

January 20, 1992

Docket No. 50-605

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

Dear Mr. Marriott:

SUBJECT: AUDIT OF GENERAL ELECTRIC CODES ODYNA AND REDYA

Enclosed is the plan for the NRC staff audit of General Electric's (GE's) ODYNA and REDYA transient analysis codes. This audit is scheduled for January 28-30, 1992, at GE's offices in San Jose, California. If you have any questions, please contact Rebecca Nease at 301-504-1125.

Sincerely,

Original Signed By:

Rebecca L. Nease, Project Manager
Standardization Project Directorate
Division of Advanced Reactors
and Special Projects
Office of Nuclear Reactor Regulation

Enclosure:
As stated

cc w/enclosure:
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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AUDIT PLAN FOR REDYA AND ODYNA

General Electric has two principal codes for analyzing BWR transients, REDY and ODYN. The REDY code uses point kinetics and has a lumped model for the steam lines. ODYN has a one dimensional neutron kinetics model and a detailed steam line model. ODYN is primarily used for pressurization transients, while REDY is used for non-pressurization transients. These codes have been improved to model the attributes of the ABWR. These modified codes have been designated as REDYA and ODYNA.

The changes made to these codes have to be technically reviewed and audited for application to ABWR. The audit will be performed in the following manner:

1. Review the theoretical concepts and documentation
 - 1.1 Review the documentation of the new, or modified models in the code
 - 1.2 Review Q/A procedures for development of new models
2. Review the validation and verification associated with the implementation of the changes to the code.
 - 2.1 Verification

Review the documents showing the implementation of the changes and their Q/A procedures
 - 2.2 Validation

Review the validation performed to check the validity of the changes made to the code. The code validation should include modelling of test facilities with a comparison of the code results with the data and also, comparison with results from other validated codes.

AGENDA FOR AUDIT

First Day:

NRR/BNL Introduction/Purpose of audit.

NRR/BNL review the documentation.

GE/NRR/BNL discuss the required changes to the code.

GE responds to the questions arising during prior review and during audit.

Second Day:

NRR/BNL continue to review the documents.

NRR/BNL prepare a list of the questions, and a list of additional documents required for the audit.

Third Day:

Resolve all the questions from the previous days where possible.

Conclusion of audit and feedback to GE.