



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 102 TO FACILITY OPERATING LICENSE NO. DPR-57

GEORGIA POWER COMPANY  
OGLETHORPE POWER CORPORATION  
MUNICIPAL ELECTRIC AUTHORITY OF GEORGIA  
CITY OF DALTON, GEORGIA

EDWIN I. HATCH NUCLEAR PLANT, UNIT NO. 1

DOCKET NO. 50-321

1.0 Introduction

By letter dated September 17, 1984, Georgia Power Company (the licensee) made application to amend the Technical Specifications for the Edwin I. Hatch Nuclear Plant, Unit 1. The proposed changes will: 1) allow up to four bundles to be loaded in their previous positions around a Source Range Monitor in order to produce the required three counts per second; 2) delete the description of control rod material to provide for the use of improved hybrid control rod assemblies; and 3) revise the definition of Core Alteration to clarify that the definition only applies when fuel is in the vessel.

2.0 Evaluation

2.1 Number of Assemblies Surrounding Source Range Monitors

The Hatch Unit 1 Technical Specifications require a count rate of three counts per second in Source Range Monitor Channels when fuel is being loaded into the core. A spiral loading technique is used at Hatch, i.e., the core is loaded from the center outward in such a way as to preclude a concave configuration. In order to initiate the loading procedure, previously irradiated fuel bundles are placed around each of the four Source Range Monitor detectors to provide a source of neutrons to the detector. Continuous indication of detector operability is thus obtained. The requested change in the Technical Specifications would increase the number of bundles permitted to four (from the current two) in order to allow for potential extended outages.

The Source Range Monitor detectors are loaded, one in each quadrant, at approximately mid-radius. Four unrodded, fresh, high reactivity assemblies have a k-effective value less than 0.95. The four such groups are separated by sufficient water to preclude neutronic coupling. Thus there is no criticality concern associated with the proposed Technical Specification change.

The sensitivity of the detectors to changes in the core multiplication factor will not be changed by the proposed addition of bundles around the monitors. On the basis of the above discussion, we conclude that the proposed change in Technical Specifications is acceptable.

## 2.2 Use of Hybrid I Control Rods

The description of the control rod assemblies is being revised to permit the replacement of the standard control rod assemblies with the General Electric Hybrid I control Rod (HICR) assemblies. The use of these control rods in BWRs has been reviewed and approved by the NRC staff (Safety Evaluation letter dated August 22, 1983), and we conclude that their use is acceptable in Hatch Unit 1.

The details of the design and materials will not be included in the revised Technical Specifications. Since descriptions of the standard blades exist in the FSAR and of the HICK blades in approved topical report NEDE-22290-A, and the safety design criteria which control rods must meet are contained in the FSAR and in other Technical Specifications, we conclude that this is acceptable.

## 2.3 Revision of Core Alteration Definition

The definition of Core Alteration is being revised to insert the phrase "with fuel in the vessel" after "... with the vessel head removed...". This change is being made to clarify the definition in order to permit work on the fuel-free core without the presence of a Senior Reactor Operator. The change is consistent with the original intent of the definition and is in agreement with the definition in the BWR Standard Technical Specifications. We find the change to be acceptable.

## 3.0 Environmental Considerations

The amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and a change to a surveillance requirement. We have determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

## 4.0 Conclusion

We have concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Dated: December 7, 1984

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