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Georgia Power
the southern electric system

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

NRC DOCKETS 50-321, 50-366
OPERATING LICENSES DPR-57, NPF-5
EDWIN I. HATCH NUCLEAR PLANT UNITS 1, 2
ADDITIONAL INFORMATION ON INSERVICE INSPECTION
PROGRAMS RELIEF REQUEST

Gentlemen:

Georgia Power Company hereby submits its response to the John F. Stolz letters dated March 12, 1982 and April 16, 1982 for Plant Hatch Units 1 and 2, respectively. The subject letters requested additional information concerning relief requests for the Hatch inservice inspection programs. Enclosed as Attachments 1 and 2 for Units 1 and 2, respectively, are our responses to the questions provided in the aforementioned letters.

In accordance with Mr. Stolz's request, the NRC reviewer, Dr. D. A. Outlaw of Science Applications, Inc., is being provided a copy of our responses in order to expedite NRC review.

If you have any questions in this regard, please contact this office.

Sincerely yours,

W. A. Widner

W. A. Widner

JAE/mb

Attachments

A001

xc: H. C. Nix, Jr.
R. F. Rogers, III
J. P. O'Reilly (NRC-Region II)
Dr. D. A. Outlaw - SAI

ATTACHMENT 1

Response to the NRC Request
for Additional Information

Inservice Inspection Program

Edwin I. Hatch Nuclear Plant
Unit No.1

NRC Docket No. 50-321

ATTACHMENT 1

1. Repair Procedures

The repair procedures now in effect are in accordance with IWB-4000. The Inservice Inspection Program will be amended to reflect this.

2. Hydrostatic Testing

Relief is requested from hydrostatically testing the Class 2 portion of the four-inch reactor water cleanup system return line between check valve 1G31-F039 and globe valve 1G31-F042 at 1.25 x Design Pressure. Testing at this pressure will overpressurize the Class 1 piping downstream of valve 1G31-F039. In lieu of the Class 2 pressure requirements, this section of piping will be hydrostatically tested to the pressures specified in IWB-5222.

3. ASME Class 1 Valves Exceeding 4-Inches Nominal Pipe Size

Ultrasonic wall thickness measurements have not been considered as an alternative examination method for the visual inspection of the internal pressure boundary surfaces of valves. Due to valve body geometry and coarse grain structure, ultrasonic wall thickness measurements would not reliably detect flaw indications on valve internal pressure boundary surfaces.

4. Flued Head Penetrations

Leak detection systems are addressed in Technical Specification 3.6.G/4.6.G and Section 5.2 of the FSAR.

5. Piping Pressure Boundary Welds

Relief was requested and granted for using surface examination methods in lieu of volumetric examination methods on Category B-K-1 weld supports (Ref. A and B) due to geometry problems. In addition, Category B-J welds that are inaccessible or having geometrical configurations prohibiting a full code examination will be identified when the examinations are completed. NRC will then be notified of these welds, including the estimated amount that cannot be examined per the code. It should be noted that NRC has been notified of some of these welds (Ref. C). Alternative examinations, if any, will be evaluated on a case-by-case basis.

References:

A. Letter dated November 18, 1981, from J. T. Beckham, Jr. (Georgia Power) to Director of Nuclear Reactor Regulation concerning request for relief from ASME Category B-K-1 welded supports.

B. Letter dated January 27, 1982, from John F. Stolz (USNRC) to J. T. Beckham, Jr. concerning relief from ASME Category B-K-1 welded supports.

C. Letter dated November 24, 1981, from J. T. Beckham, Jr. to Director of Nuclear Reactor Regulation describing limitations of Class 1 inservice examinations.

6. The bolts on the HPCI pump and turbine and the RCIC turbine are less than 2-inches in diameter. Maintenance procedures require an inspection of the HPCI and RCIC turbines and pumps once every five years. Included in this procedure is a requirement that 20% of the cap nuts and studs receive a surface examination, whenever removed.

7. Section XI examination requirements did not exist for Class 2 during the Unit 1 preservice inspection. Therefore, the limitations on Class 2 welds are not known. Individual welds, including the amount of each weld that cannot be examined, will be identified when inservice examinations are completed. NRC will then be notified of these welds in accordance with 10 CFR 50.55a. Alternative examinations, if any, will be evaluated on a case-by-case basis.

8. Piping that cannot be tested in accordance with IWD-2600(b) includes the service water and the RHR service water piping that extends from the river intake structure to the reactor building and the service water piping that extends from the river intake structure to the diesel generator building.

9. A relief request exempting two-inch and smaller piping from the requirements of IWD-2410(b) and IWD-5000 is no longer required. See the response to Question 10.

10. Code relief is requested from the requirements of IWD-5000 in regard to hydrostatically testing the Plant Service Water System (PSW). In lieu of the hydrostatic test, the PSW will be examined at operating pressure for any signs of leakage and for the general condition of the piping.

    At least twenty-two various systems are cooled by PSW. All of the components are essential to the plant during operation and more than half of these normal loads must still be cooled during plant shutdown conditions. Due to the arrangement of these cooling loads between the two trains of PSW, it is not feasible to completely remove one train from service to perform hydrostatic testing.

    It is also not feasible to subdivide the trains into smaller, separate hydrostatic tests. Heat exchangers and instruments would be isolated prior to testing to prevent damage to these components. Thus, only common headers would be left for testing, and these headers cannot be isolated due to cooling requirements.

    The PSW lines are uninsulated; therefore, any evidence of leakage would easily be detected during a walkdown at system operating pressure. Also, the general condition of the piping will be examined for any signs of excessive corrosion. Therefore, testing performed in lieu of hydrostatic testing will adequately ensure that the integrity of the PSW piping is maintained.

11. The ISI program will be updated in January 1983 to the 1980 Edition of Section XI with Addenda through Winter 1980. Additional relief requests will be submitted at that time.

ATTACHMENT 2

Response to the NRC Request
for Additional Information

Inservice Inspection Program

Edwin I. Hatch Nuclear Plant
Unit No. 2

NRC Docket No. 50-366

ATTACHMENT 2

1. Category B-H welds have no known limitations at this time to prevent a full code examination per the requirements of the 1974 Edition of Section XI.

   Category B-B weld 2C-5 can be examined from both sides of the weld with angle beams and 0^{o} scans, but due to the weld crown configuration, the 0^{o} scan and transverse shear wave examinations cannot be performed on the weld crown either by mechanized or manual methods. There are no other known limitations to performing a full code examination per the 1974 Edition of Section XI.

   Category B-D manual examinations have no known limitations preventing a full code examination. Nozzles 2N1A&B, 2N2A-K, 2N4A-D, and 2N5A&B which are examined using mechanized equipment, cannot be examined for reflectors oriented transverse to the weld because of limitations in mechanized nozzle inspection equipment. There are no other known limitations to performing a full code examination per the 1974 Edition of Section XI.

   Radiation levels permit the use of some manual examinations of nozzles at this time in place of mechanized for Category B-D welds. The determination of whether radiation levels will permit substitution is a function of the dose-rate at the nozzle in the shutdown condition, the number of nozzles to be inspected, and the man-rem exposure history of the inspection teams. Therefore, the decision to perform manual examinations in lieu of mechanized will be made during the outage in which the examinations will be performed. If the dose-rate is considered high enough to require a mechanized exam of a nozzle, there will be no supplemental manual UT performed in the transverse direction because of this high dose-rate.

   When the program is updated to the 1980 Edition of Section XI, specific relief will be requested, if required.

2. Figure 4.2-8 of the FSAR shows that there are twenty-eight peripheral CRD housings. Each housing has an attachment weld to the reactor vessel and a weld joining the housing to the flange. Section 4.2 of the FSAR shows that the failure of a CRD housing weld will produce a maximum leakage rate of 840 gal/min. The available makeup systems are RCIC-400 gal/min., CRD-160 gal/min., and the transfer system to feedwater-1000 gal/min. Therefore, the reactor can be shutdown and cooled down in an orderly manner using makeup systems supplied by onsite power, as required by IWB-1220. Note: Since loss of coolant occurs during normal operation, it is our interpretation that the service transformer is the source of onsite power.

3. Table Q121.16-1 was compiled during the preservice inspection. At this time these are the only Category B-J welds for which relief is requested. However, since that time design changes have been made that may impact the ability to perform full code examinations on some welds. These welds cannot be identified before inspection because they are located under insulation. Therfore, specific code relief will be requested after these code limitations, if any, are discovered during inservice inspections. Supplemental examinations to be performed, if any, will also be determined at that time.

4. Hatch Unit 2 is updating to a later edition of the code (see response to Question 9). Therefore, Category B-K-1 will receive a surface examination instead of the previously required volumetric examination. To date we know of no limitations or geometrical configurations that would prevent full code surface examinations. If limitations or geometrical configurations do prevent a full code examination, they will be identified and a request for relief for specific welds will be submitted after the examinations are completed.

5. Code relief is not requested for the visual inspection of the pump internal pressure boundaries. The Final Safety Analysis Report will be amended to reflect this. If high radiation levels do present examinations during maintenance activities, relief will be requested at that time.

6. There are three Category C-A circumferential welds in each of the two RHR heat exchangers. These welds and their UT limitations are given below. (See attached Figure B-1).

   2Hx-A(B)-1 Shell Head to Upper Shell Ring - These welds cannot be examined from the shell head side due to the curvature of the head. Only 65.2" of a total circumference of 179" (36%) can be examined from the Lower Shell Ring side due to support interference.

   2Hx-A(B)-3 Lower Shell Ring to Flange - Complete coverage is obtained from the Lower Shell Ring side. Examination from the flange side cannot be performed due to the geometry.

   The 1974 Edition of Section XI requires that 20% of each Category C-A weld be fully code examined; therefore, all subject welds may be fully code examined and relief is not required. However, the 1980 Edition of Section XI requires that 100% of these welds be examined. Specific relief will be requested when the program is updated (See response to Question 9).

7. Table Q121.17-1 was compiled during the preservice inspection. At this time these are the only Class 2 welds for which relief is requested. However, since that time, design changes have been made that may impact the ability to perform full code examinations on some welds. These welds cannot be identified before inspection because they are located under insulation. Therefore, specific relief will be requested after these code limitations, if any, are discovered during inservice inspections. Supplemental examinations to be performed, if any will also be determined at that time.

   The weld referenced by FSAR Section 5.2.8.2.a.1 is Weld Number 2 on Figure Q121.17-2, Sheet 1.

   The weld referenced by FSAR Section 5.2.8.2.a.2 is Weld Number 1 on Figure Q121.17-2, Sheet 1.

   The welds referenced by FSAR Section 5.2.8.2.a.3 are Weld Numbers 1 and 2 on Figure Q121.17-1, Sheet 2 and Weld Numbers 1 and 2 on Figure Q121.17-1, Sheet 3.

8. Relief request for the UT examination of the Core Spray and RHR Pump pressure retaining welds is not required. These welds will be examined per the requirements of Section XI. This request will be deleted during the next FSAR update.

9. Additional relief requests have been submitted to the NRC beyond the referenced documents. These relief requests should be available through NRR.

   The ISI program will be updated in January 1983 to the 1980 Edition of Section XI with Addenda through Winter 1980. Relief requests will be submitted at that time.

   10 CFR 50.55a(b)(2)(iv) requires that the extent of examination for RHR systems, ECCS, and Containment Heat Removal Systems be determined by the requirements of IWC-1220, Table IWC-2520 Category C-F and C-G, and paragraph IWC-2411 in the 1974 Edition of Section XI with Addenda through Summer 1975. Therefore, the exemption allowed by IWC-1220(a) (low operating pressure and temperature) may be used.

10. This note does not apply to a relief request. It will be removed during the next FSAR update.

11. HNP-1 RFAI Item 1 - Repair Procedures

    The repair procedures now in effect are in accordance with IWB-4000.

    HNP-1 RFAI Item 3 - ASME Class 1 Valves Exceeding 4-Inches Nominal Pipe Size

    Ultrasonic wall thickness measurements have not been considered as an alternative examination method for the visual inspection of the internal pressure boundary surfaces of valves. Due to valve body geometry and coarse grain structure, ultrasonic wall thickness measurements would not reliably detect indications on valve internal pressure boundary surfaces.

    HNP-1 RFAI Item 6 - Bolting

    The bolts on the HPCI pump and turbine and the RCIC turbine are less than 2-inches in diameter. Maintenance procedures require an inspection of the HPCI and RCIC turbines and pumps once every five years. Included in this procedure is a requirement that 20% of the cap nuts and studs receive a surface examination, whenever removed.

    HNP-1 RFAI Item 8 - Class 3 - Testing of Buried Piping

    Piping that cannot be tested in accordance with IWD-2600(b) includes the service water and the RHR service water piping that extends from the river intake structure to the reactor building and the service water piping that extends from the river intake structure to the diesel generator building.

    HNP-1 RFAI Item 9 - Class 3 - System Pressure Testing

    Code relief is not requested from the hydrostatic test requirements of IWD-5000 for Class 3 lines 2-inches and smaller. This request is no longer required (see Item 10).

11. (Continued)

HNP-1 RFAI Item 10 - Class 3 - System Pressure Testing

Code relief is requested from the requirements of IWD-5000 in regard to hydrostatically testing the Plant Service Water System (PSW). In lieu of the hydrostatic test, the PSW will be examined at operating pressure for any signs of leakage and for the general condition of the piping.

At least twenty-two various systems are cooled by PSW. All of the components are essential to the plant during operation, and more than half of these normal loads must still be cooled during plant shutdown conditions. Due to the arrangement of these cooling loads between the two trains of PSW, it is not feasible to completely remove one train from service to perform hydrostatic testing.

It is also not feasible to subdivide the trains into smaller, separate hydrostatic tests. Heat exchangers and instruments would be isolated prior to testing to prevent damage to these components. Thus, only common headers would be left for testing, and these headers cannot be isolated due to cooling requirements.

The PSW lines are uninsulated; therefore, any evidence of leakage would easily be detected during a walkdown at system operating pressure. Also, the general condition of the piping will be examined for any signs of excessive corrosion. Therefore, testing performed in lieu of hydrostatic testing will adequately ensure that the integrity of the PSW piping is maintained.

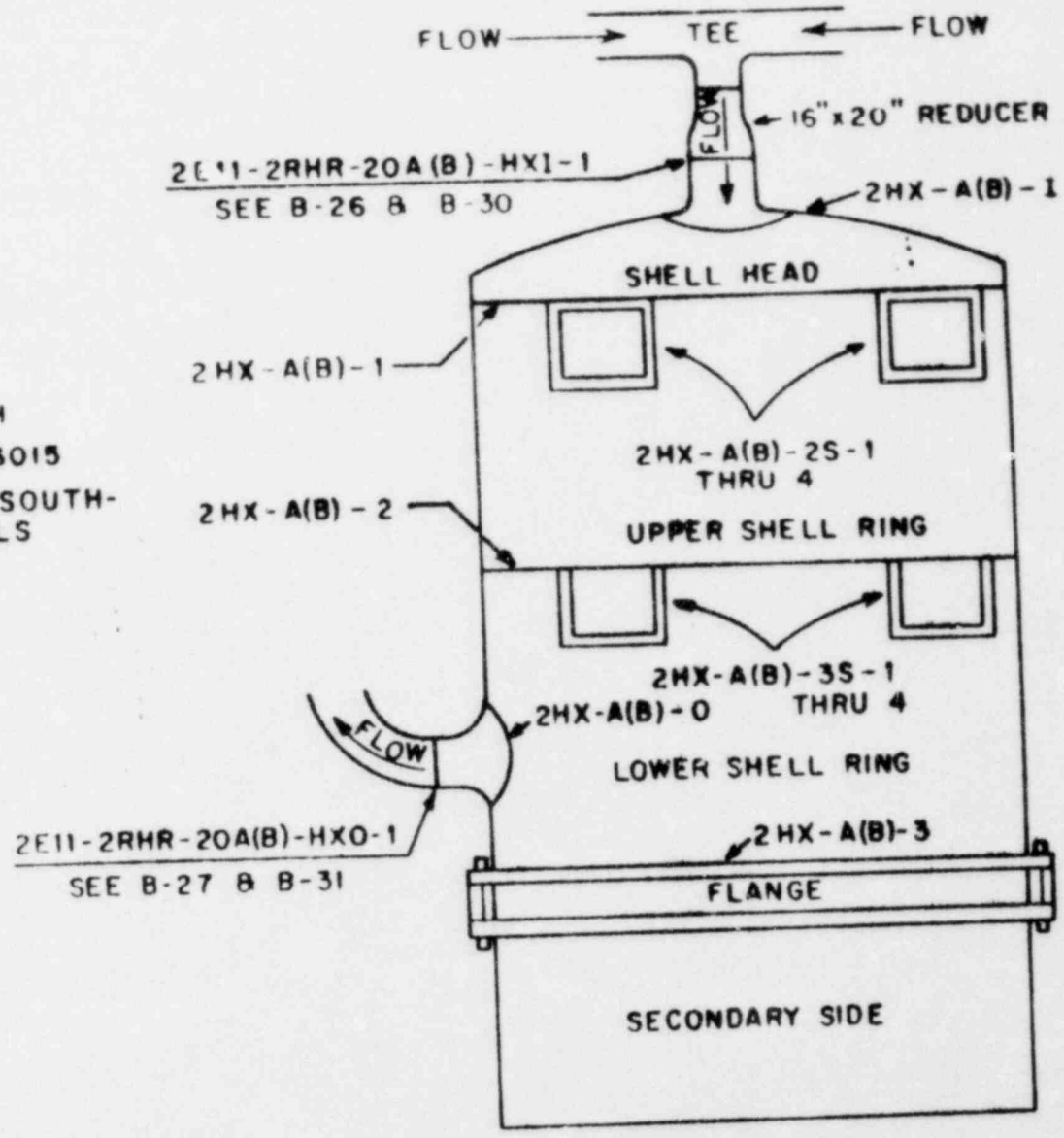
RESIDUAL HEAT REMOVAL
HEAT EXCHANGERS

CLASS 2

CAL. BLOCKS: PL-CS-1.250-72-H
PL-CS-0.850-73-H

REF. P&ID: H-26014 AND H-26015

LOCATION: NORTHEAST AND SOUTH-EAST DIAGONALS



THE ZERO REFERENCE LOCATION (L_o) FOR THE CIRCUMFERENCIAL SHELL WELDS IS THE CENTERLINE OF THE OUTLET NOZZLE 2HX-A(B)-0

Figure B-1