

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In The Matter of)	
GEORGIA POWER COMPANY, ET AL)	Dockets Nos. 50-321
(Edwin I. Hatch Nuclear Plant,)	and 50-366
Units Nos. 1 and 2))	

EXEMPTION

I.

The Georgia Power Company (the licensee) and three other co-owners are the holders of Facility Operating Licenses Nos. DPR-57 and NPF-5 which authorize operation of the Edwin I. Hatch Nuclear Plant, Units 1 and 2 (Hatch or the facilities) at steady state reactor power levels not in excess of 2436 megawatts thermal for each unit. The facilities are boiling water reactors located at the licensee's site in Appling County, Georgia. The licenses are subject to all rules, regulations and Orders of the Commission now or hereafter in effect.

II.

On November 19, 1980, the Commission published a revised Section 10 CFR 50.48 and a new Appendix R to 10 CFR 50 regarding fire protection features of nuclear power plants (45 FR 76602). The revised Section 50.48 and Appendix R became effective on February 17, 1981. Section III of Appendix R contains fifteen subsections, lettered A through O, each of which specifies requirements for a particular aspect of the fire protection features at a nuclear power plant. One of these fifteen subsections, III.G, is the primary subject of this Exemption. Specifically, Subsection III.G.2 requires that one train of cables and equipment necessary to achieve and maintain safe shutdown be maintained free of fire damage by one of the following means:

- a. Separation of cables and equipment and associated non-safety circuits of redundant trains by a fire barrier having a 3-hour rating. Structural steel forming a part of or supporting such fire barriers shall be protected to provide fire resistance equivalent to that required of the barrier;
- b. Separation of cables and equipment and associated non-safety circuits or redundant trains by a horizontal distance of more than 20 feet with no intervening combustibles or fire hazards. In addition, fire detectors and an automatic fire suppression system shall be installed in the fire area;
or
- c. Enclosure of cable and equipment and associated non-safety circuits of one redundant train in a fire barrier having a 1-hour rating. In addition, fire detectors and an automatic fire suppression system shall be installed in the fire area.

A related subsection, III.G.1.a, also requires that one train of systems necessary to achieve and maintain hot shutdown conditions from either the control room or emergency control stations be free of fire damage. This means that repairs to damaged systems should not be made to reach or maintain hot shutdown.

The final subsection which is a subject of this Exemption is III.J. This subsection specifically requires that "emergency lighting units with at least an 8-hour battery power supply shall be provided in all areas needed for operation of safe shutdown equipment and in access and egress routes thereto."

III.

The Commission previously, by letter dated April 18, 1984, granted requests for technical exemptions to the requirements of Subsection III.G.2 of Appendix R to 10 CFR Part 50 in 26 specific plant areas of Hatch Units 1 and 2. The licensee requested, by letter dated May 16, 1986, new and additional exemptions. It requested technical exemptions in 27 specific plant areas of Hatch Units 1 and 2 and 2 generic technical exemptions that apply to all areas of Hatch Units 1 and 2. It also requested schedular exemptions to the requirements of 10 CFR 50.48, one concerning circuit breakers and fuses for both Hatch Units 1 and 2 and one concerning a control power transfer switch for Unit 1 only.

Fifteen of the items for which the licensee requested specific plant area exemptions and both of the items for which it requested generic exemptions were found by the staff, based on Generic Letter 86-10, not to require exemptions or staff approval. Exemptions requested in two specific plant areas were found by the staff to be unacceptable. One of the specific plant area exemption requests was withdrawn by the licensee in its letter dated November 14, 1986. It was learned by telephone conversation with licensee representatives on November 24, 1986, that the control power transfer switch has been installed and that the schedular exemption for this item is no longer required.

The acceptability of the remaining exemption requests is addressed below. More details are contained in the Commission's related Safety Evaluation (SE) (concurrently issued with this Exemption).

IV.

By letter dated December 9, 1986, the licensee provided information relevant to the "special circumstances" finding required by 10 CFR 50.12(a) for the licensees May 16, 1986 request. For the requested exemptions, the licensee stated that application of the specific requirements of the regulation is not necessary to achieve the underlying purpose of the rule. The licensee stated that the cost of implementing additional modifications to relocate components, upgrade yard lighting, provide additional fire barriers and provide additional diesel generator control panel switches would result in undue hardship and an unwarranted burden on its available resources. The licensee described the costs to be incurred as follows:

- Extensive engineering and installation to upgrade the yard lighting.
- Design studies, engineering and installation of new piping and supports and new electrical raceways and supports to relocate valves, motor control centers, instrumentation and control panels.
- Extensive application of additional raceway fire barrier material and associated engineering analysis of seismic loads, installation of additional supports and relocation of raceways and supports due to interferences.
- Installation of switches on the diesel generator instrument panel and engineering analysis to requalify the panel.
- Increased congestion in the reactor building that complicates operations and future plant modifications.
- Implementation of new plant operating and maintenance procedures.

The staff concludes that "special circumstances" exist for the exemptions that are being granted in that application of the regulation in these particular circumstances is not necessary to achieve the underlying purpose of Appendix R to 10 CFR 50. See 10 CFR 50.12(a)(2)(ii).

SPECIFIC PLANT AREA EXEMPTIONS:

AREAS: Control Room

Yard

The licensee requested exemption from Subsection III.J of Appendix R in these areas to the extent that 8-hour battery powered emergency lighting is required.

In the control room, the emergency lights are designed to be powered from the station batteries for a minimum of 2 hours. Power from the emergency diesel generators is also available once they are started. The control room lights are designed so that a fire in any area outside of the control room would not result in the loss of both divisions of emergency lighting.

According to the licensee, any action required in the yard area requires only minimal light which is provided by the existing yard security lights. In addition, the licensee has provided dedicated engine-driven portable light units for the location in the yard area requiring operator action in the event of loss of offsite power which could result in loss of the yard security lights. The licensee has chained and locked these dedicated engine-driven units in all the required locations and has adequate procedures to assure proper maintenance and operability of them.

Based on the discussions above, the licensee's request for exemptions from the requirements of paragraph III.J for the Control Room and the yard area are granted.

AREAS: Unit 1 Reactor Building North of Column Line R7
Unit 1 Reactor Building South of Column Line R7
Unit 2 Reactor Building North of Column Line R19
Unit 2 Reactor Building South of Column Line R19

The licensee has requested an exemption from the 1 hour barrier requirements of Subsection III.G.2.c for equipment within the suppression system water curtain boundary within these areas. The licensee listed 15 components, primarily motor operated valves, as items which could not be wrapped because complete enclosure could jeopardize the operability of the component. Other components listed include components of the Unit 1 torus water temperature instruments, the Unit 2 remote shutdown panel, HPCI steam line leak resistance temperature detectors, and three motor control centers. Upon further review, the licensee concluded that the Unit 1 torus water temperature instrument components were not out of compliance with Appendix R and the request for an exemption was withdrawn.

The staff reviewed the remaining components and determined that in all instances the items were within the water curtain, the fuel loading in the fire

zone in which the item was located was low, and fire detection was provided in the vicinity of each of the items. In addition, the licensee has adequate administrative procedures governing introduction and care of transient combustibles (including combustible and flammable liquids) in these areas to provide reasonable assurance that such transient combustibles will not damage the safe shutdown components. For these reasons the licensee's request for exemption from the requirements of Subsection III.G.2.c for the areas listed is granted.

AREA: Control Room

The licensee requested an exemption from the requirements of Subsection III.G.1.a of Appendix R to the extent that repairs should not be used to maintain hot shutdown.

The potential repairs required for hot shutdown after a fire involves opening links (disconnecting faulted circuits) and installing jumpers in order to assure the operation of the following equipment:

- 1) Residual Heat Removal (RHR) Pump Room Cooler
- 2) Reactor Core Isolation Cooling (RCIC) Pump and Room Cooler
- 3) Diesel Generator Voltage Regulator

The staff evaluated the time available to make the necessary repairs. For the RHR and RCIC pump room coolers, the operator can start the coolers in 20 minutes by opening links and installing jumpers. The minimum time required for the pump room temperatures to reach their design limitations is 4 hours. In the case of the voltage regulator for the diesel generator, its function can be restored in 15 minutes by opening links and installing jumpers. The time

available to perform this action is 1/2 hour. In order to perform this task, a dedicated operator will be immediately dispatched to the Diesel Generator Building upon the loss of offsite power. The licensee has also committed to store the tools necessary for the repairs in locked boxes and cabinets.

For these reasons, the licensee's request for an exemption from the requirements of Subsection III.G.1.a is granted.

AREA: Unit 1 Reactor Building North of Column Line R7
Unit 2 Reactor Building South of Column Line R19

The licensee requested an exemption from the requirements of Subsection III.G.2 (a & b) of Appendix R regarding barriers to the extent that barriers are required between redundant pathways so that a fire will not lead to loss of control of the HPCI system.

The staff evaluated the physical spacing and existing barriers between the various pathways which would be used to secure the HPCI system in each building. In the Unit 1 Reactor Building, the separation distance (at least 50 feet) is considered to be sufficient. Also, the detection and suppression systems around the torus are considered sufficient to prevent fires from crossing from one side of the Unit 1 Reactor Building to the other. For the Unit 2 Reactor Building, the staff determined that two of the three pathways available to secure the HPCI system are always separated by either a fire area boundary, a 3 hour protective wrapping, or a 2 foot non-rated floor slab.

For these reasons, the licensee's request for an exemption from the requirements of Subsection III.G.2. (a & b) regarding barriers between pathways which could be used to secure the HPCI system is granted for the Unit 1 and Unit 2 Reactor Buildings.

AREA: Intake Structure

The licensee has requested an exemption from the requirements of Subsection III.G.2.b to the extent that a 20-foot separation distance is required between redundant cables. An exemption has already been granted to the requirement for the installation of an automatic fire suppression system.

Almost all of the non-transient fire load in the intake structure is oil and grease located around the pump motors which are protected by a wet pipe automatic sprinkler system. All cable trays and exposed cable within the intake structure are wrapped with Kaowool (1-hour protection), or enclosed in conduit or other metal enclosures. Outside the suppression areas, unwrapped Unit 2 redundant conduit is separated by a minimum of 8 feet. The staff considers this separation distance to be sufficient because of the near zero fire load outside of the fire suppression areas. The only exception to this near zero fuel load would be transient combustibles likely to be present during maintenance or repair activities.

For these reasons, the licensee's request for an exemption from the requirements of Subsection III.G.2.b to the extent that a 20-foot separation distance is required between redundant cables, is granted for the Intake Structure outside of the automatic suppression areas. As a condition for granting of this exemption, however, the licensee will be required to augment its administrative procedures to include a requirement to maintain a continuous fire watch during repair and maintenance activities whenever combustible materials are stored in or are moved through the non-sprinkled area.

SCHEDULAR EXEMPTION:

An exemption from the schedular requirements of 10 CFR 50.48 is requested by the licensee under 10 CFR 50.12 for Hatch Units 1 and 2. This exemption is for the installation in Hatch Units 1 and 2 of new circuit breakers and fuses identified as necessary to ensure coordinated circuits from the standpoint of Enclosure 2 to Generic Letter 81-12. Enclosure 2 to Generic Letter 81-12 identifies circuits which are not isolated from the shutdown circuit of concern by coordinated circuit breakers, fuses, or similar devices, as associated circuits and requires special provisions for such circuits. The licensee requests a schedular extension for each unit until the end of its next scheduled refueling outage commencing after November 30, 1986.

From Generic Letter 86-10, there are four criteria to be used to evaluate schedular exemptions. These criteria and the staff's evaluation are as follows:

- 1) The utility has proceeded expeditiously to meet the Commission's requirements.

The licensee stated in its May 16, 1986 request that all work required for Appendix R was scheduled and was anticipated to be completed before November 30, 1986. The staff has recently discussed the current status of Appendix R implementation with the licensee and it has informed the staff that it has completed all its Hatch Unit 1 and 2 Appendix R work except installation of the circuit breakers and fuses for which it has requested the current scheduler exemption. The licensee informed the staff that it was processing a work request to install these circuit breakers and fuses but that it did not have all of the materials for installation of these components available for installation in Hatch Unit 2 prior to its restart.

On the basis of the licensee's completion of all of the Appendix R work except for the above discussed circuit breakers and fuses, the staff concludes that the licensee has proceeded expeditiously to meet the Commission's requirements.

- 2) The delay is caused by circumstances beyond the utility's control.

The detailed coordinated circuit breaker analysis could not be started until virtually all other design and analysis work required for Appendix R was essentially complete. This analysis was completed in September 1985. It was through this analysis that the licensee determined that it needed to replace low-voltage circuit breakers and fuses. Following determination that these items should be replaced, the licensee proceeded on an expedited basis to procure the new circuit breakers and fuses. The delay in installing these circuit breakers and fuses is being caused by difficulties with the selection, qualification, and delivery of these components. Many of the original Hatch equipment suppliers no longer supply Nuclear Class 1E-qualified equipment. The licensee had to identify other vendors with qualified equipment and add them to the list of qualified suppliers for the Hatch Nuclear Plant. On the basis of this information, the staff concludes that the delay is caused by circumstances beyond the licensee's control.

- 3) The proposed schedule for completion represents a best effort under the circumstances.

The licensee has stated that, for the reasons discussed above, it has not been able to assure delivery of these circuit breakers and fuses in time for installation prior to November 30, 1986. Further, it does not

believe that a special outage to replace the circuit breakers and fuses would be justified. It has proposed to install these components at the first refueling outage scheduled to commence after November 30, 1986. It also stated that if the breakers and fuses arrived in time to allow their installation during the recent Hatch Unit 2 refueling outage it would do so prior to November 30, 1986. However, it stated that the marginal increase in safety gained by installing the breakers and fuses does not warrant the minor risk involved in installing them while the plant is operating and that it does not warrant a special plant outage for the purpose of installing time. The licensee stated that considering these points, it considers its proposed schedular extension represents a best effort.

The staff informed the licensee that it does not agree that the increase in safety from the installation of these new circuit breakers and fuses is marginal. In response, the licensee has prepared a procedure that it will implement as an interim compensatory measure until the new circuit breakers and fuses are installed. With this procedure in place, the staff agrees with the licensee that a special plant outage for the purpose of installing these breakers and fuses is not warranted and conclude that the proposal to install the circuit breakers and fuses at the next scheduled refueling outage after November 30, 1986 represents the best effort under the circumstances.

- 4) Adequate interim compensatory measures will be taken until compliance is achieved.

An interim compensatory measure as discussed above under criterion 3 was developed by the licensee in cooperation with the staff. For the interim until compliance is achieved, the licensee will implement a procedure that directs the operator to reestablish power to the Appendix R component that is tripped as a result of the fire. This procedure directs the operator to reestablish power that is lost due to loss of d.c. buses, loss of instrument buses, loss of vital a.c. buses, or loss of essential a.c. distribution buses. The staff concludes that adequate interim measures will be taken.

On the basis of the above information, the staff concludes that the licensee has demonstrated conformance acceptable with the four criteria and, therefore, the licensee's request for a schedular exemption regarding installation of new circuit breakers and fuses is granted.

V.

Accordingly, the Commission has determined that, pursuant to 10 CFR 50.12, (1) these exemptions as described in Section IV are authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security, and 2) special circumstances are present for the exemptions in that application of the regulation in these particular circumstances is not necessary to achieve the underlying purposes of Appendix R to 10 CFR 50. Therefore, the Commission hereby grants the exemptions as identified above in Section IV.

Pursuant to 10 CFR 51.32, the Commission has determined that the issuance of the exemptions will have no significant impact on the environment (51 FR 43693).

A copy of the Commission's concurrently issued Safety Evaluation related to this action is available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C., and at the Appling County Public Library, 301 City Hall Drive, Baxley, Georgia.

This Exemption is effective upon issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Richard H. Vollmer, Acting Director
Office of Nuclear Reactor Regulation

Dated at Bethesda, Maryland
this 2nd day of January 1987.

January 6, 1987

DOCKET NO.

MEMORANDUM FOR: Rules and Procedures Branch
Division of Rules and Records
Office of Administration

FROM: Office of Nuclear Reactor Regulation

SUBJECT: GEORGIA POWER COMPANY
Edwin I. Hatch Nuclear Plant, Units 1 and 2

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- Notice of Receipt of Application for Facility License(s); Notice of Availability of Applicant's Environmental Report; and Notice of Consideration of Issuance of Facility License(s) and Notice of Opportunity for Hearing.
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