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

50-263
NRC PDR

APR 1 3 1967

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

SCALE

Subject: REPORT ON MONTICELLO NUCLEAR GENERATING PLANT, UNIT 1

Dear Dr. Seaborg:

At its eighty-second meeting, on February 8-11, 1967, and its eighty-fourth meeting, on April 6-8, 1967, the Advisory Committee on Reactor Safeguards reviewed the proposal of the Northern States Power Company to construct the Monticello Nuclear Generating Plant, Unit 1 on a site near Monticello, Minnesota. An ACRS Subcommittee met to review this project on February 3 and March 23, 1967. During its review, the Committee had the benefit of discussions with representatives of the applicant, the General Electric Company, Chicago Bridge & Iron Company, Bechtel Corporation, Harza Engineering, General Motors Corporation and the AEC Regulatory Staff and its consultants. The Committee also had the benefit of the documents listed. The Committee had previously conducted a site review of the proposed plant location and had transmitted its comments thereon to you by letter dated May 11, 1966.

The Monticello plant includes a boiling water reactor which the applicant proposes to operate at an initial power of 1469 MW(t) with a design stretch capability for operation at 1674 MW(t). In many respects the plant is similar to the plants proposed for Quad-Cities. However, this plant is the first United States nuclear plant to use a field-erected pressure vessel. Although field erection of large pressure vessels is new to the reactor industry, it is not a new procedure. With the fabrication techniques proposed and with meticulous care and diligence in the quality control program, it is the opinion of the ACRS that a high-quality field-erected pressure vessel for the Monticello plant can be constructed. The Committee recommends that the stress analysis report for the reactor vessel be reviewed by independent experts.

The emergency core cooling systems include a high pressure coolant injection system, a low pressure coolant system, two core spray systems, and a system that will make river water available to the feedwater pumps. In the unlikely event of a steam line rupture external to the reactor containment, steam line

isolation valves must close rapidly. It is our understanding that valves of essentially identical design will be tested under simulated accident conditions. It is recommended that the Regulatory Staff satisfy itself with respect to the adequacy of the isolation valve test program and follow the development of the detailed design of the above systems.

It is of great importance that sufficient electrical power is available at the plant to operate emergency core cooling equipment in the unlikely event of loss of normal coolant to the core. Although the reliability of off-site power was stated to be very high, it is the recommendation of the ACRS that the Monticello plant include a second diesel generator of the same capacity as the one proposed.

The Advisory Committee on Reactor Safeguards believes that the items mentioned above can be resolved during construction and that the proposed reactor can be constructed at the Monticello site with reasonable assurance that it can be operated at power levels up to 1469 MW(t) without undue risk to the health and safety of the public.

Sincerely yours,

ORIGINAL SIGNED BY
N. J. PALLADINO

N. J. Palladino
Chairman

References Attached.

References - Monticello

1. Northern States Power Company letter dated August 1, 1966 to AEC Division of Reactor Licensing.
2. General Electric Company letter dated August 5, 1966 to AEC Division of Reactor Licensing transmitting "NSP-Monticello Nuclear Generating Plant, Monticello, Minnesota, Unit 1, Facility Description and Safety Analysis Report", Volumes I and II.
3. Northern States Power Company letter dated September 8, 1966 to AEC Division of Reactor Licensing transmitting Amendment No. 1.
4. General Electric Company letter dated September 9, 1966 to AEC Division of Reactor Licensing, with enclosures.
5. "Design, Fabrication and Erection of the Reactor Vessel", undated, received November 28, 1966.
6. Northern States Power Company letter dated December 29, 1966 to AEC Division of Reactor Licensing transmitting Amendment No. 3.
7. General Electric Company letter dated December 30, 1966 to AEC Division of Reactor Licensing, with attachments.
8. Northern States Power Company letter dated January 10, 1967 to AEC Division of Reactor Licensing transmitting Amendment No. 4.
9. General Electric Company letter dated January 10, 1967 to AEC Division of Reactor Licensing with attachments.
10. Northern States Power Company letter dated January 19, 1967 to AEC Division of Reactor Licensing transmitting Amendment No. 5.
11. General Electric Company letter dated January 21, 1967 to AEC Division of Reactor Licensing with attachments.
12. Northern States Power Company letter dated March 3, 1967 to AEC Division of Reactor Licensing transmitting Amendment No. 6.
13. "Amendment 6, Answers to AEC Questions", dated March 7, 1967.
14. "Amendment 6, Errata and Addenda Sheet", with attachments, dated March 8, 1967.