August 25, 1982 SECY-82-356

ADJUDICATORY ISSUE
(Information)

For: The Commissioners

From: Sheldon L. Trubatch
Acting Assistant General Counsel

Subject: INITIAL DECISION REMOVING SHOW CAUSE ORDER AND APPROVING RESTART OF THE GENERAL ELECTRIC TEST REACTOR (DOCKET NO. 50-70 SC (SHOW CAUSE))

Facility: Vallecitos Nuclear Center - General Electric Test Reactor (Operating License No. TR-1)

Purpose: To inform the Commission of an initial Licensing Board decision which, in our opinion,

1/ In our view,

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Background: In a decision dated August 16, 1982, a divided 2/ Licensing Board renewed the General Electric Company's (GE) operating license for the test reactor at the Vallecitos Nuclear Center (GETR) and approved restart of the reactor. The proceeding was initiated by GE's application for license renewal filed on October 20, 1975. Because GE's license renewal application was timely, the reactor would have been permitted to continue in operation until the renewal proceeding was concluded. 10 CFR 2.109. However, the NRC staff ordered the reactor placed in cold shutdown after a review of the geology and seismology of the Vallecitos Valley led the staff to conclude that there was evidence that the Verona fault extended under the GETR

For these reasons, we believe that

2/ Dr. Foreman and Dr. Ferguson voted to adopt the design bases adopted by the NRC staff. Chairman Grossman dissented.

site. It was the staff's opinion at the time that this fault possibly could produce offsets of the ground surface of several feet and vibratory ground motions that could have accelerations of sustained duration in excess of .75g. On this basis, the staff concluded that, since the facility had not been designed to withstand these severe earthquake effects, a potentially hazardous condition may exist. Accordingly, on October 27, 1977, the Acting Director of the Office of Nuclear Reactor Regulation issued an Order to Show Cause requiring that the facility be placed in cold shutdown condition pending further order of the Commission, and requiring GE to show cause why suspension of activities under operating license No. TR-1 should not be continued.

In response to the Order to Show Cause, GE submitted detailed seismic and structural reports which concluded that GETR could be restarted safely if it is modified to withstand an earthquake-induced surface displacement of one meter. The NRC staff disagreed, tentatively finding that a surface displacement of 2-1/2 meters could occur beneath the GETR. Since this was in excess of the one-meter surface displacement used in GE's analysis, and since the staff indicated that they were not aware of any structure which had been analyzed or built for the type of seismic loading that could occur at the site, the staff advised GE that it did not intend to continue its review of the GETR.

However, on May 23, 1980, after reviewing additional information, the staff, in its final Safety Evaluation

Report, modified its preliminary position to specify a surface displacement of one meter beneath the GETR as the appropriate design basis. The staff further indicated its willingness to complete its review. On January 15, 1981, the NRC staff issued a supplement to its SER which declared its evaluation regarding issues of the Show Cause Order as complete. An evidentiary hearing was then held and culminated in the subject Licensing Board decision.

Licensing Board Decision:

In its August 16 decision, the Licensing Board adopted as the principal geologic design basis for the GETR a surface offset design value of one meter of reverse-oblique net slip beneath the GETR resulting from an earthquake occurring on the Verona fault. The Board adopted as the principal seismic design bases the Regulatory Guide 1.60 response spectra anchored to a .75g effective acceleration for an event on the Calaveras fault, and a .6g effective acceleration for an event on the Verona fault. The Licensing Board further specified that the combined loads caused by the fault offset and the vibratory ground motion from the Verona fault are to be considered as acting simultaneously on the GETR.

Chairman Grossman dissented only on the surface displacement design parameter of one meter, and would have adopted a 2-meter offset. Nevertheless, he would have permitted a resumption of operations under his recommended 2-meter design parameter based on GE's fault deflection analysis (which he accepts with reservations) that makes the size of the prospective surface displacement

irrelevant since it concludes that an offset occurring beneath the GETR would be deflected to the perimeter of the reactor building. The only substantial difference in plant design that would be required by the dissent would be the modification of flexible water piping to accommodate a displacement of 2 meters.

The dissent believed that the majority relied on probabilistic analyses that are not sufficiently conservative. According to the dissent, the majority adopted the staff's position that since the probability was small that an offset from the postulated Verona event would surface beneath the reactor, it was unnecessary to consider the maximum offset that might occur from an event on the Verona fault. Instead, the staff decided it could use the means rather than the maximums of relevant geologic analogies to establish the design basis.

In Chairman Grossman's opinion, the probabilistic analyses are not based upon data sufficient to establish that the maximum offset that might occur in the Verona fault zone has only an insignificant chance of occurring beneath the reactor. In determining the design basis parameter for an offset occurring beneath the reactor, the dissent would take into account the maximum offset that might likely occur in the Verona fault zone based upon trench observations, geological history of the area and appropriate comparisons with other faults.

Conclusion: In our opinion,

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