

# GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY, P.O. BOX 460, PLEASANTON, CALIFORNIA 94566

NUCLEAR ENERGY  
ENGINEERING  
DIVISION

August 16, 1979

Mr. D. G. Eisenhower, Acting Director  
Division of Operating Reactors  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, D. C., 20555

Reference: License R-33  
Docket 50-73

Dear Mr. Eisenhower:

On August 6, 1979, following a scram at the General Electric Nuclear Test Reactor (NTR) at the Vallecitos Nuclear Center (VNC), the response time of each of the four safety rods was measured prior to reactor startup. The response time for Safety Rod #2 was 313 msec which exceeds the 270 msec requirement of Technical Specification 6.2.1. This is considered to be reportable pursuant to Technical Specification 11.0(1) of License R-33.

Additional scram response time measurements on the safety rod indicate that the problem was caused by a slow release of the safety rod electromagnet. An inspection of the electromagnet revealed a foreign substance on the magnet face of the rod. Inspections of the other electromagnets disclosed no such material.

It was suspected that the substance on the magnet face was either the material in which the magnet is potted or coil varnish which had leaked through the potting material. Heating by the electromagnet apparently caused this substance to become sticky which prevented rapid separation of the magnet and the safety rod.

All the magnets were disassembled, and the potting material was removed. During the removal of the potting material, it was observed that the coating on the Safety Rod #2 magnet coil softened at a relatively low temperature. This would tend to indicate that the substance noted on the magnet face was coil coating that had seeped through the potting material.

All magnets and armatures were thoroughly cleaned and inspected, and the magnets were reassembled without the potting material. The coil for the Safety Rod #2 magnet was replaced. All the magnets were then subjected to a heat test. Subsequent inspection revealed that the coil coating remained acceptably hard on all the electromagnet coils.

All four safety rods were tested satisfactorily prior to reactor startup.

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Mr. D. G. Eisenhower

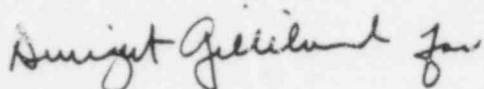
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This event did not pose any threat to the safety of the general public or VNC employees as a single safety rod is sufficient to safely shut down the NTR.

The frequency of electromagnet inspection will be increased from quarterly to monthly temporarily until sufficient operating data has been obtained to assure that the problem is unlikely to recur.

Sincerely,



R. W. Darnitzel  
Manager  
Irradiation Processing Operation

vcc

cc: USNRC Region V

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