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

Report Nos. 50-321/81-08 and 50-366/81-08

Licensee: Georgia Power Company
270 Peachtree Street
Atlanta, GA 30303

Facility Name: Hatch

Docket Nos. 50-321 and 50-366

License Nos. DPR-57 and NPF-5

Inspection at Hatch site near Baxley, Georgia

Inspector: _____ 4/13/81
B. R. Crowley Date Signed

Approved by: _____ 4/13/81
A. R. Herdt, Section Chief Date Signed
Engineering Inspection Branch
Engineering and Technical Inspection Division

SUMMARY

Inspected on March 23-27, 1981 and March 31 - April 3, 1981

Areas Inspected

This routine, unannounced inspection involved 62 inspector-hours onsite in the areas of inservice inspection (Unit 1); welding and nondestructive examination program for torus modification (Units 1 and 2); IE Bulletin 80-07, BWR Jet Pump Assembly Failure (Unit 1); IE Bulletin 80-13, Cracking in Core Spray Sparagers (Unit 1).

Results

No apparent violations or deviations were identified.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*T. V. Green, Assistant Plant Manager
C. T. Moore, Assistant Plant Manager
C. R. M les, Jr., QA Field Supervisor
*C. E. Belflower, QA Site Supervisor
D. A. McCusker, QC Supervisor
*J. M. Watson, Senior QA Field Representative
P. Fornel, Jr., Senior QA Field Representative
W. B. Thigpen, Senior QA Field Representative
D. Hart, Training Supervisor
G. U. Deyton, ISI Engineer
J. A. Edwards, Senior Engineering Associate
A. M. Carter, Senior QC Specialist

Other licensee employees contacted included technicians, security force members and office personnel.

Other Organizations

D. Carter, Service Engineer, General Electric (GE)
J. A. Agold, Project Manager, Southwest Research Institute (SwRI)
R. H. Fine, Examination Team Supervisor, SwRI
C. L. Cotton, Project Engineer, SwRI
*B. Ballard, Welding and QA Superintendent, Chicago Bridge & Iron (CB&I)
D. M. Swan, QA Technician, CB&I
T. N. Epps, Supervisor, ISI, Southern Company Services (SCS)
E. R. Burns, ISI Engineer, SCS
J. J. Churchwell, ISI Engineer, SCS

NRC Resident Inspector

*R. F. Rogers

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on April 3, 1981 with those persons indicated in paragraph 1 above. The unresolved item of paragraph 10.a was discussed and the licensee agreed to evaluate this matter and determine the applicability of annual eye examinations for CB&I welding inspectors.

3. Licensee Action on Previous Inspection Findings

(Closed) Violation - 321/80-46-01, Failure to approve ISI plan. Georgia Power Company's letters of response dated February 23 and March 13, 1981, have been reviewed and determined to be acceptable by Region II. Based on examination of corrective actions as stated in the letters of response, the inspector concluded that Georgia Power Company had determined the full extent of the subject noncompliance, performed the necessary survey and followup actions to correct the present conditions and developed the necessary corrective actions to preclude recurrence of similar circumstances. The corrective actions identified in the letters of response have been implemented.

4. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve violations or deviations. New unresolved items identified during this inspection are discussed in paragraph 10.a.

5. Inservice Inspection - Review of Program (Unit 1)

The inspector reviewed the licensee's inservice inspection (ISI) program for the current outage in the areas indicated below. The requirements for ISI for the first five years of plant operation are specified in Appendix H to the FSAR and Technical Specification 4.6.K, Table 4.6-1. In accordance with these requirements, the 1971 Edition including the S72 addenda of Section XI of the ASME Boiler and Pressure Vessel Code was used for the first five years. The first five years of plant operation has been completed and a new inspection plan documented in accordance with the requiements of 10 CFR 50.55a(g). Amendment 1 to the plan was submitted to the NRC on June 6, 1979 and amendment 2 was submitted on January 27, 1981. The new plan was first used for the spring 1979 outage or the first outage in the second 40 month period of the long term plan. In accordance with the new plan, the applicable code is the ASME Boiler and Pressure Vessel Code, Section XI, 1974 Edition with Addenda thru S75.

a. The inspector reviewed the ISI program for the current outage to determine whether the program had been approved by the licensee.

b. The inspector reviewed the following Georgia Power Company and SwRI documents relative to the ISI program:

- SwRI Nuclear Operating Procedure (NPOP) IX-FE-101-1, "Deviations to Nuclear Field Services Section Operating Procedures"

- SwRI NPOP IX-FE-103-1, "Weld Joint Identification Marking on Nuclear Power Plant Piping"

- SwRI NPOP IX-FE-104-2, "Measuring and Recording Search Unit Location and Maximum Signal Amplitude Data During Ultrasonic Weld Examination"

- SwRI NPOP IX-FE-116-0, "Recording Data From Direct Visual, Liquid Penetrant, and Magnetic Particle Examinations"

- SwRI NPOP IX-FE-119-0, "Measuring and Recording Search Unit Data During Ultrasonic Examination of Pressure Vessel Welds"

- SwRI Nuclear Operating Procedure (NPOP) X-FE-101-1, "Onsite NDE Records Control"

- SwRI NPOP XIII-AG-101-1, "Control of Nuclear Inspection Equipment and Materials"

- SwRI NPOP XVII-AG-101-0, "Data Storage and Retrieval"

- SwRI Nuclear Quality Assurance Procedure (NQAP) 1-1, Revision 2, "Introduction"

- SwRI NQAP 2-1, Revision 2, "Organization"

- SwRI NQAP 3-1, Revision 2, "Procedures, Instructions and Drawings"

- SwRI NQAP 9-1, Revision 2, "Document Control"

- SwRI NQAP 10-1, Revision 2, "Test and Inspection Equipment Control"

- SwRI NQAP 11-1, Revision 2, "Special Process Control"

- SwRI NQAP 11-2, Revision 2, "Procedure for Certifying Visual Examination Personnel"

- SwRI NQAP 13-1, Revision 2, "Deviation and Nonconformance Control"

- SwRI NQAP 14-1, Revision 2, "Corrective Action Control"

- SwRI NQAP 15-1, Revision 2, "Audits"

- SwRI NQAP 15-2, Revision 2, "Qualification and Certification of Quality Assurance Auditors"

- SwRI NQAP 15-3, Revision 2, "Qualification and Certification of Quality Control Inspection and Testing Personnel"

- HNP QA-01-05, Revision 5, "Job Functions and Responsibilities/QA Supervisor"

- HNP QA-03-02, Revision 6, "Training and Personnel Qualifications"
- HNP QA-05-06, Revision 8, "Site Preoperational Startup and Operational Audits"
- HNP "Plant Hatch Tentative Audit Schedule" dated 11/17/80 for 1981
- HNP "QA Audit Plan for In-Service Inspection Program"
- HNP-6, Revision 7, "Plant Review Board Administrative Procedures"
- HNP-9, Revision 14, "Procedure Writing and Control"
- HNP-10, Revision 9, "Document Distribution and Control"
- HNP-818, Revision 12, "Temporary Procedure Change"
- HNP-820, Revision 11, "Plant Records Management"
- HNP-904, Revision 2, "Inservice Inspection Program"
- HNP-907, Revision 1, "Inservice Inspection Visual Examination Surveillance Procedure for Classes 1, 2, and 3 Pipe Supports"

These documents were reviewed to assure that procedures and plans had been established (written, reviewed, approved, and issued) to control and accomplish the following activities:

(1) Organizational structure including qualifications, training, responsibilities, and duties of personnel responsible for ISI

(2) Audits including procedures, frequency, and qualification of personnel

(3) General QA requirements including examination reports, deviations from previously established program, material certifications and identification of components to be covered

(4) Work and inspection procedures

(5) Control of processes including suitably controlled work conditions, special methods, and use of qualified personnel

(6) Corrective action

(7) Document control

(8) Control of examination equipment

(9) Quality records including documentation of indications and NDE findings, review of documentation, provisions to assure legibility and retrievability, and corrective action

(10) Scope of the inspection including description of areas to be examined, examination category, method of inspection, extent of examination and justification for any exceptions.

(11) Definition of inspection interval and extent of examination

(12) Qualification of NDE personnel

(13) Controls for generation, approval, custody, storage and maintenance of NDE records

Within the areas inspected, no violations or deviations were identified.

6. Inservice Inspection - Review of Procedures (Unit 1)

The inspector reviewed the ISI procedures indicated below to determine whether the procedures were consistent with regulatory requirements and licensee commitments. See paragraph 5 above for the applicable code.

a. The following procedures were reviewed in the areas of procedure approval and requirements for qualification of NDE personnel:

(1) SwRI NDT-300-1-21, "Dry Powder Magnetic Particle Examination"

(2) SwRI NDT-200-1-51, "Liquid Penetrant Examination Color Contrast Method"

(3) SwRI NDT-700-6-7, "Mechanical Ultrasonic Examination of Ferritic Vessels 2½ Inches or Greater in Thickness"

(4) SwRI NDT-700-5-6, "Mechanical Ultrasonic Examination of Vessel Components, Vessel Welds and Piping Welds"

(5) SwRI NDT-600-14-14, "Manual Ultrasonic Examination of Studs and Bolts"

b. In addition to the review above, procedure NDT-600-14-14 was reviewed in the areas of compilation of required records and procedure technical content relative to: type of apparatus, extent of coverage including beam angles and scanning techniques, calibration requirements, search units, DAC curves, transfer requirements, reference level for monitoring discontinuities, method of demonstrating penetration, levels for evaluation and recording indications, and acceptance standards.

c. Deviation 10 to NDT-600-3-55, "Manual Ultrasonic Examination of Pressure Piping Welds" was reviewed. (See IE:II Report 50-366/80-46 for previous review of this procedure.)

d. Procedure NDT-200-1-51 was reviewed in the areas of compilation of required records and procedure technical content relative to: method consistent with ASME code, specification of brand names of penetrant materials, specification of limits for sulfur and total halogens for materials, pre-examination surface preparation, minimum drying time following surface cleaning, penetration application and penetration time, temperature requirements, solvent removal, method of surface drying, type of developer and method of application, examination technique, technique for evaluation, acceptance standards, and requalification requirements.

e. Procedure NDT-300-1-21 was reviewed in the areas of compilation of required records and procedure technical content relative to: examination method, surface preparation, use of color contrast particles, examination directions and overlap, pole spacing, and acceptance criteria.

f. NDE procedures for the areas of examination listed below were examined to determine whether the procedures were consistent with licensee Technical Specification commitments and specified the examination category, method of examination, and the extent of examination.

(1) Pressure Retaining Piping
(2) Pressure Retaining Bolting
(3) RV clad surfaces
(4) Support members for piping, valves, and pumps

Within the areas inspected, no violations or deviations were identified.

7. Inservice Inspection - Observation of Work and Work Activities (Unit 1)

The inspector observed the ISI activities described below to determine whether these activities were being performed in accordance with regulatory requirements and licensee procedures. See paragraph 5 above for the applicable code.

a. The inspector reviewed the project plan for the current outage for a sample of components consisting of: the reactor vessel, the closure head, B21-MS piping, B21-FW piping, and B31-recirc piping. The plan for these components was compared with the "Long Term Inservice Examination Plan", the ISI reports for the 1st 40-month period and the ISI report for the 1st outage of the current period in the areas of methods of examination, items to be inspected, and extent of examination. During review of the previous ISI reports, the inspector noted that the

licensee letter submitting the 5-year report indicated that some welds required to be inspected during the first 5 years of plant operation had not yet been inspected. These welds are on the inspection plan for the current outage. The five year time limit for the inspections can be extended to include the current outage based on the Tech Spec "Surveillance Frequency" definition, which allows adjusting surveillance intervals plus or minus 25%.

b. Personnel qualification records for one level I and one level II examiner were reviewed.

c. In-process Ultrasonic (UT) inspection, including calibration was observed for the following welds:

Component	Weld	Examination
Closure Head Nozzle 1N6A	N/A	Inner Radius Scan
Closure Head Nozzle 1N6B	N/A	Inner Radius Scan
Closure Head Meridional Weld	1-HC-1-B	Lamination, 0°, 45°, 60° Scans

The inspections were compared with applicable procedures in the following areas:

(1) Availability of and compliance with approved NDE procedures
(2) Use of knowledgeable NDE personnel
(3) Use of NDE personnel qualified to the proper level
(4) Recording of inspection results
(5) Type of apparatus used
(6) Extent of coverage of weldment
(7) Calibration requirements
(8) Search units
(9) Beam angles
(10) DAC curves
(11) Reference level for monitoring discontinuities
(12) Methods for demonstrating penetration
(13) Limits for evaluating and recording indications
(14) Recording significant indications
(15) Acceptance limits

Within the areas inspected, no violations or deviations were identified.

8. Inservice Inspection - Data Review and Evaluation (Unit 1)

The inspector reviewed the ISI records described below to determine whether the records were consistent with regulatory requirements and applicable procedures. See paragraph 5 above for the applicable code.

a. Records for the examination areas listed below for the "Spring 1979" outage were reviewed to ascertain whether the records contained or provided reference to: examination results and data sheets; equipment data, calibration data sheets; evaluation data; records on extent of examination; records relative to deviations from program; disposition of findings; re-examination after repair; and identification of NDE materials.

(1) Reactor Pressure Vessel
(2) Closure Head Nuts
(3) Class 1 Piping
(4) Class 2 Piping

b. Records for reactor pressure vessel long seam C-4A for the "Spring 1979" outage were reviewed to determine whether the following requirements were met:

(1) Method, extent and technique comply with ISI program
(2) Examination data are within acceptance criteria
(3) Recording, evaluation and disposition of findings are in accordance with applicable procedures

c. The inspector reviewed NDE records for the "Spring 1979" outage for the following pipe welds:

ISO	Weld
1B21-IMS-24B	7
1B21-IMS-24C	12
1B21-IFW-12AB	9
1E21-ICS-10A	11A
1B21-IFW-12BC	6
1E21-ICS-10B	14A

The records were reviewed to determine whether the following requirements were met:

(1) Calibration data sheets show no major deviation between initial and final calibration

(2) Recordable indications are properly recorded

(3) Evalaution of examination data performed by a Level II or Level III examiner

(4) Evaluation of data complies with applicable procedures

(5) Evaluation of indications comply with applicable procedures

Within the areas inspected, no violations or deviations were identified.

9. Welding (Torus Modification) (Units 1 and 2)

The inspector examined the licensee's welding practices and procedures as indicated below relative to torus modifications to determine whether these activities and procedures were in conformance with regulatory requirements and applicable industry codes. The torus modifications for Units 1 and 2 are being accomplished by CB&I in accordance with SCS specification 6914-29, revision 0, "Modification of Torus and its Internals". In accordance with this specification, the applicable code is the ASME Boiler and Pressure Vessel Code, Section III, Subsections NC, ND, NE and NF, 1977 Edition including Addenda through S79. Torus shell stiffening, the support system for the MS safety relief valve discharge line quencher assemblies, the MS safety relief valve discharge liner quencher assemblies, the residual heat removal test line modification, torus thermowells, and other miscellaneous modifications, are included in the modifications.

a. The inspector reviewed CB&I WPS E7018/04391/2, supporting procedure qualification records (PQR's), and "General Welding Procedure Specification for the Shielded Metal Arc Process" for conformance with applicable codes in the areas of: code variables (essential, supplementary essential and non-essential), material characteristics shown on the procedure qualification record (PQR), and completion of required material tests (welding procedure qualification test) including notch toughness requirements.

b. The CB&I weld material control system was reviewed in the areas of purchasing, receiving, storing, disbursing and handling of welding materials. This review included:

(1) Review of Section 8.0, "Welding" of the "Nuclear Quality Assurance Manual for ASME III Products" (NQAM) in the area of weld material control

(2) Review of Weld Material Specification (WMS) WMS-501, Revision 1

(3) Review of "Weld Material Authorization and Release Reports" including vendor material test reports for:

1/8" E7018 - Ht 422L7341
5/32" E7018 - Ht 422E5861

(4) Review of "Daily Material Distribution Log" for "inside" and "outside" dated 3/31/81

(5) Observation of weld material storage temperature controls, and issue practices

c. The inspector observed the following Unit 1 welds (torus stiffening) in process:

4-D to Torus. Stiffener to outside of torus shell, weld in-process
16-D-3: Stiffener butt weld, weld in-process
16-D-2: Stiffener butt weld, backgouging
16-B-2: Stiffener butt weld, fitup complete

The welding was examined for procedure compliance in the following areas:

(1) Audibility of welding procedures, instructions, and drawings at work stations

(2) Welding procedure assignment

(3) Welding technique and band sequence

(4) Welding material is specified type and traceable

(5) Weld joint geometry, surfaces to be welded, fitup, etc.

(6) Alignment and assembly of parts to be welded

(7) Preheat and interpass temperature

(8) Condition of welding equipment

(9) Interpass cleaning

(10) Temporary attachments

d. The inspector observed completed Unit 1 welds 2-B-2 and 2-D-2. The welds were examined in the areas of:

(1) Surface finish and appearance
(2) Reinforcement
(3) Removal of temporary attachments
(4) Surface Defects

e. The inspector reviewed welder performance qualification records for the three welds in-process of paragraph c above.

Within the areas inspected, no violations or deviations were identified.

10. Nondestructive Examination (NDE) (Torus Modification) (Units 1 and 2)

The inspector examined the licensee's NDE practices and procedures as indicated below relative to torus modifications to determine whether these activities and procedures are in conformance with regulatory requirements and applicable industry codes. See paragraph 9 above for the applicable code.

a. The inspector reviewed the training and qualification records for one Level I and one Level II CB&I examiner. The inspector also reviewed the training and qualification records for two CB&I welding inspectors. The welding inspectors are responsible for inspecting fitup, in-process welding and the finished weld. If the finished weld does not require a visual inspection or other NDE, the welding inspector performs the final inspection of the finished weld. In reviewing the welding inspector records and the CB&I applicable procedure, TIP-1, "Training Indoctrination and Qualification Program", the inspector noted that the welding inspectors are not required to have an annual eye examination. The applicable specification for welding inspectors, which the Hatch site is committed to is ANSI N45.2.6-1973. Although not specific, paragraph 3.2 of ANSI N45.2.6-1973 indicates that a person performing inspections such as a welding inspector performs should have an annual eye examination. The licensee agreed to evaluate this matter and determine the applicability of annual eye examinations for CB&I welding inspectors. This matter is considered unresolved and is identified as item number 321,366/81-08-01, Eye examinations for welding inspectors.

b. The inspector reviewed CB&I liquid penetrant (PT) procedure PT 11, Revision 4, "Liquid Penetrant Examination Procedure, Color Contrast, Solvent Removable, Wet Developer", in the areas of:

(1) Method consistent with ASME Code
(2) Specification of brand names of penetrant materials
(3) Specification of limits for sulfur and total halogens for materials
(4) Pre-examination surface preparation
(5) Minimum drying time following surface cleaning
(6) Penetrant application and penetration time
(7) Temperature requirements
(8) Solvent removal
(9) Method of surface drying
(10) Type of developer and method of application
(11) Examination technique

(12) Technique for evaluation
(13) Acceptance standards
(14) Requalification requirements

c. CB&I magnetic particle (MT) procedure, MT 13X, revision 1, "Magnetic Particle Examination Procedure Continuous Yoke, Dry, Visible Particles, Class 2, 3, and MC Products" was reviewed in the areas of:

(1) Examination method
(2) Surface preparation
(3) Use of color contrast particles
(4) Examination directions and overlap
(5) Pole spacing
(6) Acceptance criteria

d. The inspector observed in-process MT inspection on Unit 1 weld 16-F-2. Compliance with above MT procedure was examined.

Within the areas inspected, no violations or deviations were identified.

11. IE Bulletins (IEBs)

a. (Open) 321/80-BU-07, BWR Jet Pump Assembly Failure. At the time of this inspection, the ultrasonic (UT) examination of the hold-down beam for all 20 pumps had been completed. The initial visual inspection with a TV camera had been completed and the film was being reviewed and analyzed for final disposition. The inspector reviewed the following inspection records:

(1) UT calibration and examination records in accordance with GE procedure TP-508.0654 for the 20 hold-down beams

(2) UT examiner qualification records for two GE examiners

(3) Unofficial data sheet #2 for visual inspection of jet pump numbers 1 and 4 in accordance with Hatch procedure HNP-1-10939, revision 1, "RPV Internals Inservice Inspection"

(4) A portion of TV tape for jet pump numbers 1 and 4.

This Bulletin remains open pending receipt and review by NRC of licensee inspection results.

b. (Open) 321/80-BU-13, Cracking in Core Spray Sparagers. At the time of this inspection, the licensee was in the process of evaluating the inspection data. The applicable procedure for inspection of the sparagers is Hatch procedure HNP-1-11025, revision 0, "Core Spray

Sparger". The inspector reviewed unofficial data sheet #5 and a portion of TV film covering "West T-Box-South" on the upper sparger ring.

This Bulletin remains open pending receipt and review by NRC of licensee's inspection results and future inspections as required by the Bulletin.

Within the areas inspected, no violations or deviations were identified.

12. Inspector Followup Items

On a previous inspection, during review of corrective action for deficiency 366/80-13-01 (see IE:II report 50-366/80-40), the NRC inspector identified four concerns with the licensee's program for qualification of NDE personnel. During the current inspection, the inspector reviewed these concerns and the licensee's response as follows:

a. Concern - NDE personnel are not given examinations based on the Georgia Power Company written NDE procedures.

Response - The licensee has changed their practices to require examination to Georgia Power Company procedures when Georgia Power Company procedures are used.

b. Concern - Georgia Power Company has not audited outside activities who train and certify Georgia Power Company NDE personnel.

Response - Georgia Power Company now examines and certifies their own NDE people rather than using the services of outside contractors for certification.

c. Concern - Personnel qualification records do not include a description of the test specimen used for practical examinations.

Response - Georgia Power Company now has a description of the test blocks in personnel qualification records.

d. Concern - Georgia Power procedure HNP-823 indicates that the testing program shall consist of written or oral examination. SNT-TC-1A requires a written and practical examination.

Review of HNP-823 and discussions with licensee personnel reveal that the procedure covers qualification of NDE personnel to SNT-TC-1A and other inspection personnel to ANSI-N45.2.6. However, the procedure is written primarily around ANSI N45.2.6 and references SNT-TC-1A for NDE personnel qualifications. Therefore, the procedure is not clear as to which requirements apply to ASNI N45.2.6 and which apply to SNT-TC-1A. Also, if all of

the requirements of the procedure other than references to SNT-TC-1A apply only to ANSI N45.2.6 qualifications, paragraph 5.1 of SNT-TC-1A, which requires a written practice for control and administration of NDE pesonnel training, examination, and certification, is not being met. The licensee agreed to clarify this matter by revision to HNP-823. This will be identified as inspector followup item 321, 366/81-08-02, Clarification of Georgia Power Company procedure for qualification of NDE personnel.

Within the areas inspected, no violations or deviations were identified.