



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION

BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 14 TO FACILITY OPERATING LICENSE NO. TR-1

GENERAL ELECTRIC TEST REACTOR

LICENSE RENEWAL APPLICATION

DOCKET NO. 50-70

BACKGROUND

On October 21, 1975, the General Electric Company submitted a timely request for renewal of License TR-1 for the General Electric Test Reactor (GETR). Following notification in the FEDERAL REGISTER (42 FR 46427) of GE's license renewal application, six individuals and groups filed a petition for leave to intervene opposing GE's application.

From 1977 to 1983, litigation proceeded regarding an Order to Show Cause concerning safety aspects of the reactor during potential extreme seismic events and associated soil offsets under the reactor. Findings by an Atomic Safety and Licensing Board were issued in August 1982 in favor of continued operation of the GETR, subject to certain conditions, and subsequently were upheld by the Atomic Safety and Licensing Appeal Board and the Commission. GE subsequently indicated its intention to continue operation of the reactor. A reconstituted ASLB notified the original petitioners of the resumption of proceedings to determine their interest in continued intervention in the license renewal proceeding. The ASLB determined that only one of the petitioners timely demonstrated an interest in such intervention. Following a prehearing conference and other proceedings, GE and the intervenor reached an agreement whereby GE agreed to modify its renewal application to seek possession only status, and the intervenor agreed to withdraw his opposition to the license renewal request. Accordingly, on April 23, 1985, the proceeding was terminated by the ASLB. In accordance with the agreement, GE by letter dated June 26, 1985, modified its 1975 license renewal application and requested a license renewal for possession only. The modification of the application included a safety analysis and was accompanied by a revised set of technical specifications.

EVALUATION

The GETR has not been operated since October 1977. All GETR fuel, fueled experiments and targets containing SNM have been removed from the reactor facility and shipped from the Vallecitos Nuclear Center (VNC). A license amendment in 1983 allowed GE to maintain the containment structure that housed the reactor as a confinement building. The confinement structure no longer must be maintained under negative pressure or be subject to

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containment-type testing and surveillance activities, since all fuel has been removed. As all contaminated resins have been removed from their respective demineralizers and shipped to licensed disposal facilities, only activation and fission product contamination remains in the GETR facility.

To verify the continued safety of the facility and its personnel, GE maintains continuous air monitoring, sampling, contamination and radiation surveys and a bioassay program. No alpha contamination has been detected, and there is no migration of removable contamination. In addition, whenever any significant activities in the containment building are in progress, the ventilation system will be operated to direct airflow into the reactor building and through monitored particulate filters prior to discharge to the environment. In this manner, any potential radioactivity releases will be detected promptly and corrective action initiated.

The reactor vessel contains basically all the hardware necessary to operate the reactor with the exception of fuel. The water level is 2-4 feet above the core for radiation shielding. The pool contains irradiated hardware associated with prior reactor operations. The pool water level is maintained at the same elevation as the water in the core.

The reactor vessel water and pool water mix with each other and have essentially the following characteristics:

Conductivity	1.7 micro-mhos
Beta-Gamma activity	6.7×10^{-4} micro-Ci/ml
Alpha activity	3×10^{-8} micro-Ci/ml
pH	6.4

The canal has been drained and cleaned and presently contains some contaminated hardware. Radioactive hot spots are shielded locally.

Activities to be performed at the facility include decontamination testing and decommissioning training exercises. Work will be limited to equipment, components, or devices which would or could be removed, repaired, replaced or installed as part of "normal maintenance" under the operating license. In addition, all such work would exclude installation or reinstallation of any fuel, equipment, component or device for the purpose of restoring the facility to a condition where it would be capable of operating as a nuclear reactor. The proposed activities will not involve any material alteration of the reactor facility.

The licensee has proposed technical specifications which (1) define the activities that require confinement and specify the actions to be taken and the equipment provided to achieve confinement; (2) provide assurance the reactor ventilation system is operable when required; (3) require that during the performance of restricted activities, the stack effluent shall be monitored or sampled; and (4) specify stack release rate limits that are lower than the current ones for the operating reactor facility.

There are no credible accidents which can be postulated that could result in the release of significant amounts of radioactive materials.

ENVIRONMENTAL CONSIDERATION

An Environmental Assessment and Finding of No Significant Environmental Impact dated February 1986 has been prepared in support of this amendment. The Environmental Assessment concludes that the proposed action would not have a significant effect on the quality of the human environment.

CONCLUSION

The reactor has not been operated since 1977. All reactor fuel has been shipped offsite since October 1982. Decontamination and decommissioning testing and training activities will be conducted in accordance with 10 CFR Parts 20, 30, 50, 51 and ALARA. There will be continuous air monitoring and sampling for contamination, radiation surveys, and a bioassay program will be maintained as part of the radiation surveillance program. Based on the above considerations, the staff concludes that the activities considered in this amendment can be conducted without undue risk to the health and safety of the public or to the environment.

This evaluation was prepared by Harold Bernard.

Dated: February 5, 1986