



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555  
February 21, 1991

Docket No. STN 50-605

Patrick W. Marriott, Manager  
Licensing & Consulting Services  
GE Nuclear Energy  
General Electric Company  
175 Curtner Avenue  
San Jose, California 95125

Dear Mr. Marriott:

SUBJECT: SEVERE ACCIDENT MITIGATION DESIGN ALTERNATIVES FOR CERTIFIED  
STANDARD DESIGNS

The National Environmental Policy Act of 1970, Sec. 1.2.(C)(iii) requires, in part, that "...all agencies of the Federal Government shall...(C) include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on...(iii) alternatives to the proposed action."

Although an environmental impact statement is not specifically required for standard plant design certification under Subpart B of 10 CFR Part 52, consideration of design alternatives would be an essential element in the application for a combined construction permit/conditional operation license under Subpart C of Part 52 that reference a certified design. Also, 10 CFR 50.34 (f)(1)(i) requires that applications for certification "Perform a plant/site specific probabilistic risk assessment, the aim of which is to seek such improvements in the reliability of core and containment heat removal systems as are significant and practical and do not impact excessively on the plant." In this context a decision of the U.S. Court of Appeals for the Third Circuit (Limerick Ecology Action V. NRC, 869 F.2d 719 (3d Cir. 1989)) effectively required the NRC to include consideration of certain severe accident mitigation design alternatives (SAMDA) in the environmental impact performed as part of the review of the operating license application for the Limerick Generation Station. The review of SAMDA for Limerick was published as a Supplement to NUREG-0974, "Final Environmental Impact Statement Related to the Operation of Limerick Generating Station, Units 1 and 2," dated August 1989.

The staff believes that the consideration of alternatives is the heart of the environmental impact statement. To certify a design without adequately considering design alternatives may foreclose the opportunity to consider and/or make cost effective changes to the certified design during the licensing stage. This, in turn, could lead to potential costly design changes or lengthy legal debates on the acceptability of the license application. Therefore, in order to avoid potential future licensing problems associated with referencing a certified design, applicants for standard plant design certification under

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Patrick W. Marriott

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10 CFR Part 52, Subpart B should inform the staff concerning plans to consider severe accident mitigation design alternatives for their proposed designs. Please respond to this letter within 30 days regarding your plans to address this issue.

Sincerely,

  
Dennis M. Crutchfield, Director  
Division of Advanced Reactors  
Office of Nuclear Reactor Regulation

cc: See next page

10 CFR Part 52, Subpart B should inform the staff concerning plans to consider severe accident mitigation design alternatives for their proposed designs. Please respond to this letter within 30 days regarding your plans to address this issue.

Sincerely,

original signed by  
Dennis M. Crutchfield, Director  
Division of Advanced Reactors  
Office of Nuclear Reactor Regulation

cc: See next page

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Mr. Patrick W. Marriott  
General Electric Company

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cc: Mr. Robert Mitchell  
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