

*Trans w/ Proposed License
Att. 6-10-68.*

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SAFETY EVALUATION BY THE DIVISION OF REACTOR LICENSING

DOCKET NO. 50-288

Do Not

REED COLLEGE

INTRODUCTION

On October 3, 1967, Reed College was issued Construction Permit No. CPRR-101, which authorized construction of a TRIGA Mark I nuclear reactor on its campus at Portland, Oregon. The facility is nearing completion, and a license has been requested to operate the reactor at steady-state power levels up to 250 kilowatts thermal. No pulsed operation is planned. To supplement the request to operate, the applicant has submitted additional information, including plans for administering the facility, by letters dated March 13, 1968, and April 26, 1968.

DISCUSS

The TRIGA Mark I reactor is a design developed by Gulf General Atomic, Inc. It is a heterogeneous pool-type reactor with fuel-moderator elements composed of a mixture of zirconium hydride and 8 weight percent uranium, 20% enriched. This type of fuel element has been used successfully in other TRIGA reactors, and has demonstrated a prompt negative temperature coefficient of reactivity which inherently limits the reactor power to safe levels during transients. A complete analysis of the safety of the reactor is contained in our Safety Evaluation dated September 13, 1967, issued when construction of this reactor was proposed. We concluded then that there was reasonable assurance that the reactor could be constructed and operated without endangering the health and safety of the public. As there have been no significant changes in the design of the facility since its construction was authorized, that conclusion stands.

The applicant has submitted plans for administering and operating the reactor and for defining the experimental program to be undertaken. We have reviewed these plans and have concluded that they form adequate bases for safe operation. In addition, we have agreed with the applicant on Technical Specifications for the facility which reflect safe limits in design and operating criteria for the reactor and the experimental program. These specifications will be incorporated into the facility license.

CONCLUSION

Based on the above considerations, we have concluded that there is reasonable assurance that the health and safety of the public will not be endangered by operation of this facility in the manner proposed.

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for *Dennis L. Zeman*
Donald J. Skovholt
Assistant Director for Reactor Operations
Division of Reactor Licensing

Date: June 10, 1968

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