

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

July 22, 1966

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

Subject: REPORT ON GENERAL ELECTRIC TEST REACTOR

Dear Dr. Seaborg:

At its seventy-fifth meeting, on July 14-16, 1966, the Advisory Committee on Reactor Safeguards considered the application of the General Electric Company (GE) to increase the power level of the General Electric Test Reactor (GETR) from 33 to 50 MW(t) and to operate the GETR under a ten-year license. The Committee had the benefit of discussion with representatives of GE and the AEC Regulatory Staff, as well as the documents listed. An ACRS Subcommittee reviewed this project on July 1, 1966.

The GETR is a light-water moderated reactor with enriched uranium-aluminum alloy fuel plates, operated since 1959 at GE's Vallecitos Atomic Laboratory in California. In connection with the proposed increase in power, GE has made plans for updating the facility in accordance with present safety standards. Significant changes will include the following:

1. Provision of redundant containment isolation valves and improved containment testing.
2. Improvement of safety instrumentation to eliminate potential loss of function due to single failures.
3. Installation of an emergency water recirculation system to maintain water in the reactor and the pool in the unlikely event of loss of water through certain breaks in the pool or reactor piping or nozzles.
4. Provision of a secondary shutdown system using injection of gadolinium nitrate into the primary coolant.

The Committee was assured that these changes will be made expeditiously.

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In discussions regarding proposed in-pile experiments, GE stated that the inventory of liquid metals would be limited to 1 kg per experiment. Experiments will be arranged so that rupture of one such experiment will not induce failure of another. The Committee recommends that the AEC Regulatory Staff review carefully the basis for any future proposed modification of the 1 kg limit or other criteria for liquid-metal experiments.

The Committee concludes that the GETR can be operated as proposed at power levels up to 50 MW for a 10-year period without undue risk to the health and safety of the public.

Sincerely yours,

/s/ David Okrent

David Okrent  
Chairman

References:

1. Application for Amendment to Facility License for General Electric Test Reactor, dated October 29, 1965.
2. APED-5000-A, Facility Description and Safety Analysis Report for the General Electric Test Reactor, Volumes I and II, dated July 1965.
3. Amendment 19 to License A, General Electric Test Reactor, dated June 3, 1966, with attachment.
4. Supplement to Amendment 19, undated, received June 24, 1966.
5. TWX dated June 23, 1966 from General Electric Company to AEC.
6. TWX dated July 12, 1966 from General Electric Company to AEC.