

1. Pending further order by the Director, Office of Nuclear Reactor Regulation, the GETR shall, upon completion of the present cycle on Thursday, October 27, 1977, be placed and maintained safely in a cold shutdown condition.
2. GE show cause, in the manner hereinafter provided, why the suspension of activities under Operating License No. TR-1 should not be continued.

By letter dated November 11, 1977, GE responded to the Show Cause Order. Based on geologic, seismic, structural and analysis information accompanying their response, GE requested authorization to resume operation following completion of proposed modifications.

In a Memorandum and Order dated February 13, 1978, the Commission, pursuant to Section 191 of the Atomic Energy Act of 1954, as amended (42 USC § 2241), delegated the authority to rule on the requests for a hearing to an Atomic Safety and Licensing Board (Licensing Board or Board). The Commission also stated that, in the event that a hearing is held, the issues to be considered by the Board are as follows:

- (1) What the proper seismic and geologic design bases for the GETR facility should be;
- (2) Whether the design of GETR structures, systems and components important to safety requires modifications considering the seismic design bases determined in

issue (1) above, and if so, whether the modification(s) can be made so that GETR structures, systems and components important to safety can remain functional in light of the design bases determined in issue (1) above;

- (3) Whether activities under Operating License No. TR-1 should continue to be suspended pending resolution of the foregoing.

Thereafter, GE submitted additional information to the NRC Staff relating to the geological characteristics of the site. It recommended geologic and seismic design bases, and submitted an analysis to demonstrate that the facility, after modification, would meet those design bases. Upon review by the NRC Staff, GE was advised in the summer of 1978 to perform additional geologic investigations. In response, GE undertook an extensive program of geologic investigations between August and December 1978. In February of 1979, GE submitted a detailed report on these investigations, along with additional information concerning the ability of the GETR to meet the recommended seismic design bases.

By letter dated May 23, 1980, the staff completed a safety evaluation which presented its conclusions on the proper seismic and geologic design basis for the GETR. On October 27, 1980, the staff completed its safety evaluation report (SER) with regard to landslide hazard and seismic design of structures, systems and components important to safety. On January 15, 1981, the staff issued a supplement to its SER which completed the evaluation of issues (1) and (2) of the Show Cause Order.

A hearing was conducted from May 27 through June 10, 1981 on the issues set forth in the Commission's February 13, 1978 Memorandum and Order.

The hearing on the show cause order has resulted in the Licensing Board's issuance of an Initial Decision, LBP-82-64, 16 NRC _____, August 16, 1982, aff'd, ALAB-720 17 NRC _____, (March 23, 1983).

The conclusions of the Board were:

1. The proper geologic and seismic design bases for the GETR should be as follows:
 - a) A surface offset design value of one meter of reverse-oblique net slip beneath the GETR should be utilized, along a fault plane of 2200 foot-wide Verona fault zone, which could vary in dip from about 10 to 45 degrees, occurring during a single event.
 - b) The Regulatory Guide 1.60 Response Spectra, anchored to .75 g effective acceleration for an event on the Calaveras fault, and .6 g effective acceleration on the Verona fault.
 - c) Combined loads caused by fault offset at the surface and vibratory ground motion from the Verona fault must be considered to act simultaneously, and that the entire one meter of surface offset is considered to occur coseismically.

d) A seismic event could trigger a landslide, causing a 1.0 meter slope displacement occurring near the toe of the slope, at some distance from the GETR; accordingly, the one meter offset caused by the landslide must be considered in the design of safety-related equipment located in the area of the toe, such as the fuel flooding system piping, but need not be considered in the design of the GETR reactor structure.

2. The General Design Criteria of Appendix A to 10 CFR Part 50 apply only to power reactors and do not apply to the GETR.
3. Appendix A to 10 CFR Part 100 applies to power reactors and not to facilities such as the GETR, which does not produce electric or heat energy.
4. The design of GETR structures, systems and components important to safety do require modifications, and these modifications can be made so that the GETR structures, systems and components important to safety can remain functional in light of the seismic design bases determined in point (1) above.

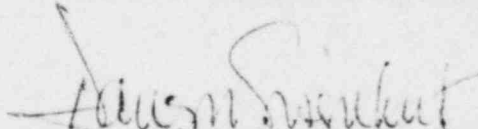
III.

In view of the foregoing and pursuant to sections 104, 161(b) and 161(i) of the Atomic Energy Act of 1954, as amended, the regulations in 10 CFR Parts 2, 50, and the Board's Initial Decision dated August 16, 1982, IT IS HEREBY ORDERED THAT:

- (1) Operating License No. TR-1 is modified in accordance with the terms specified in Amendment No. 12, which is appended to this Order;
- (2) The suspension of operation imposed by the Order to Show Cause of October 24, 1977 is hereby rescinded subject to the conditions specified in Amendment No. 12.

This Order is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION


Darrell G. Eisenhut, Director
Division of Licensing

Dated this 13th day
of April 1983.