

**ADVISORY COMMITTEE ON REACTOR SAFEGUARDS**  
**UNITED STATES ATOMIC ENERGY COMMISSION**  
WASHINGTON 25, D. C.

September 26, 1960

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

Subject: BORAX V

Dear Mr. McCone:

At its twenty-eighth meeting on September 22-24, 1960, the Advisory Committee on Reactor Safeguards reviewed the safety aspects of the BORAX V Reactor Facility which has been proposed by the Argonne National Laboratory for location at NRTS. The Committee had the benefits of an oral presentation from ANL, of comments from the Division of Licensing and Regulation, and was supplied with the document referenced below. This reactor is a 35.7 MW (thermal) boiling water experimental facility designed with considerable flexibility. It will be used to obtain data aimed at advancing the development of boiling water reactors, including a demonstration of nuclear superheat. The ANL design and hazards analysis is as yet preliminary. A final hazards summary is to be submitted in the future.

At this stage in our review, ACRS does not find any insurmountable problems in the design which suggest that further design work should not proceed as planned. The reactor will be located at a considerable distance from residences. The general characteristics of boiling water reactors are known. Much of this knowledge has been acquired by ANL itself in previous BORAX experiments. It is possible that the initial novel feature of this facility, superheat, may liberate more fission products into the turbine than is common for boiling water reactors, and the superheat system, should it fail, may react back on the boiling water reactor in an undesirable

Honorable John A. McCone

- 2 -

September 26, 1960

manner. However, ANL has presented a design whereby these problems are not likely to result in excessive radiation exposure either to the public, to the operators, or to other facilities at NRTS.

The ACRS, therefore, believes that a facility of this general type can be constructed with reasonable assurance that it can be operated at the proposed location without undue risk to the health and safety of the public.

Sincerely yours,

/s/ Leslie Silverman

Leslie Silverman  
Chairman

Reference:

Preliminary Design and Hazards Report - Boiling Reactor Experiment  
V (BORAX V), ANL-6120 dtd February 1960

cc: A. R. Luedecke, GM  
W. F. Finan, AGMRS  
H. L. Price, DL&R