



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

Report No.: 50-321/85-39

Licensee: Georgia Power Company  
 P. O. Box 4545  
 Atlanta, GA 30302

Docket No.: 50-321

License No.: DPR-57

Facility Name: Hatch 1 and 2

Inspection Conducted: December 26-27, 1985

Inspectors: <u><i>B. T. Debs</i></u>	<u>2/10/86</u>
B. T. Debs	Date Signed
<u><i>K. E. Brockman</i></u>	<u>2/10/86</u>
K. E. Brockman	Date Signed
Approved by: <u><i>C. A. Julian</i></u>	<u>2/11/86</u>
C. A. Julian, Branch Chief	Date Signed
Division of Reactor Safety	

SUMMARY

Scope: This reactive inspection entailed 20 inspector-hours on site in response to an event which occurred on December 21, 1985. Inspection methods included log reviews, personnel interviews, plant tours, and staff briefings. Areas inspected included operating procedures, personnel and equipment performance.

Results: One violation was identified in that Procedure 30AC-OPS-001-01 was not followed in the release of Safety Clearance 1-85-1675 for maintenance work order 1-85-1720.

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## REPORT DETAILS

### 1. Persons Contacted

#### Licensee Employees

- \*Len Gucwa, Manager Nuclear Safety and Licensing
- \*Lewis Sumner, Manager of Operations
- \*Tom Greene, Deputy General Manager
- \*J. E. Jordan, Manager Nuclear Projects
- \*Terry Moore, Manager of Training
- \*T. A. Seitz, Manager of Maintenance
- \*P. E. Fornel, QA Site Manager
- \*R. D. Baker, Nuclear Licensing Manager, Hatch
- \*B. K. McLeod, Manager Maintenance and Outage Planning

Other licensee employees contacted included construction craftsmen, engineers, technicians, operators, mechanics, security office members and office personnel.

#### NRC Resident Inspectors

- \*P. Holmes-Ray (Senior Resident Inspector)
- G. Nejfelt (Resident Inspector)

\*Attended exit interview

### 2. Exit Interview

The inspection scope and findings were summarized on December 27, 1985, with those persons indicated in paragraph 1 above. The inspectors described the areas inspected and discussed in detail the inspection findings listed below. No dissenting comments were received from the licensee. The licensee did not identify as proprietary any of the material provided to or reviewed by the inspectors during this inspection.

### 3. Licensee Action on Previous Inspection Findings

This subject was not addressed in the inspection.

### 4. Unresolved Items

No unresolved items were identified during this inspection.

## 5. Summary of Events

The inspector confirmed the following sequence of events, up to and through the event:

On December 11, 1985, clearance 1-85-1675 (tags 1-8) was released to perform local leak rate testing (LLRT) on MOV 1E11-F004A. Test results were unsatisfactory and necessitated repair of valve F004A. The plant was in the refueling mode at this time with all fuel removed from the reactor and stored in the fuel pool.

At 0530 hours, December 17, 1985, the Unit 1 shift supervisor issued clearance 1-85-1675 (tags 1-11, 15, 16) for MWO 1-85-7120 to allow for the repair of valve F004A. Repairs were initiated and included the removal of the valve bonnet and all operating internals of the valve. This resulted in a breach of the residual heat removal (RHR) system with an effective size of approximately 100 square inches. The only isolation between this breach and the suppression pool was AOV 1E11-F065A, whose control switch was tagged in the CLOSED position, under the above identified clearance. This action was a contributing factor to the subsequent event.

During the 1600-2400 shift of December 20, 1985 and the 0000-0800-hour shift of December 21, 1985 outage management had identified plant conditions as acceptable for performing the surveillance test for Loss Of Off-site Power, Bus 1E. Test engineers had verified that all active components were capable of operating as required to meet the surveillance requirements; however, no pretest evaluation was made to identify all system responses which would occur as a result of loss of power to Bus 1E under their outage configuration, and whether any of these responses would be detrimental. This limited evaluation of test consequences was also a contributing factor to the subsequent event.

At approximately 2330 hours, a representative of the Crane Valve Company reported water standing in the body of valve F004A. The shift supervisor dispatched a non-licensed operator to open RHR line drain valves 1E11-F071A and 1E11-F069A to drain the water from the valve body. This was accomplished. The accumulation of the water was apparently due to normal leakage by valve F065A.

At 0045 hours, December 21, 1985, the LOCA section of the surveillance test was performed, wherein a LOCA signal is simulated to diesel generator 1A; no actions beyond the diesel starting in an emergency status were anticipated. The diesel generator responded as expected.

At 0105 hours, 4160V Bus 1E was deenergized. Diesel Generator 1A output breaker immediately closed to reenergize the bus. Continuing the surveillance test, at 0110 hours, the diesel was tripped locally. For the next ten minutes, the 4160V Bus 1E and its loads were deenergized. At 0120 hours, diesel generator 1A was restarted and Bus 1E was reenergized. All requirements of the surveillance test were performed satisfactorily at this time.

At 0121 hours, telephone calls were received from a Crane Company representative and from a Health Physics Foreman. Both reported a water level in the southeast corner room up to the second level of stairs (approximately 12 feet). Concurrently, the Control Room Assistant Plant Operator (APO) reported a HI-HI level in the southeast sump, with automatic isolation of the sump crossconnects having occurred. A Plant Equipment Operator (PEO) was sent to the area to report the conditions. The PEO reported that the leakage appeared to be coming from multiple locations. This was based upon his seeing two water swirls (possibly induced by equipment in the room).

At 0125 hours, the On-Shift Operations Supervisor (OSOS) reached the scene. He determined water level to appear stable at approximately 14 feet. He queried the Shift Supervisor (SS) concerning the positions of numerous valves, including 1E11-F065A. All were reported as indicating closed. The OSOS also had the fuel pool level verified as acceptable.

Even though valve indications could not confirm it, the OSOS suspected that the flooding had occurred via valves F065A and F004A. To confirm this, he initiated a pumping down of the southeast corner room. PEOs were dispatched to monitor levels in the northeast corner room and HPCI room since resultant flooding would occur. Upon overriding the southeast corner room sump isolation, water was able to be pumped to radwaste via the northeast corner room sump pumps. Levels in the northeast corner room and HPCI room were monitored to ensure minimal equipment damage during the sump crossconnect isolation override. Maximum levels in each room, respectively, were approximately two feet and one foot. The pumping down of the southeast corner room was not completed until approximately 0900 hours the next morning; it resulted in overflowing all radwaste storage tanks and placing two inches of water on the radwaste floor. (This action was known and accepted by the OSOS as being less perilous to plant safety.)

The response of the operations personnel appeared to be logical and effective. They were hampered in determining the source of the water since no indications of suppression pool level were available. All had been removed for replacement during the outage. Additionally, evaluation of the transient shows how the confusion was manifested when Bus 1E was deenergized. The solenoid controlling the air to F065A was deenergized; this resulted in the solenoid failing in the "vent" position; thus, F065A opened as designed. However, the loss of power also resulted in a loss of position indication in the control room. When power was returned, the solenoid repositioned to apply closing air to F065A. At this time position indication showed OPEN; after a few seconds of stroking time, however, the valve CLOSED and indicated such. Unless being specifically looked for, the control room indications would be difficult, at best, to notice. Given the concurrent effects of a loss of power to Bus 1E, it would have been happenstance if the operators had seen the position indication change.

Inspection details regarding the effect of flooding on equipment and the licensee's plans for equipment restoration are contained in Region II Inspection Report 50-321/85-37.

## 6. Boundary and Clearance Procedures

An interview with the shift supervisor responsible for accepting and approving the additional clearance for valve F004 maintenance, indicated that he did not consider gagging F065A when approving the additional clearance.

Hatch Procedure 30AC-OPS-001-01, Revision 0, dated October 22, 1985, Section 8.81 states to add a work item, the responsible foreman/supervisor should review the existing clearance bounding for adequacy. If further component isolation is required; additional tags will be added to the clearance.

Section 8.8.4 states that the shift supervisor reviews the new boundaries for adequacy and directs the performance of additional clearance, if required, by qualified operations personnel. The shift supervisor completes and signs block 20 to approve and issue subclearances for the new work.

Discussions with licensee management indicated that no specific guidance or training is provided to the plant staff regarding the adequate establishment of clearance boundaries. Licensee management did indicate, as a result of this event, that specific clearance and boundary training was being developed.

The inspectors informed licensee management that the aforementioned event was a result of inadequately establishing a clearance boundary and was contrary to 30AC-OPS-001-01 therefore, a violation of Technical Specification 6.8.1 which states that written procedures shall be established, implemented and maintained covering the activities referenced in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978 (50-321/85-39-01).