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

Report Nos.: 50-321/83-36 and 50-366/83-39

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

Docket Nos.: 50-321 and 50-366

License Nos.: DPR-57 and NPF-5

Facility Name: Hatch 1 and 2

Inspection at Hatch site near Baxley, Georgia

Inspector: J. B. Kahle — Date Signed: 1/12/84

Approved by: K. P. Barr, Section Chief — Date Signed: 1/13/84
Operational Program Branch
Division of Engineering and Operational Programs

SUMMARY

Inspection on December 19-22, 1983

Areas Inspected

This special unannounced inspection involved 29 inspector-hours on site in the areas of review of the health physics preparation activities with regard to the recirculation piping replacement project and followup review of LER's.

Results

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

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*T. V. Greene, Acting Site General Manager
E. Turner, QA Manager
C. Belflower, QA Site Manager
R. Houston, Senior QA Field Representative
B. Griffin, Regulatory Compliance Technical Writer
L. Boyles, I & C Foreman
*R. Zavadoski, Chemistry and Radiation Protection Manager
*H. Rogers, Health Physics Superintendent
*D. Smith, Laboratory Supervisor
B. Hand, Laboratory Supervisor
T. Collins, Laboratory Supervisor
C. Coup, Laboratory Foreman
B. Arnold, Health Physics Radiological Controls Supervisor
M. Squires, Health Physics Radiological Controls Supervisor
A. Cure, Radiological Engineer
T. Kirkham, Health Physicist
B. Fallier, Health Physics Specialist (ALARA)
*A. Harrelson, Recirculation Pipe Removal and Replacement Project Manager
*C. Jones, Engineering Manager
*L. Byrner, QA Engineer
*J. Bray, Senior QA Field Representative
*D. Elder, QA Field Representative
*C. Goodman, Engineer

Other licensee employees contacted included four technicians and two office personnel.

Other Organizations

Hydro Nuclear Services

*D. Neely, Health Physics Project Manager
*R. Shult, Assistant Health Physics Project Manager
A. Franklin, ALARA Coordinator
R. Baron, Health Physics Engineering Support Supervisor

NRC Resident Inspectors

*R. Crlenjak
*P. Holmes-Ray

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on December 22, 1983, with those persons indicated in paragraph 1 above. Management was informed that the inspector saw no evidence that would preclude the recirculation piping replacement work from a health physics standpoint. It was apparent that the health physics activities were well planned and the coverage and controls were established to perform the work in the spirit of ALARA.

3. Licensee Action on Previous Enforcement Matters

Not inspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Recirculation Piping Removal and Replacement

a. Organization and Personnel

A separate organization, distinct from the Hatch plant organization, has been developed to accomplish the recirculation piping removal and replacement project. The health physics portion of this organization is dedicated solely to this project and personnel assigned to health physics, like other project personnel, have no responsibilities for the routine day to-day operation of the plant. The health physics organization is managed by Hydro Nuclear Services under contract with the licensee. The health physics project management consists of the health physics radiological control group and the health physics engineering support group. The ALARA function is part of the engineering support function, along with radiological engineering and training. The organization of the radiological controls function is typical of most radiation protection groups. Established lines of communications have been determined for interfacing with the plant chemistry and radiation protection manager, the health physics supervisor and the health physics support groups (rad waste, dosimetry, etc.).

The outage health physics organization is a combination of people supplied by Hydro Nuclear Services, the health physics project contractor, and health physics personnel supplied by the licensee. Licensee personnel are a mixture of licensee employees and contractor technicians. Most of the contractor technicians have been with the licensee several months to several years and are familiar with plant policy, procedures, systems, and equipment. Hydro Nuclear Services are primarily supplying the management and technical support personnel. Radiological control supervision and health physics technicians are primarily supplied by the licensee. Personnel qualifications have been carefully reviewed prior to selection for each position. Technical

qualifications and personal experience in BWR outages have been the main criteria for selection. The inspector verified that key personnel are experienced with outages at BWR's and are experienced in the nature of their assignments for this project. No violations or deviations were noted.

b. Planning and Scheduling

It was apparent that a considerable amount of advance planning has been extended on this project and that health physics input has been considered in developing the engineering methodology and concepts for accomplishing the work. Discussions with ALARA personnel revealed that several programs (training, reviews, procedures, meeting, reports, etc.) have been developed to assure that ALARA considerations to minimize exposures are part of each step of the planning and scheduling activities. An independent radiation protection program plan which encompasses all aspects of radiation protection has been prepared for guidance in meeting management goals and commitments for implementing the health physics and ALARA programs. No violations or deviations were noted.

c. Training

Health physics personnel have received training relative to the nature and scope of the project, new equipment, procedural changes, decontamination techniques and requirements, ALARA reviews, RWP system, record keeping, dosimetry requirements, waste management, etc. A qualification program has been established to assure that key personnel are familar with plant specific procedures and operations. Other project personnel have received general employee training relative to health physics and ALARA. Training has been given to operators regarding remote cutting equipment. Mockup training has been established for operation of some equipment and work on certain materials and objects for familiarity and proficiency to minimize exposure times, to avoid errors and to assure that qualified work is performed in a safe and efficient manner. No violations or deviations were noted.

d. ALARA

An ALARA program has been developed by the contractor project health physics group with approval of the chemistry and radiation protection manager. A majority of the activities of the project health physics engineering support group are devoted to ALARA. The group supervisor is experienced in developing and implementing ALARA programs. Two experienced professional personnel have been selected as ALARA coordinators to supervisor and review the activities associated with the ALARA reviews of RWP's and engineering projects. They have responsibilities for auditing jobs in progress and mockup training of personnel. Also, the contractor group for performing the field operations has an ALARA engineering support group to review each job package in its initial conceptual stage for ALARA considerations.

ALARA procedures were being developed, prepared, reviewed and revised during the inspection. Several procedures were reviewed by the inspector. The procedures were written in the spirit of ALARA and were found to be acceptable. Licensee representatives stated that various plant health physics engineers and supervisors were reviewing and providing input to the ALARA procedures to assure that they would be consistent and compatible with existing plant health physics policy, procedures and practices. The ALARA procedures had not been reviewed and approved by the plant review board at the time of the inspection, but several licensee representatives, including management, stated that final approval did not appear to be an obstacle in the critical flow path.

Criteria have been developed to determine the level of ALARA review. An ALARA committee has been established to set goals for controlling exposures and to evaluate methods for meeting these goals. An overview committee has been established to review and audit the performance and effectiveness of the ALARA program.

e. Procedures and RWP

Existing plant health physics procedures with minor modification will be used for the recirculation pipe removal and replacement work. The basic philosophy regarding the necessary changes to the existing health physics procedures was discussed with plant health physics personnel and project health physics management. It was apparent that both groups were in agreement with the basic criteria for revising the procedures and the necessary changes for health physics monitoring and controls to accomplish the work and still be compatible with existing requirements.

As stated above, ALARA procedures have been developed for the recirculation piping removal and replacement but need minor revisions and approval by the plant review board.

A modified radiation work permit (RWP) was developed for the recirculation piping outage. The HP-1000 computer is used in conjunction with the RWP for providing dose information, authorization of personnel, etc., when preparing and issuing the permit and providing a records retention system for constantly upgrading exposure dose information. Personnel were being trained on the use of the HP-1000 computer during the week of the inspection. Licensee representatives stated there were no major changes in the existing RWP but more information is available for issuing the permit and the new system enhances the data retrievable capabilities and records keeping.

Licensee representatives stated that a backup system was available in the event the HP-1000 was not available.

f. Controls and Monitoring

Modifications have been made at the back entrance of the reactor building where personnel will enter for work. An office area for the project health physics radiological control supervisors has been provided. An improved location for picking up dosimetry devices has been established with additional space for the health physics technicians. Change rooms for removal of personnel clothing and donning of protective clothing is provided. Sufficient storage space was available for protective clothing and equipment. Provisions were available for the posting of RWP's. Frisking equipment had not been installed during a tour of the facility; however, licensee representatives stated that an Eberline proportional counter portal monitor arrived onsite the week of the inspection. They anticipated no problems in installation and operability of the portal monitors by the beginning of the outage. An area was also available for counting air samples and smears. It appeared that the layout of the access entrance area was conducive to good health physics control and service.

Control points have been established for entering and exiting the drywell. These control points will be controlled by senior health physics technicians. Licensee representatives stated that the roving technician technique would be used to oversee and control work within the drywell with a technician on each floor and that special jobs will be covered by a health physics technician on a case-by-case basis where constant health physics technician coverage was needed to assure radiation safety.

Licensee representatives stated that additional radiation survey instruments and air samplers have been secured for the recirculation piping removal and replacement work. Additional dosimetry devices have been obtained for the project. Multiple badging was discussed with licensee representatives. They stated that based upon the radiation exposure data, the gradient in the radiation field, and the position and location of the individuals performing the work in the radiation field, decisions would be made regarding placing the dosimetry device at the expected highest exposure or multiple badging. Procedures have been prepared to establish the criteria for proper placement of dosimetry devices on personnel.

During a tour of the access control area, licensee representatives pointed out the portable air moving and filter units that would be set up for providing ventilation control during the outage.

g. Resources and Support

Protective clothing, respiratory protective devices, survey instruments, dosimetry devices, (TLD and pocket dosimeters) body counting services, instrument calibration, chemistry services, etc., will be

supplied by routine operations of the plant in support of the recirculation piping removal and replacement. Two TLD readout and processing units have been made available at the reactor building access control point. Body counting of personnel will be performed with the two existing onsite body counters. Licensee representatives stated that an ample supply of clothing and respiratory protection devices were available. The licensee stated that from previous survey results obtained during a recent outage it appeared that respiratory equipment would not be necessary for a major portion of the work.

Rad waste activities will be accomplished through the existing plant rad waste procedures. Large pieces of piping will wrapped in plastic, removed to the "hot" machine shop, cut into smaller pieces, the pieces wrapped in plastic and placed in large B-5 waste boxes. Licensee representatives stated that a sufficient supply of boxes are onsite. Also, licensee representatives stated that a representative sampling would be taken from inside the piping for analysis to properly categorize the radioactive waste in accordance with 10 CFR 61.

h. Decontamination

Licensee representatives stated that, based upon data of surveys performed during previous outages, major decontamination of the outside surfaces of the piping and sundry equipment was not anticipated. The inside surfaces of the piping will be decontaminated by the hydrolasing technique. Contaminated water from this operation will be collected in a special system to prevent contamination of the entire liquid waste collection system. Chemical decontamination is not anticipated.

i. Shielding

Equipment, piping, etc., have been identified where shielding will be utilized. Survey data from a recent outage and past experience have been used to establish shielding activities. Later surveys results during the outage may necessitate additional shielding requirements. Engineering analyses have been performed to assure that shielding supporting structures can adequately support the additional weight of the shielding.

Bags of lead shot and vessels, sections of pipe, housing, etc., filled with water inside flexible liners are the primary methods to be used for shielding. The installation of the shielding has been scheduled in with the project work.

j. Records

The health physics records system for the recirculation piping removal and replacement project will utilize a HP-1000 computer. The program for the HP-1000 is compatible with the licensee's existing record system but has increased capabilities for tracking man-rem exposures,

for retrieving specific task related personnel exposures and providing instantaneous exposure data.

6. LER's

a. (Closed) 50-321/1983-001, Control Room Ventilation Isolation Valve

Two control ventilation isolation valves would not close within the 7 seconds required by specifications. Investigation by the licensee revealed that the cause was attributed to instrument drift. The rate set valves were out of adjustment and readjustment of the rate set valves appeared to solve the problem. This was a non-repetitive event and the health and safety of the public were not affected.

b. (Closed) 50-321/1983-016, Refueling Floor Exhaust Vent Radiation Monitor Instrument FT & C

While performing routine surveillance it was determined that the alarms were set below acceptable limits. Investigation showed that the failure was due to setpoint drift. The instruments were recalibrated. The event was not repetitive and the health and safety of the public were not affected.

c. (Closed) 50-366/1983-054, Surveillance Check Procedure HNP-2-1050

The "B" off-gas post-treatment radiation detector was indicating downscale preparatory to reactor startup. Investigation showed a failure of the scintillation detector. The detector was replaced. The event was non-repetitive and the health and safety of the public were not affected.

d. (Closed) 50-321/1983-084, Main Steam Line Radiation Monitors

The high setpoint was greater than three times the normal operating background. The cause was not determined; however, setpoint drift was suspected. The procedure was changed to provide margin for variation of the Hi Hi setpoint. The instruments were calibrated and new setpoints established. This was a non-repetitive event and the health and safety of the public were not affected.