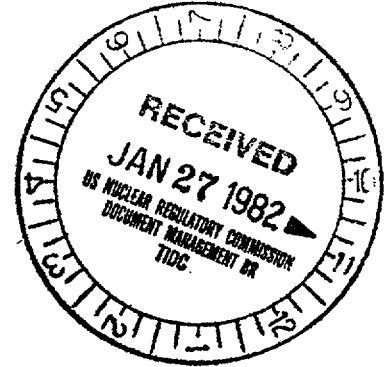


JAN 19 1982

Docket Nos. 50-259
50-260
50-296

Mr. Hugh G. Parris
Manager of Power
Tennessee Valley Authority
500A Chestnut Street, Tower II
Chattanooga, Tennessee 37401



Dear Mr. Parris:

The Commission has issued the enclosed Order modifying the January 13, 1981 Order, as modified by the Order dated November 25, 1981, for Browns Ferry Unit 1. The Commission has also issued the enclosed Orders modifying the Orders dated January 13, 1981, for Browns Ferry Units 2 and 3. These Orders continue in effect the exemptions and extend the completion dates for installation of plant modifications needed to comply with the staff's Acceptance Criteria contained in Appendix A to NUREG-0661 in accordance with the following schedule:

- Browns Ferry Units 1 and 3 - Completion of modifications required by the Mark I program prior to the start of Cycle 6.
- Browns Ferry Unit 2 - Completion of major modifications prior to the start of Cycle 5 and completion of the remaining modifications (minor and torus attached piping) as required by the Mark I program prior to the start of Cycle 6.

The completion schedules reflected in these Orders are those which were contained in the Mark I Owners Group submittal dated June 29, 1981 or as subsequently agreed upon by you and the staff as confirmed in your December 16, 1981 letter and approved by the Commission.

The granting of these extensions is based on information provided to the staff by you and the Mark I Owners Group. Unforeseen difficulties and delays were primarily related to the following: (1) torus and torus attached piping analyses, (2) equipment delivery, (3) outage scheduling at a three unit site, and (4) personnel safety concerns associated with prolonged overtime during extended outages.

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Mr. Hugh G. Parris

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We have reviewed your schedule revisions and believe an acceptable balance has been achieved between the modifications completed which provide a significant improvement in the safety margin and the granting of additional time for completion of the remaining modifications which will fully restore the originally intended safety margin. The plant-unique analyses for your facility should be submitted for confirmatory review in accordance with the schedule provided in the June 29, 1981 Mark I Owners Group Status Summary Report or as subsequently agreed upon by you and the staff.

The issuance of these modifying Orders provides an extension of the exemption from General Design Criterion 50 of Appendix A to 10 CFR Part 50 previously granted to the affected licensees on January 13, 1981. This exemption concerns the minimum margins of safety in the containment design. As part of the Mark I Containment Short-Term Program (STP), the staff determined that a margin of safety of at least two in the containment design was sufficient to assure the containment function in the event of a design-basis loss-of-coolant accident (LOCA) and, therefore, provided an adequate basis for continued plant operation until the completion of the Long-Term Program (LTP). The objective of the LTP, which will be completed when the provisions of the enclosed Orders are satisfied, is to restore the originally intended margins of safety in the containment design (approximately three to four).

A copy of the enclosed Orders is being filed with the Office of the Federal Register for publication.

Sincerely,

ORIGINAL SIGNED BY

Domenic Vassallo, Chief
Operating Reactors Branch #2
Division of Licensing

Enclosure:
Orders

cc: w/enclosure
See next page

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Concurrence by OELD on Vermont Yankee constitutes concurrence on all Mark I Order and Exemption Extensions.

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| DATE | 1/2/82 | 1/1/82 | 1/1/82 | 1/1/82 | 1/1/82 | 1/1/82 | 1/1/82 | 1/1/82 |

Mr. Hugh G. Parris

cc:

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UNITED STATES OF AMERICA
 NUCLEAR REGULATORY COMMISSION

In the Matter of
 TENNESSEE VALLEY AUTHORITY
 (Browns Ferry Nuclear Plant,
 Unit 1)

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Docket No. 50-259

MODIFICATION OF JANUARY 13, 1981
 AND NOVEMBER 25, 1981 ORDERS

I.

The Tennessee Valley Authority (the licensee) is the holder of Facility Operating License No. DPR-33 which authorizes the licensee to operate the Browns Ferry Nuclear Plant, Unit 1 (the facility) at power levels not in excess of 3293 megawatts thermal (rated power). The facility is a boiling water reactor located at the licensee's site in Limestone County, Alabama.

II.

On January 13, 1981 the Commission issued an Order modifying the license requiring: (1) the licensee to promptly assess the suppression pool hydrodynamic loads in accordance with NEDO-21888 and NEDO-24583-1 and the Acceptance Criteria contained in Appendix A to NUREG-0661 and (2) design and install any plant modifications needed to assure that the facility conforms to the Acceptance Criteria contained in Appendix A to NUREG-0661. The Order, published in the Federal Register on January 28, 1981 (46 FR 9318), required installation of any plant modifications needed to provide compliance with the Acceptance Criteria in Appendix A to NUREG-0661 be completed not later than October 31, 1981, or, if the plant is shutdown on that date, before the resumption of power operation thereafter.

On November 25, 1981 a 45-day extension of this January 13, 1981 Order, published in the Federal Register on December 3, 1981 (46 FR-58759), was granted by the Director of the Division of Licensing pending Commission approval of a staff generic proposal to extend the completion dates for the Mark I long-term program containment modifications for all affected licensees.

III.

On October 31, 1979 the staff issued an initial version of its acceptance criteria to the affected licensees. These criteria were subsequently revised in February 1980 to reflect acceptable alternative assessment techniques which would enhance the implementation of this program. Throughout the development of these acceptance criteria, the staff has worked closely with the Mark I Owners Group in order to encourage partial plant-unique assessments and modifications to be undertaken.

Since the development of these acceptance criteria, significant progress has been made by the licensee in meeting the Order requirements. However, by letter dated May 22, 1981 the licensee stated that unforeseen difficulties and delays have been encountered primarily related to torus and torus attached piping analyses, equipment delivery, outage scheduling at a three unit site, and personnel safety concerns associated with prolonged overtime during extended outages that have necessitated revision of the Order date.

Browns Ferry Unit 1 was shutdown for six months (April 11 to October 1, 1981) primarily for torus modifications. During that outage most of the major modifications, which are those associated with the torus, vent system, internal structures and safety relief valve piping were completed. These modifications comprise a significant portion of the total program effort. The remaining items to be completed are primarily associated with the torus attached piping modifications.

The Commission believes that substantial improvements have already been made in the margins of safety of the containment systems and expects improvements will continue to be made during the period until all the modifications required for compliance with this Order are completed. The Commission further believes an acceptable balance has been achieved between completion of most of the major modifications, which provide significant improvement in the safety margin, and the granting of additional time for completion of the remaining modifications which fully restore the originally intended safety margin. In consideration of the range of completion dates submitted by all of the affected licensees and an assessment of the nature of the remaining effort involved in the analysis, design and installation of the needed plant modifications, the Commission has concluded that the licensee's proposed completion schedule is both responsive and practicable.

The Commission has, therefore, determined to modify the January 13, 1981 Order, as modified by the Order of November 25, 1981, to extend the previously imposed completion date for needed plant modifications. This Order continues in effect the exemption to General Design Criterion 50 of Appendix A to 10 CFR Part 50 granted on January 13, 1981.

IV.

Accordingly, pursuant to the Atomic Energy Act of 1954, as amended, including Sections 103 and 161i, and the Commission's rules and regulations in 10 CFR Parts 2 and 50, IT IS ORDERED that the completion date specified in Section V of the January 13, 1981 "Order for Modification of License," as modified by the Order of November 25, 1981, is hereby changed to read as follows: "prior to the start of Cycle 6." The Order of January 13, 1981 except as modified herein, remains in effect in accordance with its terms.

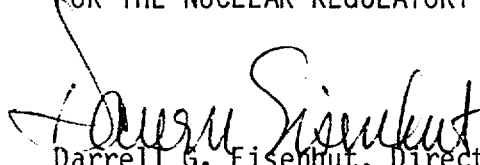
V.

The licensee may request a hearing on this Order within 30 days of the date of publication of this Order in the Federal Register. A request for hearing shall be submitted to the Director, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Copies of the request shall also be sent to the Secretary of the Commission and the Executive Legal Director at the same address.

If a hearing is requested by the licensee, the Commission will issue an order designating the time and place of any such hearing. If a hearing is held, the issue to be considered at such a hearing shall be whether the completion date specified in Section V of the January 13, 1981, "Order for Modification of License," should be changed to "prior to start of Cycle 6."

This Order shall become effective upon expiration of the period within which a hearing may be requested or, if a hearing is requested, on the date specified in an order issued following further proceedings on this Order.

FOR THE NUCLEAR REGULATORY COMMISSION



Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation

Dated at Bethesda, Maryland,
this 19th day of January 1982

UNITED STATES OF AMERICA
 NUCLEAR REGULATORY COMMISSION

In the Matter of)
 TENNESSEE VALLEY AUTHORITY) Docket No. 50-260
 (Browns Ferry Nuclear Plant,)
 Unit 2))

MODIFICATION OF JANUARY 13, 1981 ORDER

I.

The Tennessee Valley Authority (the licensee) is the holder of Facility Operating License No. DPR-52 which authorizes the licensee to operate the Browns Ferry Nuclear Plant, Unit 2 (the facility) at power levels not in excess of 3293 megawatts thermal (rated power). The facility is a boiling water reactor located at the licensee's site in Limestone County, Alabama.

II.

On January 13, 1981 the Commission issued an Order modifying the license requiring: (1) the licensee to promptly assess the suppression pool hydrodynamic loads in accordance with NEDO-21888 and NEDO-24583-1 and the Acceptance Criteria contained in Appendix A to NUREG-0661 and (2) design and install any plant modifications needed to assure that the facility conforms to the Acceptance Criteria contained in Appendix A to NUREG-0661. The Order, published in the Federal Register on January 28, 1981 (46 FR 9320), required installation of any plant modifications needed to provide compliance with the Acceptance Criteria in Appendix A to NUREG-0661 be completed not later than September 30, 1982, or, if the plant is shutdown on that date, before the resumption of power operation thereafter.

III.

On October 31, 1979 the staff issued an initial version of its acceptance criteria to the affected licensees. These criteria were subsequently revised in February 1980 to reflect acceptable alternative assessment techniques which would enhance the implementation of this program. Throughout the development of these acceptance criteria, the staff has worked closely with the Mark I Owners Group in order to encourage partial plant-unique assessments and modifications to be undertaken.

Since the development of these acceptance criteria, significant progress has been made by the licensee in meeting the Order requirements. However, by letter dated May 22, 1981 the licensee stated that unforeseen difficulties and delays have been encountered primarily related to torus and torus attached piping analyses, equipment delivery, outage scheduling at a three unit site, and personnel safety concerns associated with prolonged overtime during extended outages that have necessitated revision of the Order date.

The major modifications, which are those associated with the torus, vent system, internal structures and safety relief valve piping, which comprise approximately 75% of the total program effort, will be completed during the outage that is expected to coincide with the existing Order date. The remaining items to be completed are primarily associated with the torus attached piping modifications.

The Commission believes that substantial improvements have already been made in the margins of safety of the containment systems and expects improvements will continue to be made during the period until all the modifications required for compliance with this Order are completed. The Commission further believes an acceptable balance has been achieved between completion of the major modifications, which provide significant improvement in the safety margin, and the granting of additional time for completion of the remaining modifications which fully restore the originally intended safety margin. In consideration of the range of completion dates submitted by all of the affected licensees and an assessment of the nature of the remaining effort involved in the analysis, design and installation of the needed plant modifications, the Commission has concluded that the licensee's proposed completion schedule is both responsive and practicable.

The Commission has, therefore, determined to modify the January 13, 1981 Order to extend the previously imposed completion date for needed plant modifications. This Order continues in effect the exemption to General Design Criterion 50 of Appendix A to 10 CFR Part 50 granted on January 13, 1981.

IV.

Accordingly, pursuant to the Atomic Energy Act of 1954, as amended, including Sections 103 and 161i, and the Commission's rules and regulations in 10 CFR Parts 2 and 50, IT IS ORDERED that the completion date specified in Section V of the January 13, 1981, "Order for Modification of License," is hereby changed to read as follows: "prior to the start of Cycle 5 for completion of all the major modifications and prior to the start of Cycle 6 for completion of all the remaining modifications." The Order of January 13, 1981, except as modified herein, remains in effect in accordance with its terms.

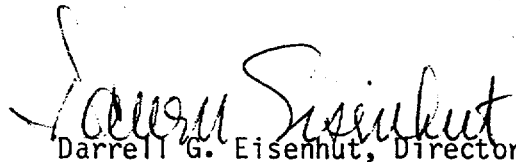
V.

The licensee may request a hearing on this Order within 30 days of the date of publication of this Order in the Federal Register. A request for hearing shall be submitted to the Director, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Copies of the request shall also be sent to the Secretary of the Commission and the Executive Legal Director at the same address.

If a hearing is requested by the licensee, the Commission will issue an order designating the time and place of any such hearing. If a hearing is held, the issue to be considered at such a hearing shall be whether the completion date specified in Section V of the January 13, 1981, "Order for Modification of License," should be changed to "prior to start of Cycle 5 for completion of major modifications and prior to the start of Cycle 6 for completion of all the remaining modifications."

This Order shall become effective upon expiration of the period within which a hearing may be requested or, if a hearing is requested, on the date specified in an order issued following further proceedings on this Order.

FOR THE NUCLEAR REGULATORY COMMISSION



Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation

Dated at Bethesda, Maryland,
this 19th day of January 1982

UNITED STATES OF AMERICA
 NUCLEAR REGULATORY COMMISSION

In the Matter of
 TENNESSEE VALLEY AUTHORITY
 (Browns Ferry Nuclear Plant,
 Unit 3)

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Docket No. 50-296

MODIFICATION OF JANUARY 13, 1981 ORDER

I.

The Tennessee Valley Authority (the licensee) is the holder of Facility Operating License No. DPR-68 which authorizes the licensee to operate the Browns Ferry Nuclear Plant, Unit 3 (the facility) at power levels not in excess of 3293 megawatts thermal (rated power). The facility is a boiling water reactor located at the licensee's site in Limestone County, Alabama.

II.

On January 13, 1981 the Commission issued an Order modifying the license requiring: (1) the licensee to promptly assess the suppression pool hydrodynamic loads in accordance with NEDO-21888 and NEDO-24583-1 and the Acceptance Criteria contained in Appendix A to NUREG-0661 and (2) design and install any plant modifications needed to assure that the facility conforms to the Acceptance Criteria contained in Appendix A to NUREG-0661. The Order, published in the Federal Register on January 28, 1981 (46 FR-9321), required installation of any plant modifications needed to provide compliance with the Acceptance Criteria in Appendix A to NUREG-0661 be completed not later than March 31, 1982, or, if the plant is shutdown on that date, before the resumption of power operation thereafter.

III.

On October 31, 1979 the staff issued an initial version of its acceptance criteria to the affected licensees. These criteria were subsequently revised in February 1980 to reflect acceptable alternative assessment techniques which would enhance the implementation of this program. Throughout the development of these acceptance criteria, the staff has worked closely with the Mark I Owners Group in order to encourage partial plant-unique assessments and modifications to be undertaken.

Since the development of these acceptance criteria, significant progress has been made by the licensee in meeting the Order requirements. However, by letter dated May 22, 1981 the licensee stated that unforeseen difficulties and delays have been encountered primarily related to torus and torus attached piping analyses, equipment delivery, outage scheduling at a three unit site, and personnel safety concerns associated with prolonged overtime during extended outages that have necessitated revision of the Order date.

Browns Ferry Unit 3 will be shutdown for over 4 months (October 30, 1981 to approximately March 6, 1982) primarily for torus modifications. During this outage most of the major modifications, which are those associated with the torus, vent system, internal structures and safety relief valve piping will be completed. These modifications comprise a significant portion of the total program effort. The remaining items to be completed are primarily associated with the torus attached piping modifications.

The Commission believes that substantial improvements have already been made in the margins of safety of the containment systems and expects improvements will continue to be made during the period until all the modifications required for compliance with this Order are completed. The Commission further believes an acceptable balance has been achieved between completion of most of the major modifications, which provide significant improvement in the safety margin, and the granting of additional time for completion of the remaining modifications which fully restore the originally intended safety margin. In consideration of the range of completion dates submitted by all of the affected licensees and an assessment of the nature of the remaining effort involved in the analysis, design and installation of the needed plant modifications, the Commission has concluded that the licensee's proposed completion schedule is both responsive and practicable.

The Commission has, therefore, determined to modify the January 13, 1981 Order to extend the previously imposed completion date for needed plant modifications. This Order continues in effect the exemption to General Design Criterion 50 of Appendix A to 10 CFR Part 50 granted on January 13, 1981.

IV.

Accordingly, pursuant to the Atomic Energy Act of 1954, as amended, including Sections 103 and 161i, and the Commission's rules and regulations in 10 CFR Parts 2 and 50, IT IS ORDERED that the completion date specified in Section V of the January 13, 1981, "Order for Modification of License," is hereby changed to read as follows: "prior to the start of Cycle 6." The Order of January 13, 1981, except as modified herein, remains in effect in accordance with its terms.

v.

The licensee may request a hearing on this Order within 30 days of the date of publication of this Order in the Federal Register. A request for hearing shall be submitted to the Director, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Copies of the request shall also be sent to the Secretary of the Commission and the Executive Legal Director at the same address.

If a hearing is requested by the licensee, the Commission will issue an order designating the time and place of any such hearing. If a hearing is held, the issue to be considered at such a hearing shall be whether the completion date specified in Section V of the January 13, 1981, "Order for Modification of License," should be changed to "prior to start of Cycle 6."

This Order shall become effective upon expiration of the period within which a hearing may be requested or, if a hearing is requested, on the date specified in an order issued following further proceedings on this Order.

FOR THE NUCLEAR REGULATORY COMMISSION



Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation

Dated at Bethesda, Maryland,
this 19th day of January 1982