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Power Generation Department

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Director of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

NRC DOCKET 50-366
OPERATING LICENSE NPF-5
EDWIN I. HATCH NUCLEAR PLANT UNIT 2
EXAMINATION LIMITATIONS DURING 1982
INSERVICE INSPECTION

Gentlemen:

Georgia Power Company (GPC) hereby advises you of examination areas not receiving a full-code examination during inservice inspection activities conducted during the Hatch Unit 2 1982 maintenance/refueling outage.

Enclosed as Attachments 1 and 2 are lists of examination limitations encountered by Southern Company Services and Southwest Research Institute examination personnel, respectively. The lists include the examination area (weld number), the type of examination performed, the approximate percentage of the examination performed, and the limitation(s) as described on the applicable examination data sheets. Attachment 3 discusses the requirements of the various examination procedures to clearly identify and explain the limitations.

In addition, several welds examined by Southern Company Services received very limited coverage. Therefore, the following welds will be replaced by equivalent ASME category welds during future inservice inspections:

2E21-2CS-12A-5PL-7A and 8A
2E41-2HPCI-14-R-14PS-1 and 2
2E51-2RCIC-8-TD-1
2G51-2TDP-8-D-1.

Should you have any questions or comments in this regard, please contact this office.

Sincerely yours,

L. T. Guca
Chief Nuclear Engineer

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JAE/mb
Attachments

xc: H. C. Nix, Jr.
R. F. Rogers, III
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ATTACHMENT 1

Southern Company Services Scope of Work
Examination Areas Not Receiving A Full-Code Examination

<u>Weld No./ Examination</u>	<u>NDE* Method</u>	<u>Percent Examined</u>	<u>Limitations</u>
2E21-1CS-10A-1 Valve to Pipe	UT ³	75%	No examination from the up-stream side due to valve configuration. 0° weld and 45° transverse scans were conducted as a best effort due to weld crown finish. All other scans were performed as required.
2E41-2HPCI-10-D-33 Pipe to Cap	UT ³	95%	45° transverse scan limited to approximately 84% due to a permanent obstruction. All other scans were performed as required.
2C11-2CRD-2FW-1611 Pipe to Reducer	UT ³	75%	No examination from the down-stream side due to the reducer configuration. The 0° weld scan was inadvertently not performed by the examination crew. This weld is an exempt Class 2 piping weld and was examined to meet the requirements of NUREG-0619. It is not as critical a weld as others examined under NUREG-0619 because the cold water mixing occurs further downstream. This weld received a complete UT baseline examination in February 1981 with no reportable indications found. The UT examination during this outage again resulted in no reportable indications found. In addition, it should be noted that the 0° weld scan is used to locate fabrication flaws and is not normally able to detect service-induced flaws.

* See Attachment 3

Southern Company Services Scope of Work
Examination Areas Not Receiving A Full-Code Examination

<u>Weld No./ Examination</u>	<u>NDE* Method</u>	<u>Percent Examined</u>	<u>Limitations</u>
2E11-2RHR-24B-TS-D-15PS Pipe Support	MT ⁶	84%	MT examination limited to approximately 84% due to the proximity of the penetration seal.

* See Attachment 3

ATTACHMENT 2

Southwest Research Institute Scope of Work
Examination Areas Not Receiving A Full-Code Examination

<u>Weld No./ Examination</u>	<u>NDE* Method</u>	<u>Percent Examined</u>	<u>Limitations</u>
2N2E Nozzle to Vessel Weld	UT ¹	60%	No 45°T or 60°T scans due to the nozzle joint configuration.
2N4A Nozzle Inside Radius Section	UT ²	86%	Limited examination due to the proximity of 2N12A.
2N4C Nozzle Inside Radius Section	UT ²	86%	Limited examination due to the proximity of 2N12B.
2B21-1MS-24B-14 Elbow to Pipe	UT ³	40%	No examination from the downstream side due to the permanent pipe support. No 0°W or 45°T scans on the weld due to the permanent pipe support.
2B31-1RC-4AA Branch Connection to Cap	UT ⁴	25%	No ultrasonic examination from the upstream side due to the branch connection configuration. No ultrasonic examination from the downstream side due to the cap configuration.
2B31-1RC-4AB Branch Connection to Cap	UT ⁴	25%	Limitation identical to 2B31-1RC-4AA.
2B31-1RC-4BC Branch Connection to Cap	UT ⁴	25%	Limitation identical to 2B31-1RC-4AA.
2B31-1RC-4BD Branch Connection to Cap	UT ⁴	25%	Limitation identical to 2B31-1RC-4AA.
2E11-1RHR-24A-R-11LU-I Longitudinal Weld	UT ⁵	85%	No 45° or 45°T scans from L=0" to L=3" due to the proximity of the permanent support structure.

*See Attachment 3

Southwest Research Institute Scope of Work
Examination Areas Not Receiving A Full-Code Examination

<u>Weld No./</u> <u>Examination</u>	<u>NDE*</u> <u>Method</u>	<u>Percent</u> <u>Examined</u>	<u>Limitations</u>
2E11-1RHR-24A-R-11 Elbow to Pipe	UT ³	77%	Limited examination from the upstream and downstream sides and on the weld due to the proximity of two permanent support structures.
2E11-1RHR-24A-R-11LD Longitudinal Weld	UT ⁵	0%	No examination possible due to the proximity of the permanent support structure (NUREG 0313, Rev 1).

* See Attachment 3

ATTACHMENT 3

NDE Methods (from Previous Tables)

(1) Mechanized Ultrasonic Examination of Nozzle to Vessel Weld

The ultrasonic (UT) examination of the nozzle to vessel weld was to be performed as follows:

- (a) 0-, 45-, and 60-degree scans were to be conducted from the vessel side of the weld with the angle beams directed toward the weld using a nozzle-to-shell remote examination device.
- (b) 0-, 45-, and 60-degree scans were to be conducted through the nozzle blend radius and onto the nozzle boss with the angle beams directed toward the weld and away from the weld using an inner radius examination device.
- (c) 45- and 60-degree transverse scans were to be conducted on the weld and from the vessel side of the weld with the angle beams directed into and parallel with the weld.

As noted in the tables, the 45- and 60-degree transverse scans could not be performed on 2N2E due to the nozzle joint configuration.

(2) Mechanized Ultrasonic Examination of Nozzle Inside Radius Sections

The UT examination of the nozzle inside radius section was to be performed as follows:

Scans were to be performed from the blend radius using a refracted longitudinal beam that strikes the inside radius surface at a 45-degree \pm 10-degree angle with the beam directed tangential to the inside surface in the clockwise and counterclockwise directions using an inner radius examination device.

For the 2N4A and 2N4C nozzles, the adjacent 2N12 nozzles limited the examination for eight inches out of a possible 58 inches. These limitations are outlined in Figure 1.

(3) Ultrasonic Examination of Circumferential Piping Welds With a Nominal Wall Thickness Greater Than 0.4 Inches

For the UT examination of circumferential piping welds with a nominal wall thickness greater than 0.4 inches, the following scans were to be performed:

(a) Base Metal (Main Run of Pipe)

0-degree lamination scan
45-degree scan
60-degree scan

(b) On the Weld

0-degree weld scan (as needed)
45-degree transverse scan

If possible, these scans on the base metal were to be performed from both sides of the weld. If this was not possible, a 0-degree scan was to be performed on the weld for those areas where an examination was not possible from both sides. As noted in the tables, full-Code coverage was not possible on five circumferential piping welds.

(4) Ultrasonic Examination of Circumferential Piping Welds With a Nominal Wall Thickness Less Than 0.4 Inches

For the UT examination of circumferential piping welds with a nominal wall thickness less than 0.4 inches, the following scans were to be performed:

(a) Base Metal (Main Run of Pipe)

0-degree lamination scan
45-degree scan
45-degree transverse scan (for a distance of 1 inch from each side of fusion line)

(b) On the Weld

45-degree transverse scan

If possible, these examinations on the base metal were to be performed from both sides of the weld. As noted in the tables, full-Code coverage was not possible on four circumferential piping welds.

(5) Ultrasonic Examination of Longitudinal Piping Welds

For the UT examination of longitudinal piping welds, the following scans were to be performed:

(a) Base Metal (Main Run of Pipe)

0-degree lamination scan
45-degree scan

(b) On the Weld

0-degree weld scan (as needed)
45-degree transverse scan

If possible, these examinations on the base metal were to be performed from both side of the longitudinal weld. If this was not possible, a 0-degree scan was to be performed on the weld for those areas where an examination was not possible from both sides. As noted in the tables, full-Code coverage was not possible on two longitudinal piping welds.

(6) Magnetic Particle Examination of Pipe Support Welds

For the magnetic particle (MT) examination of pipe support welds, the weld and adjacent base material were to be examined such that the lines of magnetic flux were to be approximately parallel and perpendicular to the axis of the weld. As noted in the tables, full-Code coverage was not possible on one weld.