UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

February 16, 1978

Honorable Joseph M. Hendrie
Chairman
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: REPORT ON EDWIN I. HATCH NUCLEAR PLANT, UNIT NO. 2

Dear Dr. Hendrie:

During its 214th meeting, February 9-11, 1978, the Advisory Committee on Reactor Safeguards completed its review of the application of the Georgia Power Company, Oglethorpe Electric Membership Corporation, Municipal Electric Authority of Georgia and the city of Dalton, Georgia (the Applicants) for a license to operate the Edwin I. Hatch Nuclear Plant, Unit No. 2. The plant will be operated by Georgia Power Company. The application was reviewed at Subcommittee meetings on January 27 and 28, 1978 in Washington, D.C. During its review, the Committee had the benefit of discussions with representatives and consultants of the Nuclear Regulatory Commission (NRC) Staff; General Electric Company; Southern Company Services, Incorporated; Bechtel Power Corporation; and the Applicants. The Committee also had the benefit of the documents listed.

The Edwin I. Hatch Nuclear Plant is a two-unit station located on the south bank of the Altamaha River approximately 11 miles north of Baxley, Georgia. The two units are virtually identical except that Hatch Unit No. 1 utilizes 7X7 fuel assemblies while Hatch Unit No. 2 will utilize 8X8R (Retrofit) fuel assemblies. The rated thermal power for each unit is 2436 MW(t). Each unit includes a General Electric Company BWR/4 boiling water reactor. The Committee reported on the application for a construction permit for Unit No. 2 on November 3, 1971.

Hatch Unit No. 2 is the first reactor scheduled to use the new General Electric 8X8R fuel on a core-wide basis. This fuel design is a slightly modified version of the General Electric 8X8 fuel assembly design currently in use in a number of boiling water reactors. These modifications include, among others, an increase in fuel length, use of natural uranium at the top and bottom of the fuel rod and the addition of a second water rod to each fuel assembly. These changes improve the shutdown and thermal margins, provide flatter local power distribution, and improve fuel cycle efficiency. Four of the 8X8R fuel assemblies have been operating in Peach Bottom Unit No. 2 since May 1976 and two assemblies have been

operating in Vermont Yankee since August 1976. The NRC Staff has concluded that the 8x8R fuel assembly design is acceptable for use in Hatch Unit No. 2. The Committee concurs.

The NRC Staff has identified a number of safety-related items which will require resolution prior to a decision on the issuance of an operating license. These matters should be resolved in a manner satisfactory to the NRC Staff.

With regard to the generic problems listed in the Committee's report, "Status of Generic Items Relating to Light-Water Reactors - Report No. 6," dated November 15, 1977, items considered relevant to Edwin I. Hatch Nuclear Plant, Unit No. 2 are: II-1, 4, 5A, 5B, 6, 7, 8, 10; IIA-4; IIB-2, 4; IIC-1, 3A, 3B, 5, 6, 7; IID-2. These problems should be dealt with by the NRC Staff and the Applicants as solutions are found.

The Advisory Committee on Reactor Safeguards believes that if due consideration is given to the items mentioned above, and subject to satisfactory completion of construction and preoperational testing, there is reasonable assurance that the Edwin I. Hatch Nuclear Plant, Unit No. 2 can be operated at power levels up to 2436 MW(t) without undue risk to the health and safety of the public.

Sincerely yours,

Stephen Lawroski

Stephen Lawroski
Chairman

References

1. Edwin I. Hatch Nuclear Plant, Unit No. 2, Final Safety Analysis Report, with Amendments 18 through 41.
2. Report to the Advisory Committee on Reactor Safeguards by the Office of Nuclear Reactor Regulation, U. S. Nuclear Regulatory Commission in the matter of Georgia Power Company, et al, Edwin I. Hatch Nuclear Plant, Unit No. 2, dated January 4, 1978.
3. General Electric Company, "Lattice Physics Methods," NEDE-20913A, January, 1977.
4. General Electric Company, "Lattice Physics Methods Verification," NEDO-20939A, January, 1977.
5. General Electric Company, "BWR Simulator Methods Verification," NEDO-20946A, January, 1977.
6. General Electric Company, "Three-Dimensional BWR Core Simulator," NEDO-20953A, January, 1977.

7. General Electric Company, "BWR/6 Fuel Design," NEDE-20948-P, June, 1976, and Amendment No. 1, November, 1976.
8. General Electric Company, "BWR/4 and BWR/5 Fuel Design," NEDE-20944-P, September, 1976.
9. General Electric Company, "BWR Fuel Channel Mechanical Design and Deflection," NEDE-21354-P, September, 1976.
10. General Electric Company, "BWR/6 Fuel Assembly: Evaluation of Combined Safe Shutdown Earthquake (SSE) and Loss-of-Coolant Accident (LOCA) Loadings," NEDE-21175-P, November, 1976 and Amendment 1, April, 1977.