UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

DV 6-24-94

June 9, 1994

MEMORANDUM FOR: The Chairman
Commissioner Rogers
Commissioner Remick
Commissioner de Planque

COMSECY-94-025

FROM: James M. Taylor
Executive Director for Operations

SUBJECT: FINAL SAFETY EVALUATION REPORT (FSER) FOR THE ADVANCED BOILING WATER REACTOR (ABWR) DESIGN

The purpose of this memorandum is to request Commission approval to publish the enclosed FSER for the GE Nuclear Energy (GE) ABWR design, as indicated in my memorandum dated March 4, 1994. In a memorandum dated December 23, 1993, the Commission was provided with the advance version of the FSER and, in a memorandum dated May 13, 1994, the resolution of the 14 open items that were identified in the advance version of the FSER were forwarded to you. The letter from the Advisory Committee on Reactor Safeguards on the ABWR review is provided in Chapter 21 of the FSER.

In a memorandum dated May 31, 1994, on implementation of design certification issues, it was noted that approval of the FSER also constituted Commission approval of a wide range of technical and policy issues related to the implementation of 10 CFR Part 52, and which were previously provided to the Commission. The staff's safety findings in FSER were based, in part, on the assumption that the Commission agrees with the staff's positions on these issues. If the Commission disagrees with any of the staff's positions or provides alternative guidance on these issues, it is likely that certain review areas and safety conclusions will need to be reassessed by both the staff and the applicant for design certification.

The staff has also prepared the enclosed final design approval (FDA) for the ABWR design. This draft FDA is similar in form and content to other FDAs issued in the past, pursuant to Appendix O of 10 CFR Part 50, including a duration period of 5 years. The staff believes that the FDA should be consistent with past practice and the Commission's policy statement on standardization of nuclear power plants dated August 31, 1978. The draft letter to GE signifies that the technical review stage of design certification is complete, pursuant to Subpart B of 10 CFR Part 52. The staff plans to issue the enclosed FDA after the Commission approves the FSER for publication.

Contact:
Thomas H. Boyce, NRR
504-1130

In summary, the staff requests Commission approval to publish the FSER and issue the FDA for the ABWR design. GE has stated that it will submit the design control document for the ABWR design for NRC review after issuance of the FDA. After the design control document is completed, the staff will submit the proposed design certification rule to the Commission for its review.

Coordination:

The Office of the General Counsel has reviewed this memorandum and has no legal objection to the publication of the FSER or issuance of the FDA for the ABWR design, subject to resolution of the concern identified in the memorandum from William C. Parler, dated May 20, 1994.

SECY, please track.

James M. Taylor
Executive Director
for Operations

Enclosures:
1. FSER for the ABWR
2. FDA for the ABWR

cc w/enclosures:
SECY
OGC
OCA
OPA

Enclosure 1 will be
provided next week
after reproduction.

Docket No. 52-001 DRAFT

Mr. Joseph Quirk
ABWR Certification Program Manager
GE Nuclear Energy
175 Curtner Avenue, Mail Code-782
San Jose, California 95125

Dear Mr. Quirk:

The purpose of this letter is to provide GE Nuclear Energy (GE) with the Final Design Approval (FDA) for the U.S. advanced boiling water reactor (ABWR) standard design. This FDA was issued pursuant to Appendix O of 10 CFR Part 52. This FDA allows the U.S. ABWR standard design to be referenced in an application for a construction permit or operating license pursuant to 10 CFR Part 50, or in an application for a combined license pursuant to 10 CFR Part 52. A copy of the Notice of Issuance of Final Design Approval for the U.S. ABWR standard design, which has been sent to the Federal Register for publication, is also enclosed for your information.

In addition, GE has completed the technical review stage of design certification pursuant to the applicable requirements of Subpart B of 10 CFR Part 52. The staff performed its technical review of the U.S. ABWR standard safety analysis report, certified design material, and technical specifications in accordance with the standards for review of design certification applications set forth in 10 CFR 52.48 that are applicable and technically relevant to the U.S. ABWR standard design, including the exemptions and applicable regulations identified in Section 1.6 of the final safety evaluation report (FSER). On the basis of its evaluation and independent analyses as discussed in the FSER, the staff concludes that, subject to satisfactory completion of the design control document for the U.S. ABWR standard design, GE's application for design certification meets those portions of 10 CFR 52.47 that are applicable and technically relevant to the U.S. ABWR standard design. Therefore, the staff and the ACRS will utilize the U.S. ABWR standard design and will rely on it in the administrative review phase of the design certification process in accordance with 10 CFR 52.51.

Sincerely,

William T. Russell, Director
Office of Nuclear Reactor Regulation

Enclosures:
1. FDA for U.S. ABWR standard design
2. Federal Register Notice

cc w/enclosures:
See next page

Enclosure

DOCKET NO. 52-001

GE NUCLEAR ENERGY (GE)

U.S. ABWR STANDARD DESIGN

FINAL DESIGN APPROVAL (FDA)

PURSUANT TO 10 CFR PART 52, APPENDIX O

(1) GE has submitted to the Nuclear Regulatory Commission's (NRC) staff, for its review, a standardized design for a major portion of a nuclear power facility of the type described in 10 CFR Section 50.22. GE's standard design is described in the U.S. ABWR Standard Safety Analysis Report (SSAR), including Amendments 1 through 35 thereto.

(2) The SSAR contains design information required by 10 CFR Part 52, Appendix O, Paragraph 3, for a standard design. The U.S. ABWR standard design, whose scope is defined in SSAR Section 1.1.2, is for a nuclear power facility with a rated reactor core power level of 3926 megawatts thermal

(3) The NRC staff and the Advisory Committee on Reactor Safeguards (ACRS) have reviewed the U.S. ABWR standard design. The findings of the staff's evaluation of the U.S. ABWR standard design are presented in the Final Safety Evaluation Report (FSER), dated June 1994. The ACRS reported on the application for design certification in a letter dated April 14, 1994 (see Chapter 21 of the FSER), as required by 10 CFR Section 52.53.

(4) Based on its review and the findings given in the FSER, the staff concludes that the information provided in the SSAR, with respect to the U.S. ABWR standard design as described in paragraph 2 above, complies with the requirements of 10 CFR Part 52, Appendix O.

(5) The U.S. ABWR standard design is acceptable for use as a reference design for construction permit and operating license applications and combined license applications for facilities that are located at sites whose characteristics are within the envelope of site parameters given in the SSAR, and the out-of-scope portions of the plant that interface with the approved design conform to the interface requirements given in the SSAR.

(6) This FDA and all applications for operating licenses incorporating it by reference, are subject to all applicable provisions of the Atomic Energy Act, as amended, and the rules and regulations and orders of the Commission now or hereafter in effect.

(7) This FDA does not constitute a commitment to issue a permit, design certification, or license, or in any way affect the authority of the Commission, the Atomic Safety and Licensing Board, and other presiding officers, in any proceeding pursuant to 10 CFR Part 2.

(8) This FDA is effective as of its date of issuance and shall expire [5 years after date of issuance], unless extended by the staff. The expiration of this FDA shall not affect its use in applications docketed before such date.

Dated in Rockville, Maryland, this day of , 1994.

FOR THE NUCLEAR REGULATORY COMMISSION

William T. Russell, Director
Office of Nuclear Reactor Regulation

UNITED STATES NUCLEAR REGULATORY COMMISSION

NOTICE OF ISSUANCE OF FINAL DESIGN APPROVAL

PURSUANT TO 10 CFR PART 52, APPENDIX O

U.S. ADVANCED BOILING WATER REACTOR DESIGN

GE NUCLEAR ENERGY

DOCKET NO. 52-001

The U.S. Nuclear Regulatory Commission has issued a final design approval (FDA) to GE Nuclear Energy (GE) pursuant to 10 CFR Part 52, Appendix O. This FDA allows the U.S. advanced boiling water reactor (ABWR) standard design to be referenced in an application for a construction permit or operating license pursuant to 10 CFR Part 50, or in an application for a combined license pursuant to 10 CFR Part 52.

In addition, GE has completed the technical review stage of design certification pursuant to the applicable requirements of Subpart B of 10 CFR Part 52. The staff performed its technical review of the U.S. ABWR standard safety analysis report, certified design material, and technical specifications in accordance with the standards for review of design certification applications set forth in 10 CFR Section 52.48 that are applicable and technically relevant to the U.S. ABWR standard design, including the exemptions and applicable regulations identified in Section 1.6 of the final safety evaluation report (FSER). On the basis of its evaluation and independent analyses, as discussed in the FSER, the staff concludes that, subject to satisfactory completion of the design control document for the U.S. ABWR standard design, GE's application for design certification meets those portions of 10 CFR Section 52.47 that are applicable and technically relevant

to the U.S. ABWR standard design. Therefore, the staff and the ACRS will utilize the U.S. ABWR standard design and will rely on it in the administrative review phase of the design certification process in accordance with 10 CFR Section 52.51.

A copy of the FDA has been placed in the NRC's Public Docket Room, the Gelman Building, 2120 L Street, N.W., Washington, D.C. 20555, for review by interested persons.

Dated at Rockville, Maryland, this day of 1994.

FOR THE NUCLEAR REGULATORY COMMISSION

Dennis M. Crutchfield, Associate Director
for Advanced Reactors and License Renewal
Office of Nuclear Reactor Regulation