ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
UNITED STATES ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

June 12, 1973

Honorable Dixy Lee Ray
Chairman
U. S. Atomic Energy Commission
Washington, D. C. 20545

Subject: INTERIM REPORT ON THE EDWIN I. HATCH NUCLEAR PLANT, UNIT 1

Dear Dr. Ray:

During its 158th meeting, June 7-9, 1973, the Advisory Committee on Reactor Safeguards conducted a review of the application by the Georgia Power Company for authorization to operate the Edwin I. Hatch Nuclear Plant, Unit 1 at power levels up to 2436 MW(t). A Subcommittee made a tour of the partially completed plant on February 27, 1973. The project was considered during a Subcommittee meeting in Washington, D. C. on May 24, 1973. During its review, the Committee had the benefit of discussions with representatives and consultants of the Georgia Power Company, Southern Services Incorporated, the General Electric Company, and the AEC Regulatory Staff. The Committee also had the benefit of the documents listed. The Committee reported to the Commission on the construction of this unit in a letter dated May 15, 1969 and on the construction of Unit 2 in a letter dated November 13, 1971.

The Hatch Nuclear Plant is located on the south bank of the Altamaha River in a rural area of southeastern Georgia, about 11 miles north of Baxley, Georgia, and about 75 miles west of Savannah. Hatch Unit 2, now under construction, is immediately adjacent to Unit 1.

The Committee reported to you, in a letter dated February 10, 1972, concerning possible defects in the reactor vessel, and recommended that repairs should be made unless proven to be unnecessary by appropriate tests. The applicant has completed the examinations and repairs and presented the results to the Regulatory Staff and the ACRS. The repairs and subsequent inspections have been reviewed by the Regulatory Staff and the ACRS and, subject to satisfactory completion of the hydrostatic test and base line examination, the repairs are considered to be acceptable.

The applicant has developed plans for in-service inspection of accessible portions of the reactor coolant pressure boundary both inside and outside of containment. The Committee recommends that continued attention be given to means for assuring the integrity of those portions of the reactor pressure vessel that are currently inaccessible for inspection.

In the unlikely event that a break occurs in the recirculation pump discharge line, the pump impeller might act as a turbine, causing the pump and motor to overspeed and become potential sources of missiles. The applicant is reviewing means of dealing with this possibility. The Committee believes that this matter should be resolved in a manner satisfactory to the Regulatory Staff.

The Regulatory Staff is developing Technical Specifications for maintenance and testing of the main steamline isolation valves to control leakage rates. The Committee believes that the criteria adopted for frequency of leak testing and for permissible leak rates before and after maintenance should be of such a nature as to assure, at a suitable confidence level, that the leak rate at any time during operation will not exceed the value assumed in the calculation of offsite radiation doses for the postulated main steamline break accident. If these criteria cannot be met during operation of Hatch Unit 1, the Committee believes that a suitable sealing system should be designed and installed on an appropriate time scale.

The applicant has examined the problems that might develop should a main steamline or other high-energy line rupture outside of containment and has concluded that the plant could be shut down safely. The Regulatory Staff is reviewing the applicant's submittal. The Committee recommends that this matter be resolved in a manner satisfactory to the Regulatory Staff.

To avoid possible damage from dropping a spent fuel cask, the applicant has proposed to modify overhead handling equipment in the reactor building to provide appropriate reliability. The modifications will be made prior to the time of first refueling. This matter should be resolved in a manner satisfactory to the Regulatory Staff.

The Committee believes that the microwave tower, located just north of the electrical feeder lines from the switchyard to the startup transformers, should be relocated so as to eliminate the possibility of its falling on the feeder lines or their supporting structures.

Although details of emergency planning appear to be well developed, questions remain with respect to coordination of these plans with State agencies. Such questions include specification of dose levels at which emergency action is to be implemented, the nature of such action, and administrative responsibilities. These matters should be resolved in a manner satisfactory to the Regulatory Staff.

Reviews are continuing on the problem of fuel densification and whether it might affect the efficacy of the Hatch Unit 1 emergency core cooling system.

The Committee believes that the matters mentioned above can be resolved satisfactorily on a suitable time scale.

Other problems relating to large water reactors which have been identified by the Regulatory Staff and the ACRS and cited in previous reports should be dealt with appropriately by the Regulatory Staff and the applicant as suitable approaches are developed.

The Committee will report to you further regarding the acceptable power level for this plant after a recommendation has been made by the Regulatory Staff and the appropriate Supplement to the Safety Evaluation has been reviewed by the Committee.

Sincerely yours,

H. G. Mangelsdorf

H. G. Mangelsdorf
Chairman

References Attached.

References

1. Final Safety Analysis Report for the Edwin I. Hatch Nuclear Plant, Unit 1 - Volumes I through VII

2. Amendments 10-20, 22-24, 26-33 to the License Application

3. Georgia Power Company letters dated March 7 & 20, 1972 and April 19, 1972 re: program and procedures to remove the ultrasonic reflectors from the reactor vessel

4. Georgia Power Company letters dated June 13, October 9 & 30, and December 21, 1972 re: Reactor Vessel Repairs

5. Georgia Power Company letter dated October 9, 1972 re: Prototype Vibration Monitoring Program

6. Georgia Power Company letter dated December 4, 1972 re: Post LOCA Hydrogen Control

7. Georgia Power Company letter dated January 3, 1973 re: Fuel Densification

8. Georgia Power Company letter dated January 9, 1973 re: Potential for Internal Flooding

9. Georgia Power Company letter dated March 20, 1973 transmitting report "Drywell Air Gap-Removal of Grout and Repair of Concrete Biological Shield"

10. Directorate of Licensing Safety Evaluation Report dated May 11, 1973