

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

UNITED STATES ATOMIC ENERGY COMMISSION
Washington 25, D.C.

August 5, 1958

Honorable John A. McCone
Chairman, U. S. Atomic Energy Commission
Washington 25, D. C.

Subject: RURAL COOPERATIVE POWER ASSOCIATION,
ELK RIVER, MINNESOTA

Dear Mr. McCone:

At its Ninth Meeting in Washington, August 4, 1958, the Advisory Committee on Reactor Safeguards considered the submission of the Rural Cooperative Power Association covering a proposed power reactor to be built under invitation as part of the Atomic Energy Commission Power Reactor Demonstration Program. Representatives of the contractor and the Hazards Evaluation Branch participated in the conference.

The proposal covers a natural circulation boiling water type reactor having 58.2 megawatts (thermal) capacity complete with a supplemental coal-fired superheater of 14.8 megawatts. The design is such that, if proven, the installation may have an ultimate capacity above 100 megawatts. The reactor, which will be provided with containment, is to have fuel elements using a combination of thorium and enriched uranium oxide in stainless steel cladding. The characteristics of the type of reactor are generally well known.

The site selected for this reactor upon property already owned by the Cooperative does not now provide a sufficient exclusion distance but this situation is to be improved through the purchase of adjacent land which is state owned. Mutual agreement to this purchase already exists. Even with the increased exclusion distance in the event of a major accident a few persons might be exposed to higher radiation dosage than is considered acceptable.

As a matter of policy the Advisory Committee On Reactor Safeguards considers it not desirable to locate a nuclear

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reactor of this power level so close to a growing community. However, assuming the containment vessel will provide an adequate factor of safety and will meet the specified leakage rate and that the state-owned land will be acquired, the Advisory Committee on Reactor Safeguards believes that a power reactor of this general type and size may be operated at this site without undue hazard to the public and its property.

This represents some relaxation of previous practice in regard to exclusion distance. In this particular case it appears tolerable because of the present low population density adjacent to the proposed exclusion area and because of the low risk of damage.

Sincerely yours,

/s/ C. Rogers McCullough

C. Rogers McCullough
Chairman

cc: Paul F. Foster, GM
H. L. Price, L&R

References

- 1) Report No. 58 08813, January 31, 1958 - A Proposal for a Nuclear Steam Generating Plant for the Rural Cooperative Power Association, Elk River, Minnesota.
- 2) Supplement A to Preliminary Hazards Evaluation of the RCPA - Elk River Site, July 25, 1958.
- 3) Supplement B to Preliminary Hazards Evaluation of the RCPA - Elk River Site, August 1, 1958.
- 4) Letter from Edward E. Wolter, ECPA, to Milton Klein, Chicago Operations Office, July 9, 1958, with following attachments: Preliminary Hazards Evaluation of the RCPA - Elk River Site, July 9, 1958; Meteorological Estimates for Elk River, Minnesota, by Special Projects Section, Office of Meteorological Research, June 1958; Hydro-Geological Aspects of the Elk River, Minnesota, Reactor Site, by E. S. Simpson, Geologist (USOS); Excerpt from American Machine & Foundry Company Proposal - "Technical Description of AMF Closed Cycle Boiling Water Reactor Power Plant for RCPA, Elk River, Minnesota," - Volume I, dated March 22, 1957.
- 5) Letter of July 7, 1958, from Dr. Wexler to Dr. Lieberman, and Hazard Calculations for Elk River, Minnesota Reactor.
- 6) Report to ACRS by Division of Licensing and Regulation on Elk River Site Evaluation, July 31, 1958.