

Docket No. 70-754



EEB 26 1931

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General Electric Company
 ATTN: Mr. R. A. Moschner, Manager
 Nuclear Safety and Quality Assurance
 Vallecitos Nuclear Center
 P. O. Box 460
 Pleasanton, California 94566

Gentlemen:

The purpose of this letter is to inform you that, on the basis of the analyses discussed below, we have no objections to resumption of activities in Cell 3 that are in accordance with the provisions of License No. SNM-960.

Activities in Cell 3 of the RML were involved with the processing of medical isotopes generated in the GE Test Reactor (GETR). The GETR was shut down as a result of the October 24, 1977 Show Cause Order. This Order was issued because of then newly available information which postulated increased seismic activity and adverse tectonic features associated with the Vallecitos Nuclear Center (VNC) site than were previously considered. As a result, the work in Cell 3 was greatly reduced. The NRC performed a Preliminary Safety Evaluation Report (PSER) dated November 7, 1977. In the PSER, the staff did not analyze Cell 3 because the GETR was shut down and Cell 3 activity had been greatly diminished. On this basis, GE agreed to conduct no further radioisotope separation activities in Cell 3 until further analyses had been completed.

In line with the NRC request, GE submitted a safety evaluation of Cell 3 dated February 3, 1978. The transmittal letter dated March 1, 1978 requested the NRC review and approve the safety evaluation. The seismic event postulated was assumed to result in a ground acceleration of 0.75 g. At the time of the submittal, the magnitude and effects of a significant ground shift with concurrent horizontal ground acceleration due to a postulated thrust fault movement was undefined. This point was not addressed in the GE submittal. The NRC, through its Natural Phenomena Review Team, addressed this point and a series of postulated seismic events with related probability of occurrence. The report entitled, "Estimated Airborne Release of Plutonium from the 102 Building at the General Electric Vallecitos Nuclear Center, Vallecitos, California, as a Result of Damage from Severe Wind and Earthquake Hazard," PNL-3601, UC-11, dated December 1980 provides the results of that review.

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In a transmittal letter for the report to GE from the NRC dated February 4, 1981, the NRC staff endorsed this final version of the review for application in succeeding analyses. The two upper bound postulated seismic events evaluated in the aforementioned report were:

1. Peak ground acceleration in excess of 0.8 g, less than 10^{-3} per year probability of occurrence and,
2. Peak ground acceleration 0.6 g with 1 m displacement caused by thrust fault.

The findings with respect to the RML cells as stated in the report were that the RML cells are not damaged significantly under any of the postulated conditions. The ducts to the secondary exhaust filters are severed through thrust faulting, however, the cell filters and structure continue to maintain confinement.

GE in its safety evaluation used a deterministic approach versus the NRC staff's probabilistic approach. In the GE approach a mechanism was synthesized to produce a quantifiable release. Conditions were postulated irrespective of the remoteness of occurrence. In essence GE's calculations yielded conservative and unlikely situations for the hot cell's evaluation. GE's evaluation with its conservatism demonstrated that the doses resulting from their postulated seismic event are only fractions of the 10 CFR Part 100 guideline values. In fact the releases calculated by GE exceed any values reported in the analysis made by the NRC. The staff feels that the NRC study is more representative of the maximum credible impact due to severe natural phenomena that is associated with the operation of Cell 3.

In summary, the NRC staff has reviewed the operation of Cell 3 in detail and has found that resumption of normal activities within that cell does not present a problem or threat to the health and safety of the public.

Sincerely,

Original signed by
Leland C. Rouse

Leland C. Rouse, Chief
Advanced Fuel and Spent Fuel
Licensing Branch
Division of Fuel Cycle and
Material Safety

cc: Service List

*See attached white-previous concurrences.

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| OFFICE | FCAF* | FCAF * | FCAF | | | | |
| NAME | RTKratzke:mb | JE Ayer | LC Rouse | | | | |
| DATE | 2/25/81 | 2/25/81 | 2/24/81 | | | | |

