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

April 7, 1971

Honorable Glenn T. Seaborg
Chairman
U. S. Atomic Energy Commission
Washington, D. C. 20545

Subject: REPORT ON CONNECTICUT YANKEE ATOMIC POWER COMPANY HADDAM NECK PLANT

Dear Dr. Seaborg:

At its one hundred thirty-second meeting, on April 1-3, 1971, the Advisory Committee on Reactor Safeguards completed its review of the application by the Connecticut Yankee Atomic Power Company for a full-term operating license for its Haddam Neck Plant. This project was also considered at a Subcommittee meeting on February 24, 1971 in Washington, D. C. During its review, the Committee had the benefit of discussions with representatives and consultants of the Connecticut Yankee Atomic Power Company, Northeast Utilities Service Company, and the AEC Regulatory Staff, and of the documents listed below. The Committee has reported to you the results of its reviews of various aspects of this project in letters dated February 6, 1963, February 19, 1964, April 13, 1967, and December 12, 1968.

The plant has operated successfully since commercial production of power began on January 1, 1968. The availability of the reactor plant has been about 90% during this period.

The applicant has reported the results of numerous tests to confirm the design assumptions and parameters for the reactor. The results of these tests confirmed the design bases. The ACRS believes that the applicant should reanalyze the behavior of the reactor core and the emergency core cooling system during anticipated transients and postulated accidents, taking advantage of improved analytical methods as well as improved knowledge of the actual characteristics of the core. The results of these analyses should be reviewed by the Regulatory Staff.

An in-service inspection of the primary system was made in 1970 in conformance with current AEC criteria for plants constructed with limited accessibility. The results of this inspection, compared with those obtained in preservice baseline inspections in 1966 and 1967, were found to be satisfactory. The ACRS recommends, however, that the applicant continue to evaluate new inspection techniques and equipment and to use those developments that are applicable to extend future inservice inspections to include the longitudinal and circumferential welds in the core region of the reactor vessel, which are not accessible with the equipment now available.

A number of design changes have been made to the plant since operation began. The most significant changes from the point of view of safety are the replacement of the original diesel generators with two larger units to provide power to the redundant components of the emergency core cooling system, and the addition of two new low pressure safety injection pumps.

The Regulatory Staff should assure itself as to the adequacy of plans under preparation by the applicant to deal with the unlikely event of a very large flood at the site.

The ACRS believes that, in view of the operating experience to date and the improvements in the engineered safety features, noted herein, there is reasonable assurance that the reactor can continue to be operated at power levels up to 1825 MWt under a full-term operating license without undue risk to the health and safety of the public.

Sincerely yours,

Spencer H. Bush

Spencer H. Bush
Chairman

References

1. Connecticut Yankee Atomic Power Company letter dated December 31, 1969 and Supporting Information for the Connecticut Yankee Full-Term Operating License Application.
2. Supplements Nos. 1 and 2 to the Supporting Information.
3. Reactor and Plant Performance Engineering Tests and Measurements Report dated October 1969.
4. Amendment No. 17 to the License Application.
5. Connecticut Yankee Atomic Power Company Monthly Operations Reports from July 1967 through February 1971.