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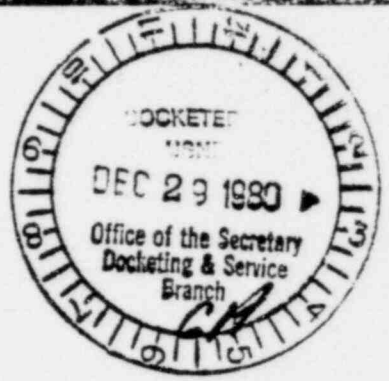
GENERAL ATOMIC

GENERAL ATOMIC COMPANY
P.O. BOX 81608
SAN DIEGO, CALIFORNIA 92138
(714) 455-3000



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December 23, 1980

Secretary of the Commission
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Docketing and Service Branch

Dear Sir:

General Atomic offers the following general comments on the Advanced Notice of Proposed Rulemaking (ANR), "Consideration of Degraded or Melted Cores in Safety Regulation":

1. General Atomic believes that siting, emergency planning, engineered safeguards, operator actions and highly unlikely (beyond the present design basis) combinations of failures and errors should be considered in the evaluation of nuclear power plants. However, unless there is a unifying basis on which to judge the results of these separate activities, the rulemaking approach to the regulation of nuclear safety can be non-systematic and fragmented. It is possible to define a unifying basis for the development of a consistent and justifiable set of requirements for the regulation of nuclear power, through the establishment of a set of quantitative safety goals. These goals should be expressed in terms of risk to the public in the immediate vicinity of power plants, and in terms of the total public risk from the entire U. S. population of reactors. The definition of the goals and evaluation of the success or failure in achieving them should be carried out using the probabilistic risk assessment (PRA) techniques which have been developed over the past several years. These goals are needed to make the decisions necessary to simplify the regulatory work and speed the design and licensing processes while continuing to assure public safety.

2. The consideration of multiple failure events should not be included with the design basis events discussed in Chapter 15 of Safety Analysis reports. The acceptability of these special events should be judged using PRA techniques, with the consequences compared to the quantitative safety goals discussed in comment 1. Also, NRC should give credit for plant features and operator actions which are designed to mitigate the consequences of these multiple failure events. The effectiveness of the features and actions must be scrutinized, but, prejudgement of their worth must not be implemented by the premature imposition of requirements such as remote siting.

Acknowledged by card 12/29/80

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3. General Atomic supports the increased use of PRA in the licensing of nuclear power plants. PRA is a method whereby the relative importance of any multiple failure event to the overall safety (risk) of the plant can be assessed. Use of the PRA methodology helps to focus on those areas of a design having the greatest safety significance. This makes it possible to reduce regulatory attention in areas where it is not beneficial to public safety; thus, simplifying and expediting the licensing process.

4. The ANR poses questions which are directed toward phenomena which might occur in a light-water-cooled power reactor. When developed, the proposed rule should state that its applicability is limited to that type of power reactor. The ANR should not apply to the High Temperature Gas Cooled Reactor (HTGR) because of its inherent features. The HTGR is designed with the nuclear fuel embedded in a massive graphite core structure which is cooled by helium, a chemically inert gas. The determination of site suitability for the HTGR has involved the postulation of an unrestricted heatup of the core with the subsequent release of a significant fraction of the fission products contained in the fuel. Core degradation similar to that possible in an LWR cannot occur in the HTGR since graphite does not melt, helium is chemically inert and rapid oxidation of graphite is virtually precluded by limiting of air ingress by the prestressed concrete reactor vessel.

   In order to emphasize further the point that the ANR applies to LWRs only, General Atomic requests that the phrase, "of Light-Water-Cooled Reactors", be added at the end of the title.

General Atomic requests that these comments be considered in future actions concerning the "Consideration of Degraded or Melted Cores in Safety Regulation".

Sincerely,

Colin R. Fisher

Colin R. Fisher, Director
Licensing Division

CRF:jr