



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-259

BROWNS FERRY NUCLEAR PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 217
License No. DPR-33

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Tennessee Valley Authority (the licensee) dated September 29, 1993, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

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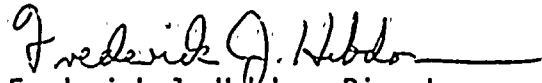
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-33 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 217, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days from the date of issuance.

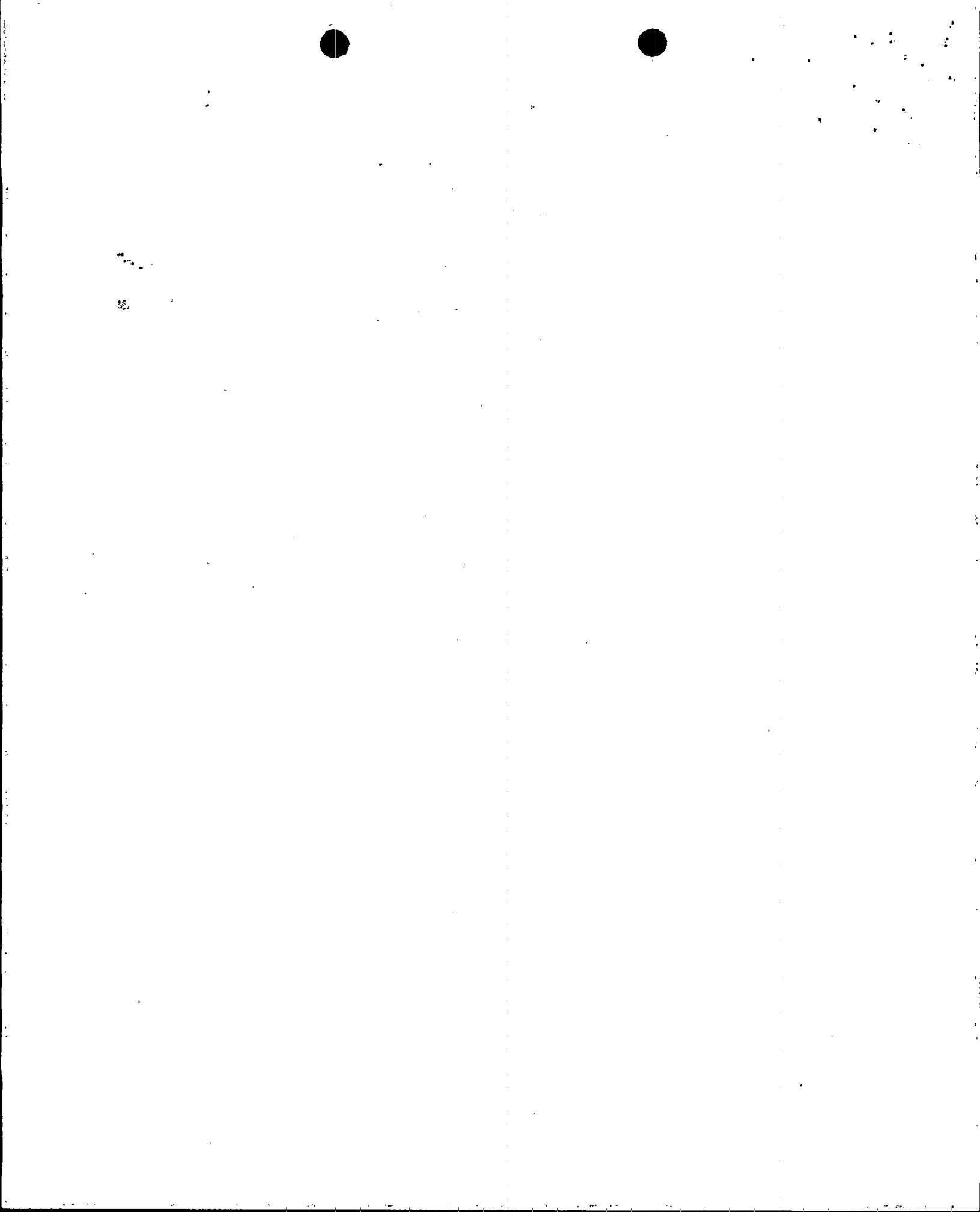
FOR THE NUCLEAR REGULATORY COMMISSION



Frederick J. Heddon, Director
Project Directorate II-4
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: February 28, 1995



ATTACHMENT TO LICENSE AMENDMENT NO. 217

FACILITY OPERATING LICENSE NO. DPR-33

DOCKET NO. 50-259

Revise the Appendix A Technical Specifications by removing the pages identified below and inserting the enclosed pages. The revised pages are identified by the captioned amendment number and contain marginal lines indicating the area of change. Overleaf* page is provided to maintain document completeness.

REMOVE

3.4/4.4-3
3.4/4.4-4

INSERT

3.4/4.4-3
3.4/4.4-4*



3.4/4.4 STANDBY LIQUID CONTROL SYSTEM

LIMITING CONDITIONS FOR OPERATION

SURVEILLANCE REQUIREMENTS

3.4.B. Operation with Inoperable Components

1. From and after the date that a redundant component is made or found to be inoperable, Specification 3.4.A.1 shall be considered fulfilled and continued operation permitted provided that the component is returned to an operable condition within seven days.

3.4.C Sodium Pentaborate Solution

At all times when the Standby Liquid Control System is required to be OPERABLE, the following conditions shall be met:

1. At least 186 pounds Boron-10 must be stored in the Standby Liquid Control Solution Tank and be available for injection.
2. The sodium pentaborate solution concentration must be equal to or less than 9.2% by weight.

4.4.B. Surveillance with Inoperable Components

1. When a component is found to be inoperable, its redundant component shall be demonstrated to be operable immediately and daily thereafter until the inoperable component is repaired.

4.4.C Sodium Pentaborate Solution

The following tests shall be performed to verify the availability of the Liquid Control Solution:

1. Volume: Check at least once per day.
2. Sodium Pentaborate Concentration check at least once per month. Also check concentration within 24 hours anytime water or boron is added to the solution.
3. Boron-10 Quantity:

At least once per month, calculate and record the quantity of Boron-10 stored in the Standby Liquid Control Solution Tank.
4. Boron-10 Enrichment: At least once per 18 months and following each addition of boron to the Standby Liquid Control Solution Tank:



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3.4/4.4 STANDBY LIQUID CONTROL SYSTEM

LIMITING CONDITIONS FOR OPERATION

SURVEILLANCE REQUIREMENTS

3.4.D Standby Liquid Control System Requirements

The Standby Liquid Control System conditions must satisfy the following equation.
$$\left(\frac{C}{13 \text{ wt.}\%}\right)\left(\frac{Q}{86 \text{ gpm}}\right)\left(\frac{E}{19.8 \text{ atom}\%}\right) \geq 1$$

where,

C = sodium pentaborate solution concentration (weight percent)

Determined by the most recent performance of the surveillance instruction required by Specification 4.4.C.2.

Q = pump flow rate (gpm)

Determined by the most recent performance of the surveillance instruction required by Specification 4.4.A.2.b.

E = Boron-10 enrichment (atom percent Boron-10)

Determined by the most recent performance of the surveillance instruction required by Specification 4.4.C.4.

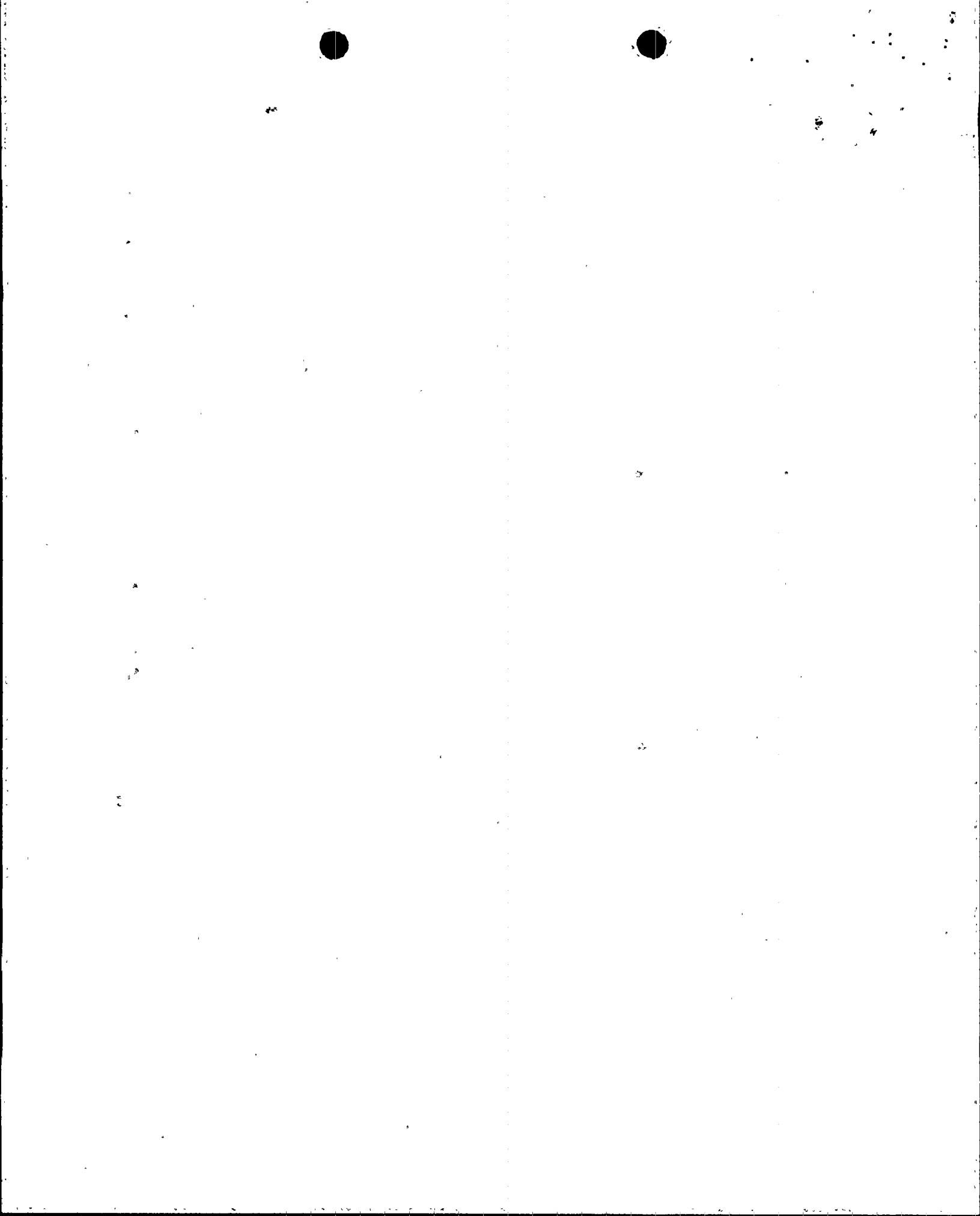
1. If Specification 3.4.A through 3.4.D cannot be met, make at least one subsystem OPERABLE within 8 hours or the reactor shall be placed in a SHUTDOWN CONDITION with all operable control rods fully inserted within the following 12 hours.

- a. Calculate the enrichment within 24 hours.
- b. Verify by analysis within 30 days.

4.4.D Standby Liquid Control System Requirements

Verify that the equation given in Specification 3.4.D is satisfied at least once per month and within 24 hours anytime water or boron is added to the solution.

1. No additional surveillance required.





UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-260

BROWNS FERRY NUCLEAR PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 233
License No. DPR-52

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Tennessee Valley Authority (the licensee) dated September 29, 1993, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.



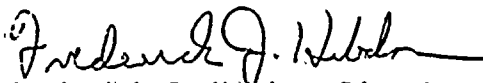
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-52 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 233, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Frederick J. Hebdon, Director
Project Directorate II-4
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: February 28, 1995



ATTACHMENT TO LICENSE AMENDMENT NO. 233

FACILITY OPERATING LICENSE NO. DPR-52

DOCKET NO. 50-260

Revise the Appendix A Technical Specifications by removing the pages identified below and inserting the enclosed pages. The revised pages are identified by the captioned amendment number and contain marginal lines indicating the area of change. Overleaf* page is provided to maintain document completeness.

REMOVE

3.4/4.4-3
3.4/4.4-4

INSERT

3.4/4.4-3
3.4/4.4-4*



3.4/4.4 STANDBY LIQUID CONTROL SYSTEM

LIMITING CONDITIONS FOR OPERATION

SURVEILLANCE REQUIREMENTS

3.4.B. Operation with Inoperable Components

1. From and after the date that a redundant component is made or found to be inoperable, Specification 3.4.A.1 shall be considered fulfilled and continued operation permitted provided that the component is returned to an operable condition within seven days.

3.4.C Sodium Pentaborate Solution

At all times when the Standby Liquid Control System is required to be OPERABLE, the following conditions shall be met:

1. At least 186 pounds Boron-10 must be stored in the Standby Liquid Control Solution Tank and be available for injection.
2. The sodium pentaborate solution concentration must be equal to or less than 9.2% by weight.

4.4.B. Surveillance with Inoperable Components

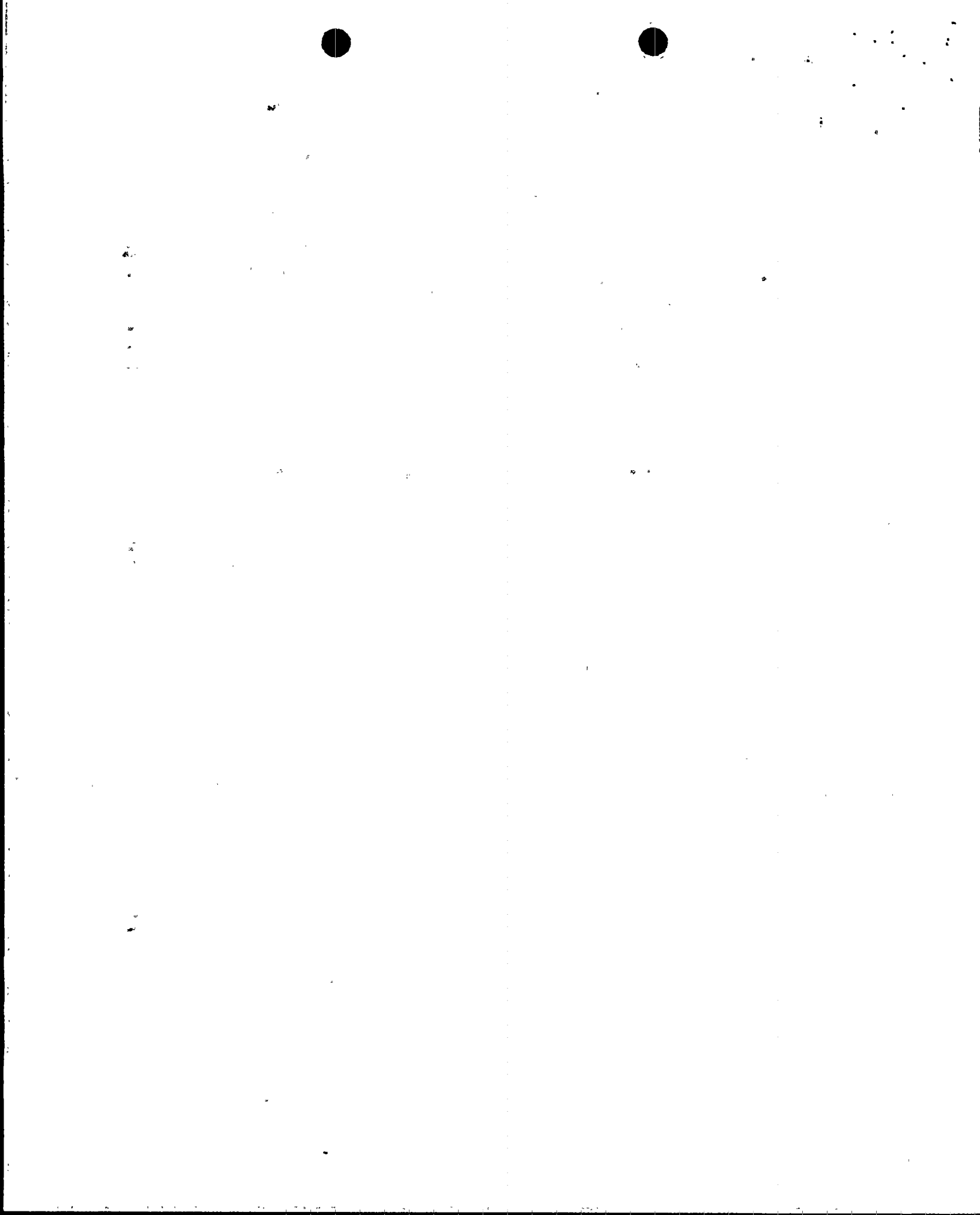
1. When a component is found to be inoperable, its redundant component shall be demonstrated to be operable immediately and daily thereafter until the inoperable component is repaired.

4.4.C Sodium Pentaborate Solution

The following tests shall be performed to verify the availability of the Liquid Control Solution:

1. Volume: Check at least once per day.
2. Sodium Pentaborate Concentration check at least once per month. Also check concentration within 24 hours anytime water or boron is added to the solution.
3. Boron-10 Quantity:

At least once per month, calculate and record the quantity of Boron-10 stored in the Standby Liquid Control Solution Tank.
4. Boron-10 Enrichment: At least once per 18 months and following each addition of boron to the Standby Liquid Control Solution Tank:



3.4/4.4 STANDBY LIQUID CONTROL SYSTEM

LIMITING CONDITIONS FOR OPERATION

SURVEILLANCE REQUIREMENTS

3.4.D Standby Liquid Control System Requirements

The Standby Liquid Control System conditions must satisfy the following equation.

$$\left(\frac{C}{13 \text{ wt.}\%} \right) \left(\frac{Q}{86 \text{ gpm}} \right) \left(\frac{E}{19.8 \text{ atom}\%} \right) \geq 1$$

where,

C = sodium pentaborate solution concentration (weight percent)

Determined by the most recent performance of the surveillance instruction required by Specification 4.4.C.2.

Q = pump flow rate (gpm)

Determined by the most recent performance of the surveillance instruction required by Specification 4.4.A.2.b.

E = Boron-10 enrichment (atom percent Boron-10)

Determined by the most recent performance of the surveillance instruction required by Specification 4.4.C.4.

1. If Specification 3.4.A through 3.4.D cannot be met, make at least one subsystem OPERABLE within 8 hours or the reactor shall be placed in a SHUTDOWN CONDITION with all OPERABLE control rods fully inserted within the following 12 hours.

- a. Calculate the enrichment within 24 hours.
- b. Verify by analysis within 30 days.

4.4.D Standby Liquid Control System Requirements

Verify that the equation given in Specification 3.4.D is satisfied at least once per month and within 24 hours anytime water or boron is added to the solution.

1. No additional surveillance required.





UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-296

BROWNS FERRY NUCLEAR PLANT, UNIT 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 191
License No. DPR-68

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Tennessee Valley Authority (the licensee) dated September 29, 1993, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.



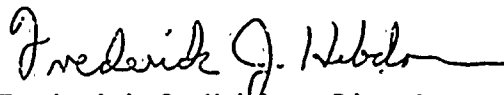
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-68 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 191, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Frederick J. Hebdon, Director
Project Directorate II-4
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications.

Date of Issuance: February 28, 1995.

ATTACHMENT TO LICENSE AMENDMENT NO. 191

FACILITY OPERATING LICENSE NO. DPR-68

DOCKET NO. 50-296

Revise the Appendix A Technical Specifications by removing the pages identified below and inserting the enclosed pages. The revised pages are identified by the captioned amendment number and contain marginal lines indicating the area of change. Overleaf* page is provided to maintain document completeness.

REMOVE

3.4/4.4-3
3.4/4.4-4

INSERT

3.4/4.4-3
3.4/4.4-4*



3.4/4.4 STANDBY LIQUID CONTROL SYSTEM

LIMITING CONDITIONS FOR OPERATION

SURVEILLANCE REQUIREMENTS

3.4.B. Operation with Inoperable Components

1. From and after the date that a redundant component is made or found to be inoperable, Specification 3.4.A.1 shall be considered fulfilled and continued operation permitted provided that the component is returned to an operable condition within seven days.

3.4.C Sodium Pentaborate Solution

At all times when the Standby Liquid Control System is required to be OPERABLE, the following conditions shall be met:

1. At least 186 pounds Boron-10 must be stored in the Standby Liquid Control Solution Tank and be available for injection.
2. The sodium pentaborate solution concentration must be equal to or less than 9.2% by weight.

4.4.B. Surveillance with Inoperable Components

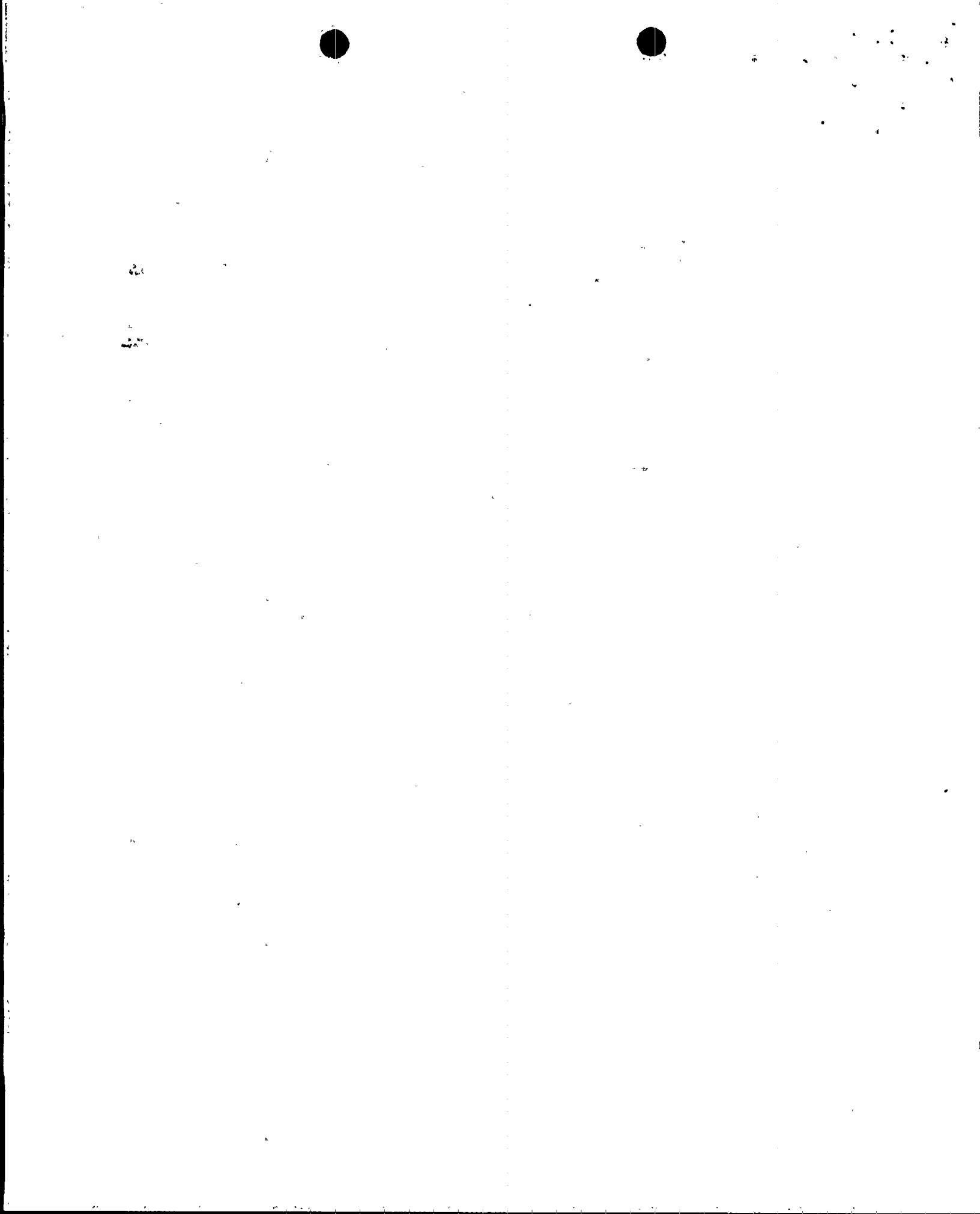
1. When a component is found to be inoperable, its redundant component shall be demonstrated to be operable immediately and daily thereafter until the inoperable component is repaired.

4.4.C Sodium Pentaborate Solution

The following tests shall be performed to verify the availability of the Liquid Control Solution:

1. Volume: Check at least once per day.
2. Sodium Pentaborate Concentration check at least once per month. Also check concentration within 24 hours anytime water or boron is added to the solution.
3. Boron-10 Quantity:

At least once per month, calculate and record the quantity of Boron-10 stored in the Standby Liquid Control Solution Tank.
4. Boron-10 Enrichment: At least once per 18 months and following each addition of boron to the Standby Liquid Control Solution Tank:



3.4/4.4 STANDBY LIQUID CONTROL SYSTEM

LIMITING CONDITIONS FOR OPERATION

SURVEILLANCE REQUIREMENTS

3.4.D Standby Liquid Control System Requirements

The Standby Liquid Control System conditions must satisfy the following equation.

$$\frac{(C)(Q)(E)}{(13 \text{ wt.}\%)(86 \text{ gpm})(19.8 \text{ atom}\%)} \geq 1$$

where,

C = sodium pentaborate solution concentration (weight percent)

Determined by the most recent performance of the surveillance instruction required by Specification 4.4.C.2.

Q = pump flow rate (gpm)

Determined by the most recent performance of the surveillance instruction required by Specification 4.4.A.2.b.

E = Boron-10 enrichment (atom percent Boron-10)

Determined by the most recent performance of the surveillance instruction required by Specification 4.4.C.4.

1. If Specification 3.4.A through 3.4.D cannot be met, make at least one subsystem OPERABLE within 8 hours or the reactor shall be placed in a SHUTDOWN CONDITION with all OPERABLE control rods fully inserted within the following 12 hours.

- a. Calculate the enrichment within 24 hours.
- b. Verify by analysis within 30 days.

4.4.D Standby Liquid Control System Requirements

Verify that the equation given in Specification 3.4.D is satisfied at least once per month and within 24 hours anytime water or boron is added to the solution.

1. No additional surveillance required.

