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Georgia Power
the southern electric system

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Docket No. 50-321

HL-4656

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

Edwin I. Hatch Nuclear Plant - Unit 1
Request for Relief From
ASME Section XI, IWA-4400 Requirements

Gentlemen:

During the upcoming Fall 1994 refueling outage on Unit 1, Georgia Power Company will implement two modifications which will involve cutting piping which is American Society of Mechanical Engineers (ASME) Class 1 piping. The first modification will modify the reactor pressure vessel bottom head drain line to add an incore stress corrosion monitoring system. This bottom head drain line modification includes the replacement of approximately five feet of 2 inch diameter piping and the installation of new valves and piping. The second modification will replace a check valve in the reactor water cleanup system with a different type of valve.

ASME Section XI currently requires a hydrostatic pressure test of the replacements/repairs of the associated welds prior to returning the systems to service. In order to perform the code required hydrostatic test of all welds associated with the modifications, a hydrostatic test of the reactor vessel and connected piping would be required. To perform the hydrostatic test, a safety/relief valve would have to be removed, an additional relief valve would have to be installed to prevent inadvertent vessel overpressurization, and the vessel would have to be pressurized to approximately 1.1 times operating pressure. Performance of this test will obviously increase the duration of the refueling outage due to the additional critical path activities. GPC proposes to perform an alternative operating pressure test of the reactor vessel (a leakage test), along with nondestructive examinations of the associated welds, in lieu of the hydrostatic pressure test. To perform the leakage test, the vessel is pressurized to operating pressure and temperature, and the affected systems are walked down. Even though the leakage test is performed at a slightly lower pressure than a hydrostatic test, it is performed at slightly higher temperatures making the test results equally conservative.

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Additionally, GPC will implement a modification on the Class 2 portion of the high pressure coolant injection system (HPCI). This modification will install three Class 2 pipe-to-tee socket welds on the bottom drain piping line from the HPCI turbine exhaust drain pot. ASME Section XI also currently requires a hydrostatic pressure test prior to returning the system to service. GPC has determined that the subject welds cannot be readily isolated for hydrostatic pressure testing. GPC also proposes to perform an alternative operating pressure test of the HPCI system along with nondestructive examinations of the associated welds in lieu of the hydrostatic pressure test. GPC has determined that the alternative test and examinations provide assurance of the structural integrity of the weld.

Because of the difficulty in accomplishing these tests and pursuant to 10 CFR 50.55a (a)(3)(i), GPC proposes to perform the alternative examinations described in the separate relief requests for the Class 1 and Class 2 components to assure the integrity of the associated welds. The relief requests are attached for Nuclear Reactor Regulation staff review. GPC will document the replacement/repair, testing, and examination in the NIS-1 report submitted in accordance with the current code of record for inservice inspection activities.

Sincerely,

J. T. Beckham, Jr.

JKB/cr

Enclosures
1) Request for Relief No. 2.1.11
2) Request for Relief No. 3.1.5

cc: *Georgia Power Company*
Mr. H. L. Sumner, Nuclear Plant General Manager
NORMS

U.S. Nuclear Regulatory Commission, Washington, D.C.
Mr. K. Jabbour, Licensing Project Manager - Hatch

U.S. Nuclear Regulatory Commission, Region II
Mr. S. D. Ebneter, Regional Administrator
Mr. B. L. Holbrook, Senior Resident Inspector - Hatch

Enclosure 1

Edwin I. Hatch Nuclear Plant - Unit 1
Second 10-Year Interval
Request for Relief No. 2.1.11

I. **Components for Which Relief is Requested**

RPV Bottom Head Drain Modification

The RPV bottom head drain line is being modified to add an incore stress corrosion monitoring system. This modification includes the replacement of approximately five feet of existing 2 inch 304SS piping with three new valves (1G31-F252, 1G31-F253, and 1G31-F254), tees, reducers, inserts, small piping spools, etc. Additionally, three 2-inch valves (1G31-F050, 1B31-F029, and 1B31-F030) and associated spool pieces will be replaced. Replacement piping and fittings will be nuclear grade stainless steel (i.e., 304L, 316L). Several Category B-J, Item No. B9.21 or B9.40 Class 1, 2-inch welds will be made to perform these modifications.

Reactor Water Cleanup System Valve 1G31-F203 Replacement

Existing Class 1 check valve 1G31-F203 is being replaced by a valve more suitable for the intended service function. Within the Class 1 boundary, one 3-inch Category B-J, Item No. B9.21 weld is required.

II. **Code Requirements**

Section XI, IWA-4400(a), 1980W81 Edition requires a system hydrostatic test to be performed in accordance with IWA-5000 after a welded repair on a pressure retaining boundary or the attachment of a replacement by welding (ref. IWA-4600).

III. **Code Requirement From Which Relief is Requested**

Relief is requested from performing the Code-required post repair/replacement hydrostatic pressure test on the above referenced welds. Alternative examinations are proposed.

Enclosure 1
Request for Relief No. 2.1.11

IV. **Alternative Examinations**

Georgia Power Company (GPC) proposes to perform the following alternative examinations in lieu of Code-required hydrostatic tests.

1. Perform nondestructive examinations in accordance with the methods and acceptance criteria of the applicable Subsection of the 1992 Edition of ASME, Section III.

2. Perform a VT-2 visual examination of the Class 1 welds in conjunction with the Class 1 system leakage test.

3. The NDE and pressure tests associated with this modification will be documented in the Owner's Data Report (NIS-1) for the subject refueling outage.

V. **Justification for the Granting of Relief**

While several of the subject welds can be isolated and hydrostatically tested independent of a reactor vessel hydrostatic test, the only means of hydrostatically testing all of the subject welds is to perform a hydrostatic test of the reactor vessel and connecting piping. Performance of this test in lieu of a system leakage test will increase the outage duration due to the extra critical path activities associated with the hydrostatic test. The slightly higher pressures associated with a Class 1 hydrostatic test versus the leakage test do not result in a meaningful increase in information. GPC has determined that hydrostatically testing these welds is a hardship with little benefit.

GPC has determined that the nondestructive examinations and their associated acceptance criteria provide assurance of the structural integrity of the weld. The proposed alternative examinations will provide reasonable assurance that unallowable flaws are not present in the subject welds or that they will be detected and repaired prior to the return to service. Consequently, an acceptable level of quality and safety will be achieved and public health and safety will not be endangered by allowing the proposed alternative examination in lieu of the Code requirement.

Enclosure 2

Edwin I. Hatch Nuclear Plant - Unit 1
Second 10-Year Interval
Request for Relief No. 3.1.5

I. **Component for Which Relief is Requested**

Three Class 2 pipe-to-tee socket welds on the bottom drain pipe line from the High Pressure Coolant Injection (HPCI) turbine exhaust drain pot. [HPCI Exhaust Drain Pot Stilling Well Modification (DCR 91-039)].

Examination Category C-F, Item C5.11.

II. **Code Requirement**

ASME Section XI, IWA-4400(a), 80W81 Edition, requires a system hydrostatic pressure test to be performed in accordance with IWA-5000 after a welding repair on a pressure retaining boundary or the installation of a replacement by welding.

III. **Code Requirement From Which Relief is Requested**

Relief is requested from performing the code-required post repair/replacement hydrostatic pressure test on the above welds. Alternative examinations are proposed.

IV. **Alternative Examinations**

Georgia Power Company (GPC) proposes to perform the following alternative examinations in lieu of code-required hydrostatic tests.

1. Perform nondestructive examinations (NDE) in accordance with the methods and acceptance criteria of the applicable Subsections of the 1992 Edition of the ASME Section III Code for the three welds associated with the 2-inch socket welded tee connection.

2. Perform visual examination (VT-2) on the welds associated with the 2-inch socket welded tee connection in conjunction with HPCI system testing at normal operating pressure and temperature. HPCI system operability testing is performed during unit startup in accordance with Technical Specification requirements.

3. The insulation for the subject 2-inch socket welds will not be reinstalled until after performance of the visual examination performed in conjunction with HPCI system testing. This is due to system constraints which make extended operation of the HPCI system, to satisfy the Code required hold time for insulated components prior to examination, impractical.

4. The NDE and pressure tests associated with this modification will be documented in the Owners' Data Report (NIS-1) for the subject refueling outage.

V. **Justification for Granting of Relief**

GPC has determined that the proposed nondestructive examinations and acceptance criteria provide assurance of the structural integrity of the subject welds. Specifically, the higher pressure associated with a hydrostatic test does not result in a meaningful increase in information relative to the structural integrity as opposed to a system operating test. The system hydrostatic test is performed at normal ambient temperature and an increased pressure whereas the proposed leakage inspection will be performed at normal system operating temperature and pressure and should produce more readily detectable leakage should any pressure boundary defects exist.

Additional hardships exist because the subject welds cannot be readily isolated for hydrostatic pressure testing. Hydrostatic pressure testing of these welds requires breaching and blanking off all of the drain lines which feed into the HPCI drain pot from the turbine and associated stop and control valves (6 total). Hydrostatic testing also requires disconnecting the turbine exhaust drain pipe (18 inch) and blind flanging of the HPCI turbine exhaust drain pot. Additionally, approximately 60 feet of 20-inch exhaust pipe, from the drain pot to the supression pool, would be included in the hydrostatic test boundary because of the location of the first valve capable of providing test isolation. This 20-inch exhaust line also contains a 16" rupture disk which must be blanked off for performance of a hydrostatic test.

The test of system breaching and blanking off, system valve alignments and restoration, and the extensive boundary which is required to be subjected to hydrostatic test pressure merely for the three 2-inch socket welds is not justified.

The proposed alternative examinations will provide reasonable assurance that unacceptable flaws are not present in the subject welds or that they will be detected and repaired prior to returning the HPCI system to the Technical Specifictaion operable condition. Consequently, an acceptable level of quality and safety will be achieved and public health and safety will not be endangered by allowing the proposed alternative examinations in lieu of the Code requirements.