



General Electric Company
176 Curtner Avenue, San Jose, CA 95125

February 26, 1993

Docket No. STN 52-001

Chet Poslusny, Senior Project Manager
Standardization Project Directorate
Associate Directorate for Advanced Reactors
and License Renewal
Office of the Nuclear Reactor Regulation

Subject: **Submittal Supporting Accelerated ABWR Review Schedule - Verification of
ODYNA and REDYA Code Changes**

Dear Chet:

Enclosed is an amplification of our January 25, 1993 response to Confirmatory Item
15.1-1 pertaining to verification of ODYNA and REDYA code changes.

Please provide a copy of this transmittal to George Thomas.

Sincerely,

Jack Fox
Advanced Reactor Programs

cc: Norman Fletcher (DOE)
Phil Novak (GE)

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Quality Assurance Requirements

The GE Quality Assurance program governs all project quality related activities throughout the life of a project. It has specific applicability to safety-related structures, systems, and components which are necessary to insure a) the integrity of the reactor coolant boundary, b) the capability to shut down the reactor and maintain it in a safe shutdown condition, or c) the capability to prevent or mitigate the consequences of plant conditions that could result in potential offsite exposure. Structures, systems, and components that are not classified as safety-related are also controlled by this program in accordance with the importance of the overall functions to be performed by these items.

This quality assurance program is documented in the "GE Nuclear Energy Quality Assurance Program", NEDO-11209-04A. It has been accepted by the United States Nuclear Regulatory Commission and is used throughout GE Nuclear Energy for both safety-related and non-safety-related work in nuclear power plants. It is in compliance with Title 10, Code of Federal Regulations, Part 50, Appendix B; ANSI/ASME N45.2; ANSI/ASME N45.2 series standards; and NRC Regulatory Guides with some NRC-accepted GE Nuclear Energy alternate positions.

Furthermore, the implementation of this program has been accepted by the NRC as meeting all of the requirements of the Advanced Boiling Water Reactor Design Certification Program (ANSI/ASME NQA-1-1983 and NQA-1a-1983 as required by Regulatory Guide 1.28, Revision 3.)

In addition, GENE was surveyed by the ASME in August, 1992 and was certified (Certificate N-1888 valid through 10/14/95) to meet the requirements of ANSI/ASME NQA-1-1989 and NQA-1a-1989.

There is no requirement in these or any of the other codes, standards, or Regulatory Guides applicable to the Advanced Boiling Water Reactor Design Certification Program that requires documentation of line by line verification of coding or coding changes.

Hence, Engineering Computer Programs like REDYA and ODYNA are controlled by the GENE QA program as implemented by EOP 40-3.00.

Application of GE Computer Codes to Design and Analysis

When computer programs are used as part of the design and analysis process in GENE, they must meet the requirements of GE's QA Program as described above. These Engineering Computer Programs have specified software requirements, are tested, independently verified, and controlled and include an error identification and reporting system. The verification of final design calculations using these computer programs focuses on assuring the correct input and proper range of model qualification. However, even with the use of controlled Engineering Computer Programs, the final design or analysis documents themselves are independently verified by design reviews, alternate calculations, or tests to assure the quality and reasonableness of the final product.