



UNITED STATES
 NUCLEAR REGULATORY COMMISSION
 REGION II
 101 MARIETTA ST., N.W., SUITE 3100
 ATLANTA, GEORGIA 30303

Report No. 50-321/82-06

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

Facility Name: E. I. Hatch

Docket No. 50-321

License No. DPR-57

Inspection at Hatch site near Baxley, GA

Inspectors: *J. M. Puciett* *J. M. Duckett* 2/24/82
 J. M. Puciett Date Signed

L. A. Franklin *L. A. Franklin* 2/24/82
 L. A. Franklin Date Signed

Approved by: *K. P. Barr* 2/24/82
 K. P. Barr, Section Chief Date Signed
 Technical Inspection Branch
 Division of Engineering and Technical Programs

SUMMARY

Inspection on February 11-12, 1982

Areas Inspected

This special, unannounced inspection involved 21 inspector-hours on site in the areas of radwaste operations and health physics coverage during flooding of the condensate bay and the radwaste building.

Results

Of the two areas inspected, no violations or deviations were identified.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *T. Greene, Assistant Plant Manager
- *C. E. Belflower, Site Supervisor, Quality Assurance
- *M. A. Griffis, Engineering Supervisor
- *S. X. Baxley, Operations Superintendent
- *A. C. DeLoach, Operations Shift Supervisor
- *W. H. Rogers, Health Physics Superintendent
- B. C. Arnold, Laboratory Foreman

Other licensee employees contacted included four technicians, three operators, two mechanics, and two office personnel.

NRC Resident Inspector

- *R. Rogers
- *P. Holmes-Ray

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on February 12, 1982, with those persons indicated in paragraph 1 above. The Assistant Plant Manager acknowledged the inspector's concerns and specifically acknowledged the inspector followup item noted in the details of this report.

3. Description of the Occurrence

On February 1, 1982, in preparation for the planned work on the condensate transfer system, the radwaste system filters had been replaced and the associated demineralizers had been backflushed and set up to run as long as possible without the condensate transfer pump needed for further backflush operation. An extra portable demineralizer was available, if needed and hoses were available to transfer excess liquid radwaste to the Unit 2 radwaste system if this extra capacity was needed to process water. The work on the condensate transfer system was expected to take two days. The inspector discussed these preparations with the Supervisor responsible for radwaste systems and his preparations appeared adequate to cope with normally expected problems.

During the Unit 1 outage preceeding the impending startup, both the turbine bearing lube oil system and the condensate polishing demineralizers had been worked on by the maintenance department or by a contract maintenance group. The turbine lube oil system serves the unit turbine

bearings. One of these bearings on the front standard of the turbine had an inspection cover removed and the contract maintenance supervisor responsible for the work stated that the cover had been replaced with a plastic cover secured to the casing by tape. When the system was started on February 1, sufficient pressure was generated to loosen the plastic and approximately 100 gallons of turbine lube oil was spilled and ultimately found its way into the turbine building sump. The radwaste supervisor (not an official plant title) locked out the associated sump pumps as soon as he was informed about the oil so that the oil would be prevented from getting into the radwaste tanks. Oil in the radwaste system incapacitates both filters and demineralizers and would limit the plant's ability to process the normal liquid waste flow. The ability to process liquid waste would be important to the startup planned for February 5. Other steps were taken to minimize the further influx of oil into the sump. The turbine building sump pump was then set to cycle on the high-high level. This step which would prevent the oil from entering the pump suction because the oil floated on top of the water.

Between February 1 and 4, the unit radwaste system was able to manage the water from the plant by using the standby portable demineralizer but, because of unanticipated problems with the condensate transfer system repairs, it was not possible to place this system back in service and two radwaste filters were no longer usable due to high differential pressure. Water was also transferred to the Unit 2 radwaste system from the turbine building sump. This was feasible because Unit 2, unlike Unit 1, has an oil separator system.

On February 2, in anticipation of the startup, the condensate system was started up to recycle condensate through the polishing demineralizers to reduce the water conductivity. A drain valve on a condensate booster pump was found to be leaking water into the radwaste system via the floor drains. However when this leak was stopped, leakage was still estimated to be 42 gallons per minute and its source was not known at this time. Personnel continued to search for the source of inleakage and it was at this time that the radwaste surge tanks, normally kept at their minimum level prior to a startup, began filling. At 11:30 p.m. on February 4 a log entry indicated there was 3 inches of water on the floor of the 108' elevation in the radwaste building of Unit 1. The Shift Supervisor or Shift Foreman was not notified of this fact at the time.

At about the same time a minor leak was discovered on the waste filter vessel and this unit was shutdown and the maintenance department was informed of the need to effect a repair. This further reduced the ability of the radwaste system to process water. Next, the high-high level switch on the turbine building sump malfunctioned and this sump then overflowed transferring the floating oil into the turbine building equipment sump. The resulting oil/water mixture was then transferred directly to the radwaste system, rendering filters and demineralizers incapable of functioning.

The condensate transfer system was returned to service on the evening of February 4, and because of an excess of water in the Unit 2 radwaste systems, water was no longer transferred. Therefore, even though the capability to backflush existed, the oil in the systems severely limited the operation of the radwaste system.

On the morning of February 5, a normal reactor startup was begun. A complete examination of the condensate system revealed that three polishing demineralizers were leaking at the flanges loosened by the earlier maintenance work. The inspector questioned the maintenance foreman responsible for the work on this system and noted the following contributions to the likelihood for a leak: (1) the flange bolts were tightened to 325 ft-lbs, a value obtained from a prior maintenance work request and not from a work procedure; (2) the actual required torque was unknown by the foreman, though since the leaks occurred he has requested this information from the manufacturer; (3) the system, when reassembled, was tested to only half of the normal operating pressure, hence, the possibility of a leak was never fully tested prior to placing the units into operation. As soon as the leaks were discovered, the flanges were tightened and the leakage was stopped.

On February 5, when the radwaste supervisor was apprised of the situation, he informed the plant management that the radwaste systems could no longer support the startup. The acting plant manager then determined that the startup should hold at the main steam isolation valves until the situation was resolved. The licensee contacted a contract demineralization service and by February 6, a unit capable of handling the oil laden water was delivered to the plant and set up for operation.

At this point the water levels in radwaste began to decrease and the decision was made to continue the startup. By February 11, levels were back to normal and efforts had begun to decontaminate the floors affected by the radwaste system overflow and the turbine building sump overflow.

Health physics coverage during the period February 4 through February 11, 1982, appeared to be adequate. A total of twelve radiological surveys, that were directly related to this occurrence, were performed during this period. Six airborne surveys taken within this time frame show no increase in airborne radioactivity as a result of this occurrence.

A full evaluation was started in a timely manner and was continuing at the time of this inspection. Continuous health physics coverage was being provided during this work.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Conclusion

In discussions with radwaste operators, shift supervisors, unit foremen, and the supervisor responsible for radwaste, the inspector determined that the capacity of the radwaste system is adequate to process normally expected waste water from the operation of the plant during all modes. The occurrence described above apparently resulted from a series of coincident failures which could not have been anticipated by the licensee. It is important to note that no liquid radioactive waste ever left plant systems or structures designed to contain it. As a result no liquid radioactive waste was released from the plant to the environment. It was apparent to the inspector that the planning by the licensee for the condensate transfer system was adequate for any reasonably expected event. It was also apparent to the inspector that the planning by the licensee for the condensate transfer system repair was adequate for any reasonably expected event. The preliminary review of overall wastewater management by the licensee, performed by the inspector, revealed no immediate problem. This area will be reviewed in detail during a future inspection (IFI 82-06-01). The lack of maintenance procedures ensuring that systems are properly reassembled prior to use after work has been performed has been identified as a contributing cause to the licensee by the inspector. Because the systems involved are not considered to be safety related, it will not be further addressed by the NRC. At no time was the public health and safety threatened by this event.