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REPORT ON MONTICELLO NUCLEAR GENERATING PLANT, UNIT NO. 1

REMARKS

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Press release _____

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IS NOTIFICATION TO THE JCAE RECOMMENDED? _____

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Form HQ-32 (6-70)
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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
UNITED STATES ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

October 19, 1972

Honorable James R. Schlesinger
Chairman
U. S. Atomic Energy Commission
Washington, D. C. 20545

Subject: REPORT ON MONTICELLO NUCLEAR GENERATING PLANT, UNIT NO. 1

Dear Dr. Schlesinger:

At its 150th meeting, October 12-14, 1972, the Advisory Committee on Reactor Safeguards reviewed the application by the Northern States Power Company for conversion of its provisional operating license for the Monticello Nuclear Generating Plant, Unit No. 1 to a full-term operating license. This project was considered at Subcommittee meetings on September 11 and 30, 1972, in Washington, D. C. During its review, the Committee had the benefit of discussion with representatives and consultants of the Northern States Power Company, the General Electric Company, and the AEC Regulatory Staff, and of the documents listed. The Committee has reported to the Commission the results of its review of various aspects of this project in reports dated May 11, 1966, April 13, 1967, January 10, 1970, and June 15, 1970.

In its report of January 10, 1970, on the application for a provisional operating license, the Committee stated that the applicant had been responsive to recommendations made in the Committee's construction permit report, but made further specific recommendations relating to main steam line valves, vibration testing, and integrity and isolability of instrument lines. Operating experience suggests that continuing study and surveillance is necessary to assure satisfactory performance of the main steam line isolation valves. The vibration testing program during the preoperational period was satisfactory. The Committee believes the applicant should further evaluate the design of the instrument lines with respect to the Supplement to Safety Guide 11; the Committee wishes to be kept informed.

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The Committee also called attention to the need for continuing evaluation and appropriate action with respect to problems common to water-cooled reactors. One of the items mentioned was the problem of hydrogen generation in the unlikely event of a loss-of-coolant accident. The applicant has described his studies for controlling hydrogen buildup, but has not submitted a firm proposal. The Committee believes the applicant should commit himself to completion of design and installation of an acceptable system on a time schedule satisfactory to the Regulatory Staff.

Another item specifically mentioned was the need for design features to make tolerable the consequences of failure to scram during anticipated transients. Studies by the reactor designer indicate that a system modification may accomplish the desired objective, but a final determination has not yet been made. The applicant has indicated that he will make the necessary modifications when a decision has been made on a generic basis.

Analyses of postulated control-rod drop accidents have been revised by the applicant to employ a more realistic rate of reactivity insertion than formerly assumed. These analyses indicate that, for accidents occurring during certain operations and certain portions of the fuel cycle, the results may be unacceptable. The applicant has proposed interim procedures which the Committee believes to be satisfactory. The final resolution should be made in a manner satisfactory to the Regulatory Staff.

Commercial operation of the plant started June 30, 1971. There have since been a number of unscheduled shutdowns caused by equipment or system malfunctions. The Committee recognizes that, during the early stages of operation of a large power plant, some forced shutdowns will occur and corrective action will be necessary. The Committee believes that the number of such events in the Monticello plant has not been excessive. However, the Committee wishes to reiterate its opinion that improvement of the plant and operating procedures to enchance safety should be a continuing process, factoring in technological advances and past and future industry-wide experience.

The Committee believes that the applicant should seek a careful and detailed delineation of responsibilities and authority for determining action levels, implementation, and coordination of the State and local agencies involved in emergency plans.

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

The Advisory Committee on Reactor Safeguards believes that, in view of the operating experience to date, and if due regard is given to the items mentioned above, there is reasonable assurance that Monticello Nuclear Generating Plant, Unit No. 1, can continue to operate at power levels up to 1670 MW(t) under a full-term operating license without undue risk to the health and safety of the public.

Mr. Hill did not participate in the review of this project.

Sincerely yours,

Original Signed by
C. P. Siess
C. P. Siess
Chairman

References Attached.

References

1. Final Safety Analysis Report for Monticello Nuclear Generating Plant, Unit No. 1

2. Amendments No. 10-24, 26 and 27 to the license application

3. Northern States Power Company letter dated February 28, 1972 transmitting Six-Month Operating Report No. 2 for the period of July 1 to December 31, 1971

4. Northern States Power Company letter dated June 15, 1972 transmitting an Application to convert Provisional Operating License No. DPR-22 to a Full-Term Operating License for the Monticello Nuclear Generating Plant, Unit No. 1

5. Northern States Power Company letter dated August 30, 1972 transmitting Monticello Nuclear Generating Plant Six-Month Operating Report No. 3 for the period of January 1, 1972 through June 30, 1972