indicated the inner door was shut. The HP technician had to use a wrench to pry the latch away from the roller to operate the inner door. After this, he was able to operate both doors several times with the handwheel. The Unit 2 SS was notified of this second breach of containment at about 4:10 p.m. (EST). The interlock operability test was performed satisfactorily by 8:30 p.m.. The unit was brought to cold shutdown (where containment integrity is not required by TS) on January 25 at 5:30 p.m.

On January 25, at approximately 5:00 p.m. an HP technician entered the DW for routine work. Approximately 1 and 1/2 hours later he attempted to exit the DW. The inner door functioned properly, but he could not get the outer door open. The individual cycled the inner door several times and then attempted to defeat the outer door ratchet device (pawl) utilizing a block in accordance with instructions posted on the outer door. He was unsuccessful. He then used a phone in the airlock to contact his supervisor who along with two other men forcefully opened the outer door to get the technician out. Subsequently, the doors were closely examined by maintenance personnel. Some adjustments were made, primarily to the chains used to swing the doors.

TS 3.6.1.1 requires that without primary containment integrity, the unit must be in hot shutdown within 12 hours and proceed to cold shutdown within the next 24 hours. TS 3.6.1.3 states that both doors must be closed except when being utilized for personnel transit and then one of the doors should be shut. If one door is inoperable the other must be locked shut within 12 hours. Since the unit was in a hot shutdown condition and the doors were closed immediately upon discovery of their open position, no TS violation occurred.

The inspectors concluded that the most significant problem in this issue was the potential hazard to personnel. Licensee management considered the issue very significant and directed a MORT analysis as part of their ERT process. In addition to reviewing the above specific incidents, the team reviewed a similar, more serious incident which occurred in 1977 (two men were trapped in the air lock for a long period of time) and other past problems with the doors. The conclusions of the event review team included:

- Many problems were noted regarding the indications and directions available to personnel at the airlock. The door position pointers on the handwheels were inoperable and not properly labeled. The handwheels themselves had some labels missing. The indicating lights merely reflect the position of the latches, not the position of the doors. While changes had been made to facilitate emergency egress following the 1977 incident, the directions posted in the airlock were inadequate to allow successful blocking of the door ratchet devices.

- Inadequate personnel training on the doors played a major role in these incidents. Operation of the handwheels in a very slow and smooth manner is essential to proper functioning of the doors. Personnel are not aware of the proper methods to block the door pawls in case of a problem. The necessary sequence is not inherently obvious even if personnel can locate the blocks and pawls involved. The importance of differential pressure on the operation of the doors is not widely understood. The HP technician could not get the outer door open due to a high differential pressure across the door.

- The interlock and operating mechanisms are unexpectedly delicate. Excessive force could not only affect the interlock mechanisms, but could also damage the cams/shafts and result in inability to open the doors.

- There seems to be weaknesses in the interlock surveillance test. The interlock had failed to prevent both doors from being opened simultaneously on two occasions. However, the surveillance procedures did not detect any problems. Proper operations of the doors is crucial in the functioning of the interlocks.

The inspectors toured the airlock area and were briefed by knowledgeable maintenance personnel on the operation of the doors and the repairs made to them. The inspectors noted many poor human factors issues regarding labeling and indications to operators. One of the inspectors operated the outer door and noted the extremely slow handwheel rotation which is required for proper door operation. The inspectors concluded that the ERT investigation was thorough. A primary concern of the inspectors in this issue is that it appears the extent and seriousness of past problems with the airlock doors was inadequately communicated to plant management.

Most of senior plant management, like the inspectors, would usually enter the DW during cold shutdown conditions when the airlock doors are open. Apparently, the problems with the airlock have been "worked around" for some time. All personnel have a responsibility to inform management of any safety hazards identified. The inspectors also noted that corrective actions immediately after the initial door problems occurred could have been more effective. While the interlock operability surveillance test was successfully performed, the root cause of the interlock failure and additional corrective actions were not aggressively pursued until a subsequent problem developed with the airlock. The inspectors will continue to follow the licensees corrective actions.

No violations or deviations were noted.

6. Review of Problem Resolution Program (71707) (40500)

As part of their review of the licensee's self-assessment and problem resolution programs, the inspectors reviewed some Significant Occurrence Reports which were recently closed out. SORs serve a major role in the Hatch event analysis and resolution program. As required by procedure 10AC-MGR-004-0S: Deficiency Control System, Deficiency Cards are utilized to document any deficiencies affecting equipment, procedures, or personnel. Section 8.2 of 10AC-MGR-004-0S lists the conditions for which SORs will usually be initiated. The SOR process provides for evaluation, review, and corrective action tracking. The inspectors periodically selectively sample both DCs and SORs to monitor the effectiveness of the problem resolution process. SORs are provided to the inspectors as requested. A significant portion of SORs address issues which are of direct interest to the inspectors.

As noted in previous inspections, it was concluded that the ERT process and SOR program continue to be effective. Most of the SORs reviewed indicated that a sufficiently detailed investigation had been conducted into the issue. While in a few cases, final closeout of SOR issues was delayed somewhat, in most instances the recommended corrective actions were addressed appropriately. (A few instances of untimely corrective action on adverse trends have been identified in previous reports). In instances where it was considered necessary, operability or reportability evaluations were usually thorough and provided adequate justification for the conclusions. A few cases were noted where operability evaluations were not documented adequately. (SOR 1-91-064, 1-91-65 are examples). Three issues which initially appeared to require reports to the NRC were closely reviewed. After this review and discussion with regional management it was determined that each of the three items were not required to be reported.

One concern was identified by the inspectors as a result of the SOR review. Through attendance at most of the morning management meetings and other inspection activities the residents are aware of most issues which involve SORs or higher tier reports. However, several of the SORs addressed issues which while formal reporting was not required, should

have been communicated to the inspectors. These examples were discussed with licensee management. Based on review of the SORs, the investigation into each of the events appeared to be thorough and corrective actions appropriate.

There have been several other issues of safety significance which the inspectors became aware of a significant period of time after the problem was identified despite SORs addressing those issues. However, in recent months there has been several examples of good communications to the inspectors on issues below the formal reporting requirements. The inspectors continue to be appropriately informed of subjects such as the IPE submittal progress, ongoing resolution of the MCREC system problems, issues involving licensed operators, and a site visit by another federal agency.

The inspectors will continue to periodically review selected SORs and follow the corrective actions on some of the safety significant issues. The inspectors concluded that the majority of SORs reviewed indicate that the problem resolution process at Hatch continues to be effective.

No violations or deviations were identified.

7. ESF Walkdown (71710) (Unit 1)

The inspectors conducted an ESF system walkdown on the Unit 1 Residual Heat Removal System. The Unit 1 FSAR, TS, Technical Manuals, and SED were reviewed to allow familiarization with the system and requirements. The system line-up requirements in procedure 34SO-E11-010-1S, "Residual Heat Removal System," were verified equivalent to the as-built configuration in P&IDs, H-16329 and H-16330. The detailed walkdown included verification of proper positioning of system valves, breakers, and switches.

During the walkdown, the following minor discrepancies were noted: a leaking connection on the instrument air line to valve P41-F37A, RHR Pump 1E11-C002D had a low oil level (but was still within the required band), and a power cable to a jockey pump appeared not to be adequately supported. It was noted that the overall housekeeping conditions of the 'B' loop (particularly on the bottom level of the NE diagonal room) were degraded in comparison with the 'A' loop. These conditions were brought to the attention of the Unit 1 shift supervisor.

Due to the safety significance of the shutdown cooling isolation valves (1E11-F008 and 1E11-F009) and the LPCI cross connect valve (1E11-F010), the inspectors closely reviewed the controls associated with these valves.

At normal reactor pressures, valves 1E11-F008 and 1E11-F009 isolate the RHR system from the reactor coolant system. Interlocks on the valves protect against an ISLOCA by ensuring that the valves will automatically close when reactor pressure exceeds 138 psig. The valves also close upon receipt of a 12.3" reactor water level signal. Testing of the pressure

interlocks for the shutdown cooling isolation valves were verified by reviewing calibration procedures and instrument setpoints, walking down associated instrument lines, and reviewing RHR logic diagrams.

The LPCI cross connect valve normally serves as an isolation between the two LPCI loops. The inspectors verified that 1E11-F010 valve was in the closed position and that the associated breaker was locked open as required by TS 3.5.B.1, item D.

The reviews encompassed a detailed examination of the associated contacts and relays involved with the valve logic controls. Additionally, the test and calibration surveillance procedures required by TS (Table 4.2-5, item 5 and Table 4.2-1, footnote 4) for the previously mentioned valves were reviewed by the inspectors for proper instructions, technical content, acceptance criteria, independent verification where required, and completed test results. The following surveillances were reviewed:

1. 42SV-E11-003-1S: RHR Isolation Valve Control LSFT
2. 57SV-SUV-007-1S: ATTS Panel 1H11-P921 Channel Functional Test and Calibration.
3. 34SV-H11-002-1S: LPCI Cross Connect Valve Open Annunciator Test

During their review, the inspectors noted several inconsistencies with the FSAR descriptions:

According to FSAR section 4.8.5, the pressure interlocks for the shutdown cooling isolation valves should employ diverse pressure sensors. One of the pressure sensors should be a bourdon tube-type sensor while the other pressure sensor should be a diaphragm type sensor. The Unit 1 RHR system pressure sensors 1B31-N079B and 1B31-N079D are not diverse. 1B31-N079B was verified by the inspectors to be a diaphragm type sensor. 1B31-N079D could not be locally verified, but I&C personnel stated that both sensors were of the diaphragm type. This condition has apparently existed since the ATTS was installed.

While reviewing TS requirements (Table 3.7-1), the inspectors noted that the containment spray outboard valves 1E11-F016A (B) were identified as PCIVs, but the containment spray inboard valves 1E11-F021A (B) were not identified as PCIVs. FSAR Table 7.3-1 classifies the valves as being Group B type. The definition of Group B type PCIVs in section 5.2.3.5.1 of the FSAR would infer that both inboard/outboard valves should be classified as PCIVs. It was noted on another Table 7.3-1 (sheet 7 of 20) of the FSAR that 1E11-F021A (B) are not PCIVs. The primary isolation boundary is provided by valves 1E11-F016A (B) with the additional boundary being provided by the Quality Group B, Seismic category I, missile-protected, closed piping system. The inspectors noted that the F016 and the F021 valves are approximately two feet apart with only a test connection between them. Discussions with onsite engineers indicated that

inconsistencies in the FSAR PCIV tables is a recognized problem. The problems are currently being resolved and corrected.

The inspectors noted that the Unit 1 RHR pump technical manual specifically states that PSW should be normally supplied to the RHR pump seals heat exchangers on a continuous basis. Hatch utilizes normally closed, fail open air operated valves to secure PSW flow through the coolers until the pumps receive an initiation signal. In addition to the apparent increased reliability of not relying on the valves to open, there is some information indicating that silting of small diameter PSW piping is reduced by allowing continuous flow. This issue was discussed with the PSW system engineer and is being reviewed by the licensee.

Some minor material discrepancies and several apparent inconsistencies in the FSAR were noted. No adverse operability or significant safety concerns were identified.

No violations or deviations were identified.

8. Visit to Local Public Document Room

On January 23, 1992, the inspectors visited the local PDR at the Appling County Library in Baxley, Georgia. The inspectors familiarized themselves with the arrangement of documents within the PDR and the types of documents available for public review. A review of the Hatch FSARs, LERs, and Hatch Inspections Report files showed that the files were current.

The librarian indicated that the PDR received very little usage and no problems had been encountered in maintaining the files. She discussed the fact that microfiche records of all the material had been received and she is awaiting permission to discard most of the hard copy files. This would reduce the amount of library space required for the PDR. The inspectors located and viewed a recent inspection report. The inspectors concluded that the PDR is highly organized and well maintained. The facility is adequate to meet local needs for information regarding Plant Hatch.

9. Inspection of Open Items (92700) (90712) (92701) (90700)

The following items were reviewed using licensee reports, inspection, record review, and discussions with licensee personnel, as appropriate:

a. (Closed) LER 366/90-03: Inadequate Procedure Causes Reactor Scram and Group II Isolation. This LER addresses a unit two scram and partial Group II isolation on a false low reactor water level signal. At the time of the scram, a plant I&C technician was valving in a pressure transmitter which shares a common sensing line with RPS and PCIS water level transmitters. While in the process of valving in the pressure transmitter, a pressure perturbation in the common sensing line caused the water level transmitters to spike downscale thus generating the full scram signal.

The cause of the event was determined to be an inadequate procedure. Procedure 57CP-CAL-103-2S did not provide adequate instructions to prevent a pressure perturbation when valving in the applicable pressure transmitters. To prevent recurrence of this event, the licensee has revised the involved procedure as well as other similar procedures (57CP-CAL-104-2S, 57CP-CAL-103-1S, and 57CP-CAL-104-1S) to require that instruments be pressurized to process pressure before they are returned to service. The inspector reviewed the above listed procedures and determined that the corrective actions made were adequate. This LER is closed.

b. (Closed) LER 321/90-20: Main Turbine High Vibration Results in Automatic Reactor Scram. This LER addressed a Unit 1 scram due to main turbine high vibration. In the process of shutting down Unit 1 due to recirculation pump seal problems, the main turbine began experiencing a high vibration condition which ultimately resulted in the turbine tripping. Plant operators were not alerted to the high vibration condition until the turbine tripped due to the turbine high vibration annunciator not alarming. This condition was corrected with the replacement of the CPU for the turbine vibration recorder (IN30-R900). In addition, the calibration frequency for this instrument was changed from 60 months to 12 months.

The cause of the event was determined to be the failure of valve IN38-F101A (steam supply valve for the second stage of MSRs "A" and "B") to fully close, therefore causing a thermal imbalance of the steam supplies to the two low pressure turbines. This thermal imbalance resulted in a high vibration condition of the main turbine. As reported in the LER, valve 1N38-F101A failed to fully close as its torque switch setting was found at the low end of the manufacturers recommended setting. The torque switch setting was raised and subsequent testing of the valve revealed no additional problems.

A contributing factor in this event was a less than optimum design of the TSV/TCV scram bypass pressure switches. The unit scrammed from 22 percent rated thermal power on TSV fast closure. This trip is only required above 30 percent rated thermal power. However, when reducing power in preparation to shut down the unit for maintenance, the TSV/TCV fast closure trip was not reset (resets automatically based on turbine 1st stage pressure). The licensee has issued DCRs (1H91-001, to be implemented during the spring 1993 Unit 1 outage and 2H91-002, to be implemented during the fall 1992 Unit 2 outage) to replace the TSV/TCV scram bypass pressure switches with switches that exhibit more sensitive reset characteristics. This LER is closed.

c. (Closed) LER 321/90-2[illegible] Radioactive Liquid Effluent Sample Analysis Inconsistent with Technical Specifications Requirements. This LER addressed the matter of the Unit 1 and Unit 2 quarterly composite radioactive liquid effluent analyses for Sr-89 for the second quarter of 1990 and the Unit 1 analysis for Sr-89 for the third quarter of 1990 not meeting the Unit 1 and Unit 2 Technical Specifications LLD

requirements. The quarterly composite analyses are performed by a licensee vendor. During the above mentioned time frames, the vendor analyses did not verify compliance with TS LLD requirements.

The cause of the event was an inadequate procedure. Plant procedure 64CH-RPT-004-0S, "Liquid Effluents Reports", did not require comparison of vendor analyses with the TS LLD requirements nor did it require a large enough sample be sent to the vendor such that the LLD requirements could always be met. The inspector verified that procedures 64CH-RPT-004-0S and 64CH-RPT-001-0S, "Gaseous Effluents: Reports", were revised to require comparison of radioactive liquid (and gaseous) effluent sample analyses results with TS LLD requirements. Additionally, the inspector reviewed a record of phone conversation between the licensee (chemistry supervision) and the vendor to assure that samples to be analyzed would be performed in accordance with the TS LLD requirements. The licensee also supplemented the Semi-annual Radioactive Effluent Release Report for the period of July 1, 1990 to December 31, 1990, detailing the events an their minimal effects. It should be noted this matter was discovered by licensee SAER (QA) personnel during a routine audit. This LER is closed.

d. (Closed) LER 321/90-24: Offgas Samples Not Collected and Analyzed as Required by Technical Specifications. This LER addressed the matter of offgas samples not being collected and analyzed within four hours after an increase of greater than 50 percent in offgas activity as required by the TS (Unit 1; 4.15.2.7.2.b, Unit 2; 4.11.2.7.2.b). This concern was identified during a routine audit by site SAER (QA) personnel.

The cause of the event was determined to be a misinterpretation of TS requirements. It was not clear to cognizant personnel when the collecting and analyzing of the pre-treat sample was specifically required. Confusion existed as to the specific definition of "steady-state fission gas release" rate as it applies to the sampling requirements. As a part of their corrective action, the license issued a clarification to both units TS which provided specific instructions for actions to be taken in the event of an increase in offgas activity. The inspector reviewed the clarification and found it to be acceptable. In addition, the inspector reviewed the applicable chemistry procedures and determined they adequately implemented the requirements of the TS. Finally, the specific annunciator response procedures for a high offgas activity condition were reviewed. Unit 2 procedure 34AR-601-406-2S, specifically instructed the operators to direct chemistry personnel to perform a sample of the offgas within 4 hours. However, the Unit 1 procedure, 34AR-601-406-1S, was less than optimal in that the procedure did not specifically instruct the operators to request an offgas sample be taken. This matter was brought to the attention of appropriate licensee personnel. This LER is closed.

e. (Closed) LER 366/90-13: Offgas Radiation Monitors Inoperable Due to Incorrect Valve Lineup. This LER addressed the discovery of mispositioned valves in the offgas system which rendered the Post-Treatment Radiation Monitors inoperable. This matter was identified as Violation 50-366/90-26-03, and the licensee's corrective actions will be tracked with the violation. This LER is closed.

f. (Closed) Violation 50-366/90-26-03: Inoperable Post-Treatment Radiation Monitors. The inspector reviewed the licensee's response dated February 18, 1991. Corrective actions involved restoring offgas sample flow to the post-treatment radiation monitors, checking valve lineups of similar radiation monitoring systems, issuing a Chemistry Department Standing Order requiring a Chemistry foreman to be in attendance during gaseous sampling activities to ensure proper valve lineups during and after sampling, and issuing of a training memo to Chemistry personnel describing the particular event and the importance of procedural compliance. In addition, a review of Chemistry procedures was initiated to determine which procedures should include sign-offs and independent verification for valve manipulations. The inspector reviewed numerous Chemistry sampling procedures which were updated to include sign-offs and independent verification for valve manipulations (typically valve restoration). These procedures were found to be adequate. Since the issuance of these procedures (with independent verification), the standing order requiring a chemistry foreman to be in attendance during and after sampling activities has been rescinded. Review of this matter is closed.

g. (Closed) LER 321/92-002: Personnel Errors Result in Missed TS Surveillances. This LER addressed two missed surveillances due to incorrect procedural changes using the editorial change process. Paragraph 2b of this report discusses the inspectors review of this issue. IFI 321,366/92-02-01: Improper Use of the Editorial Correction Process will be used to follow corrective actions on this issue. LER 321/92-002 is closed.

h. (Closed) IFI 321,366/90-26-01: Overflow of SFP into Ventilation System. This IFI addressed a December 1990 event in which the unit 1 SFP overflowed into the RB ventilation ductwork. Both the skimmer surge tank level alarm and the SFP level alarm did not warn the operators of the condition. The inspectors primary concern in this issue involved lack of timeliness of corrective actions in that malfunctioning of the SFP level alarm had been identified in January, 1990. A DCR to correct the problem had been scheduled for implementation by December 1990, but that schedule was not met. Additionally, the problem with the skimmer surge tank alarm involved air in the sensing lines which was a recurring problem. The licensee initiated a SOR and assigned an ERT to review the issue. The ERT also concluded that inadequate corrective actions were a root cause of the event. Completed corrective actions include procedural

revisions to prevent such problems in the future, implementation of DCR 2H90-243 on the Unit 2 SFP level alarm system, and repairs to several valves involved in the event. A DCR has been initiated to install test valves on the instrument sensing lines on the skimmer surge tank level instruments so that air will not be introduced into the lines during calibration. This DCR is scheduled for implementation by December 1992. The procedural revisions included requiring logging of SFP water inventory changes by CR operators and requiring a continuous watch to monitor SFP levels as long as the FPC systems are cross connected and the transfer gates are installed. The ARPs were also revised to provide separate instructions when the pools are cross connected. Based on this review of corrective actions, this item is closed.

i. (Closed) P2190-04: Rosemount Resistance Bridges Exhibit Premature Long Term Degradation. This issue involves several 10-CFR-21 reports made by Rosemount Inc. involving trip/calibration units (Model 710 and Model 510) and 414 E/F resistance bridges. The concern was that the components may exhibit premature long term degradation which could result in erroneous signals in the output of the devices or could adversely affect the operation of the devices. Several failures of the 510 cards had occurred in 1985 at Plant Hatch. The primary cause of the problem involved a high moisture content in the precision resistors which apparently occurred due to a non-controlled atmosphere during assembly of the devices. The Rosemount Model 710 trip/calibration units and 414 E/F resistance bridges used at Hatch were all purchased from GE-NE. GE-NE has informed Hatch personnel that no bridges were purchased from suspect lots. Additionally, Hatch personnel believed that the problem would have been detected within the initial 2 years of operation. All of the subject devices utilized at Hatch have been in use for at least several years. Hatch personnel contacted Rosemount during this inspection period to obtain concurrence with this reasoning. A Rosemount representative stated that the failures as noted should be detected within the first two years of operation. This item is closed.

10. Exit Interview

The inspection scope and findings were summarized on February 18, 1992, with those persons indicated in paragraph 1 above. The inspectors described the areas inspected and discussed in detail the inspection findings. The licensee did not identify as proprietary any of the material provided to or reviewed by the inspectors during this inspection.

Item Number	Status	Description and Reference
366/92-02-01	Open	URI-Improper Temporary Change To Testing Procedure (paragraph 2c)

321,366/92-02-02	Open	IFI-Improper Use of the Editorial Correction Process (paragraph 2b)
366/92-02-03	Open and Closed	NCV-Incorrect Change to TS Surveillance Records (paragraph 3b)

11. Acronyms and Abbreviations

ABN - As Built Notice
AC - Alternating Current
A/E - Architect Engineer
APRM - Average Power Range Monitor
ATTS - Analog Transmitter Trip System
BWROG- Boiling Water Reactors Owners Group
CFR - Code of Federal Regulations
CPU - Central Processing Unit
CR - Control Room
CRD - Control Rod Drive
CST - Condensate Storage Tank
DC - Deficiency Card
DCR - Design Change Request
DW - Drywell
ECCS - Emergency Core Cooling System
EDG - Emergency Diesel Generator
EFCV - Excess Flow Check Valve
EHC - Electro Hydraulic Control System
EQ - Environmental Qualification
ERT - Event Review Team
ESF - Engineered Safety Feature
EST - Eastern Standard Time
FSAR - Final Safety Analysis Report
FT&C - Functional Test and Calibration
GE - General Electric Company
GE-NE- General Electric-Nuclear Energy
GPM - Gallons per Minute
HELB - High Energy Line Break
HP - Health Physics
HVAC - Heating, Ventilation, and Air Conditioning
HPCI - High Pressure Coolant Injection System
I&C - Instrumentation and Controls
IFI - Inspector Followup Item
ISLOCA- Inter-System Loss of Coolant Accident
IRM - Intermediate Range Monitor
LCO - Limiting Condition for Operation
LER - Licensee Event Report

LLD - Low Level Dose
LOCA - Loss of Coolant Accident
LPCI - Low Pressure Coolant Injection
LSFT - Logic System Functional Test
MCR - Main Control Room
MCRECS- Main Control Room Environmental Control System
MWO - Maintenance Work Order
NE - Northeast
NCV - Non-cited Violation
NPRDS- Nuclear Plant Reliability Data System
NRC - Nuclear Regulatory Commission
NRR - Office of Nuclear Reactor Regulation
NSAC - Nuclear Safety and Compliance
PCIV - Primary Containment Isolation Valve
PCIS - Primary Containment Isolation System
PDR - Public Document Room
P&ID - Piping and Instrumentation Diagram
PM - Preventive Maintenance
PSIG - Pounds Per Square Inch Gauge
PSW - Plant Service Water
QA - Quality Assurance
RB - Reactor Building
RCIC - Reactor Core Isolation Cooling System
RFP - Reactor Feed Pump
RHR - Residual Heat Removal
RHRSW- Residual Heat Removal Service Water
RMCS - Reactor Manual Control System
RPS - Reactor Protection System
RPT - Recirculation Pump Trip
RTP - Rated Thermal Power
RWCU - Reactor Water Cleanup System
Rx - Reactor
SAER - Safety Audit and Engineering Review
SCBA - Self-contained Breathing Apparatus
SCS - Southern Company Services
SED - Safety Evaluation Document
SFP - Spent Fuel Pool
SOR - Significant Occurrence Report
SOS - Superintendent of Shift (Operations)
SP - Suppression Pool
SPDS - Safety Parameter Display System
Sr - Strontium
SRM - Source Range Monitor
SRV - Safety Relief Valve
SS - Shift Supervisor
STA - Shift Technical Advisor
TBV - Turbine Bypass Valve
TCV - Turbine Control Valve

TIP - Traversing In-core Probe
TS - Technical Specifications
TSC - Technical Support Center
TSV - Turbine Stop Valve
URI - Unresolved Item
WCN - Work Completion Notice