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

Report Nos.: 50-321/84-11 and 50-366/84-11

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

Inspection at Hatch site near Baxley, Georgia

Inspector: J. D. Blake for B. R. Crowley — 4/17/84 Date Signed

Approved by: J. D. Blake — 4/17/84 Date Signed
J. D. Blake, Section Chief
Engineering Branch
Division of Reactor Safety

SUMMARY

Inspection on April 3 - 6, 1984

Areas Inspected

This routine, unannounced inspection involved 31 inspector-hours on site in the areas of RECIRC piping replacement (Unit 2) and licensee action on previous enforcement matters (Unit 1).

Results

Of the two areas inspected, no violations or deviations were identified in one area; one apparent violation was found in one area (violation - Failure to provide a procedure for calibration of automatic welding equipment - paragraph 5.d.(1).

REPORT DETAILS

1. Persons Contacted

Licensee Employees

H. Nix, Site General Manager
*T. Green, Deputy General Manager
*C. Belflower, QA Site Manager
*J. Watson, QC Supervisor - RECIRC Piping Replacement Project
*L. Byrnes, QA Engineer
W. Prescott, QC Inspector
D. Pomeroy, QC Inspector

Other licensee and contractor employees contacted included construction craftsmen, HP technicians, QC inspection personnel, security force members, and office personnel.

Other Organizations

*J. L. Rath, Project Manager, Newport News Industrial Corporation (NNI)
B. M. Nichols, Site QA/QC Manager, NNI
*T. D. Hawkes, QC Supervisor, NNI
H. E. Thompson, Site Engineering Manager, NNI
*J. Lenmann, Welding Engineer, NNI
G. Broaddus, Welding Supervisor, NNI
C. Sobeck, QA Analyst, NNI
S. Harris, Associate Welding Engineer, NNI
R. Ziebar, Level III Examiner, NES

NRC Resident Inspectors

J. Crelenjak, Senior Resident Inspector
P. Holmes-Ray, Resident Inspector

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on April 6, 1984, with those persons indicated in paragraph 1 above. The licensee was informed of the inspection findings listed below and had no dissenting comments.

(Open) Violation 366/84-11-01, Failure to Provide a Procedure for Calibration of Automatic Welding Equipment, paragraph 5.d.(1).

(Open) Unresolved Item 366/84-11-02, Certification of RT Penetrameters, paragraph 6.a.

3. Licensee Action on Previous Enforcement Matters

(Open) Violation 321/84-03-01, Failure to Follow Procedure for Recording Location of ISI NDE Examination of Reaction Vessel Weld. Georgia Power Company's letter of response (NED-84-094) dated March 1, 1984, has been reviewed and determined to be acceptable by RII. Based on examination of corrective actions, as stated in the letter of response and discussions with responsible licensee personnel, the inspector concluded that Georgia Power had determined the full extent of the subject violation, performed the necessary survey and followup actions to correct the present conditions and developed the necessary actions to preclude recurrence of similar circumstances. During the next refueling outage, a decision will be made whether correlating information is available to substantiate performance of the inspection or the area will be reinspected. This item will remain open pending final resolution.

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 6.a.

5. Nuclear Welding (RECIRC PIPING REPLACEMENT)(55050)(Unit 2)

The inspector examined the licensee's program for ASME Code welding relative to RECIRC system piping replacement as indicated below to determine whether applicable code and regulatory requirements were being met. NNI has been contracted for the replacement work. The work is being accomplished using NNI procedures and personnel under program direction of Georgia Power Company. The applicable specification is SCS Inquiry No. GA 6582, "Specification for Replacement of Recirculation Piping Systems for the Nuclear Reactor for Hatch Nuclear Plant - Unit No. 2." In accordance with this specification, the applicable code for welding is the ASME Boiler and Pressure Vessel Code, Section III, Subsection NB, 1980 Edition, W80 Addenda. Welding procedures and welders are qualified to the latest edition and addenda of ASME Section IX in effect at the time of qualification.

a. Welding Material Control

The inspector performed the following verifications related to control and handling of welding materials:

(1) That welding material storage procedures contain requirements for environmental control, specify appropriate holding and baking temperatures and out-of-oven exposure time for each class of materials, and that actual practice follows these requirements.

(2) That there are effective procedures for limiting electrode moisture pickup and maintaining identification after the welding materials are issued to the welder and that these procedures are strictly enforced.

(3) That welding materials are clearly identified at all times in accordance with approved procedures and that identification of acceptable material is retained throughout storage handling and use until material is actually consumed in the process.

(4) That the method for disbursement of welding materials is effective and controlled in accordance with approved procedures and unused welding materials are controlled.

(5) That required ASME Code tests were performed on each lot of welding material. The procurement, receiving inspection, and material certification documentation were reviewed for the following welding materials which were in use for the welds listed in paragraph d. below.

.035" ER 308L
QC #83NNI076

1/8" x 5/32" 308L "k" Ring
QC #83NNI085

b. Welding Procedures

The inspector reviewed WPS 8.5-018, Revision 9 and supporting PQR's 121 and 129 to verify:

(1) Compliance with applicable procedures for preparation, qualification, approval/certification, distribution, and revision of WPS's

(2) That all essential variables, supplementary essential variables, and nonessential variables are defined in accordance with ASME code requirements

(3) That WPS has been qualified and supporting PQR is on file

(4) That PQR list the essential variables and that values and ranges of variables are consistent with WPS and code requirements

(5) That all mechanical tests required by code have been completed and properly documented

(6) That PQR has been properly approved/certified

(7) That changes to WPS essential variables are supported by requalification

(8) That changes to WPS nonessential variables are properly identified and documented

(9) That WPS meets applicable Regulatory Guides

c. Welder Performance Qualification

The inspector verified by review of the qualification records, including status records, that the following welding operators, who were welding on the welds listed in paragraph d. below, are currently qualified to weld under the applicable procedure:

0293
4814
1255
6102
3345
4279
3359
5223

In addition, the inspector verified that the system for maintaining a continuous record of qualification status was being effectively utilized and accurate.

d. Production Welding

(1) The inspector observed the below listed in-process welds at the indicated status of completion:

Weld No.	Status
28AS-10	Observed fitup, root, and hot pass welding
28BS-2	Observed welding capping passes to meet ISI requirements
28AD-1	Observed Welding Capping passes

The welding was observed to determine whether:

- Work is conducted in accordance with a document which coordinates and sequence operations, references procedure, establishes hold points, and provides for production and inspection approval
- Procedures, drawings, and other instructions are at the work station and readily available
- WPS assignment is in accordance with applicable code requirements

- Welding technique and sequence are specified and adhered to
- Welding filler materials are the specified type and traceable to certifications
- Weld joint geometry is in accordance with applicable procedure and is inspected
- Alignment of parts is as specified
- Temporary attachments are by qualified welders in accordance with a qualified WPS
- Purging gas is in accordance with applicable welding procedure
- Preheat and interpass temperatures are in accordance with applicable procedures
- Welding technique is in accordance with applicable procedures
- Electrodes are used in positions and with electrical characteristics specified
- Shielding gas is in accordance with the welding procedure
- Gas flow meters are correct
- Welding equipment is in good condition and automatic welding equipment is calibrated
- Interpass cleaning is in accordance with applicable procedures
- Temporary attachments are removed in accordance with applicable procedures
- Gas purging, if specified, is used in accordance with applicable procedure
- Process control system has provisions for repairs
- Welders are qualified
- No peening performed on root and surface layers

During observation of the above welding, the inspector noted that two of the eight automatic welding systems set up for use in the plant did not have calibration stickers. Calibration stickers on the other six systems showed calibration dates, but did not show expiration dates. The contractor pointed out that the two systems

without calibration stickers were video systems and had been used only for tacking. In addition the contractor provided documentation showing that all eight systems had been calibrated prior to placing in use at the plant. No welding was performed with an uncalibrated welding system. Further investigation revealed that there were no procedures establishing calibration criteria, i.e. method, frequency, etc. for the equipment. Failure to have a procedure for calibration of automatic welding equipment is in violation of section 12 of the Hatch Nuclear Plant Quality Assurance Manual which requires that Georgia Power Company and its contractors establish measures to assure that tools, gages, and other measuring and testing devices used in activities affecting quality are properly controlled, calibrated, and adjusted at specified periods to maintain accuracy within necessary limits. This violation is identified as item 366/84-11-01, Failure to Provide a Procedure for Calibration of Automatic Welding Equipment.

(2) In addition, the following welds, which were complete and in some stage of final surface preparation and NDE, were observed:

Weld No.	Status
12AF-1	Weld Crown Reduction (WRC) in process
12BA-1	WCR complete, PT complete, ready for RT
12BE-1	WCR in process
22B-1	WCR in process
22B-2	WCR in process
28BD-1	Weld complete, still in as welded condition
28BS-3	Weld complete, flat topping crown
28A-1	WCR complete, PT complete, ready for RT
28A-2	WCR complete, PT complete, ready for RT
12AK-1	WCR complete, PT complete, RT complete
28AS-2	WCR complete, PT complete, ready for RT
24A-13	WCR complete, PT complete, ready for RT
22A-2	WCR complete, PT complete, RT complete

General weld appearance and surface conditions were examined.

e. Selected welds listed below were examined to verify by visual inspection that the following characteristics conformed to ASME code and applicable procedures.

- Weld surface finish and appearance
- Transition between components of different diameter and thicknesses
- Weld reinforcement
- Removal of temporary attachments, arc strikes and weld spatter
- Finish grinding - absence wall thinning
- Absence of surface defects

Welds Examined - 28A-1
28A-2
12AK-1
28AS-2
24A-13
12BA-1
22A-2

The inspector verified that NDE procedures were issued approved and available for inspection of welds.

f. Fitup of Loop "A" risers was in process. The inspector observed fitup work for the risers.

Within the areas inspected, no violations, except as noted in paragraph d.(1), or deviations were identified.

6. Radiographic Examination Procedure (RECIRC Piping Replacement) (57090)(Unit 2)

The inspector examined the radiographic (RT) examination activities described below relative to the RECIRC system piping replacement to determine whether applicable code and regulatory requirements were being met. In accordance with the applicable specification, SCS Inquiry No. GA 6582, the applicable codes are:

ASME Boiler and Pressure Vessel Code - Sections III and V, 1980 Edition, W80 Addenda

ASME B31.1 Power Piping Code, Winter 1980 Addenda

a. NES procedure 80A8793, Revision 1, "Radiographic Examination of Production Welds - 1980 Plus W80" was reviewed to determine whether the procedure had been approved and issued in accordance with the QA

program. In addition, the procedure was reviewed to determine whether the following parameters were specified and controlled in accordance with applicable requirement:

(1) Material and weld surface condition requirements

(2) Types of material to be radiographed

(3) Material thickness range

(4) Type of radiation source and effective source size

(5) Film brand or type and number of films in cassette

(6) Minimum source to film distance

(7) Blocking or masking technique, it used

(8) Type and thickness of intensifying screens and filters

(9) Radiographic film processing requirements

(10) Quality of radiographs

(11) Film density limits for single and composite viewing

(12) Use of densitometers for assuring compliance with film density requirements

(13) System of radiograph identification

(14) Use of location markers

(15) Records for showing film and source location with reference to the part being radiographed

(16) Use of intensifying screens

(17) Methods of reducing and testing of backscatter

(18) Description of or reference to the welding procedure

(19) Material type and thickness restrictions for isotope radiography

(20) Geometrical unsharpness limitations

(21) Selection and use of penetrameters including:

(a) Penetrameter design
(b) Selection of essential hole

(c) Penetrameter thickness including special requirements for single and double wall viewing
(d) Penetramenter placement including special requirements for single and double wall viewing
(e) Number of penetrameters
(f) Shims under penetrameters

(22) Radiographic technique requirements for double wall viewing

(23) Qualification of radiographic procedure (radiographs taken to demonstrate procedure capability)

(24) Requirements for evaluation and disposition of radiographs

(25) Records requirements

During review of this procedure, the inspector noted that the procedure states that penetrameters are not required to be certified. The inspector questioned this statement since the penetrameter is used to measure the RT film sensitivity and therefore should require some controls to assure that the penetrameter (i.e. material, dimensions, etc.) meets requirements. Although the procedure stated that certification is not required, the NDE contractor provided a vendor certification for the penetrameters in use. The NDE constractor considers that there are no requirements for penetrameter certification. The licensee agreed to evaluate this procedure requirement and determine the need for a procedure revision. Pending resolution by the licensee, this matter is considered unresolved and is identified as Unresolved Item 366/84-11-02, Certification of RT Penetrameters.

b. The inspector reviewed completed RT film for the following welds:

24A-13R1
22A-2
12Ak-1
28AS-4

The film were reviewed for compliance with code and procedure requirements in the areas of:

- Penetrameter type, size, placement, and sensitivity
- Film density and density variation
- Film identification
- Film quality
- Weld coverage
- Defects

c. Personnel qualification records for two Level III examiners (1-NNI and 1-NES), who reviewed the above film, were reviewed.

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

7. Visual Examination (RECIRC Piping Replacement)(57050)(Unit 2)

The inspector examined the Visual (VT) examination activities described below relative to the RCIRC system piping replacement to determine whether applicable code and regulatory requirements were being met. In accordance with the applicable specification, SCS Inquiry No. GA 6582, the applicable codes are:

ASME Boiler and Pressure Vessel Code - Sections III and V, 1980 Edition, W80 Addenda

AWS Structural Welding Code D1.1, 1977 Edition

ASME B31.1 Power Piping Code, Winter 1980 Addenda

Personnel certification records for 6 VT examiners, who inspected the three in process welds listed in paragraph 5.d(1), were examined.

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

8. Inspector Followup Items

a. (Closed) Inspector Followup Item 366/84-03-02, Assignment of WPS Numbers. An addition to procedure 1918-K-W001, entitled "Welding procedure Specification List for GPC Plant Hatch 1918-k", has been issued. There are no further questions on this item.

b. (Closed) Inspector Followup Item 366/84-03-04, Clarification of NIC PT Procedure. Revision 2 to NIC PT procedure PT-NIC-108 has been issued and clarifies surface preparation methods allowable and approved materials. There are no further questions on this item.

c. (Closed) Inspector Followup Item 366/84-03-01, Mixup of Welder Qualification Test Assembles. The licensee has completed an extensive investigation of this matter and concluded that the problem of one welder welding on another welder's test assembly was truly an isolated case of the welder welding on the wrong assembly by mistake. The licensee performed a thorough audit (84-OA-02) of the NNI welder qualification program and has conducted continuous surveillance of the welder qualification operations. In addition the welder qualification program was strengthened to help preclude the type mistake that occurred. There are no further questions on this item.