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. 201
License No. DPR-33

The Nuclear Regulatory Commission (the Commission) has found that:

A. The application for amendment by Tennessee Valley Authority (the licensee) dated August 27, 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-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. 201, 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 January 1, 1994.

FOR THE NUCLEAR REGULATORY COMMISSION

Joseph F. Williams FOR

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: December 2, 1993

ATTACHMENT TO LICENSE AMENDMENT NO. 201

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* and spill-over** pages are provided to maintain document completeness.

REMOVE	INSERT
v	v
vi	vi*
1.0-11	1.0-11
1.0-12	1.0-12*
3.8/4.8-9	3.8/4.8-9
3.8/4.8-10	3.8/4.8-10*
6.0-21	6.0-21*
6.0-22	6.0-22
6.0-23	6.0-23
6.0-23a	6.0-23a
6.0-23b	6.0-23b
6.0-23c	6.0-23c**
6.0-24	6.0-24**
6.0-25	6.0-25
6.0-29	6.0-29*
6.0-30	6.0-30
6.0-33	6.0-33
6.0-34	6.0-34*

LIST OF TABLES

GG. Site Boundary - Shall be that line beyond which the land is not owned, leased, or otherwise controlled by TVA.

HH. Unrestricted Area - Any area at or beyond the SITE BOUNDARY to which access is not controlled by the licensee for purposes of protection of individuals from exposure to radiation and radioactive materials or any area within the SITE BOUNDARY used for industrial, commercial, institutional, or recreational purposes.

II. Dose Equivalent I-131 - The DOSE EQUIVALENT I-131 shall be the concentration of I-131 (in μCi/gm) which alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134, and I-135 actually present. The thyroid dose conversion factor used for this calculation shall be those listed in Table III of TID-14844 "Calculation of Distance Factors for Power and Test Reactor Sites".

JJ. Gaseous Waste Treatment System - The charcoal adsorber vessels installed on the discharge of the steam jet air ejector to provide delay to a unit's offgas activity prior to release.

KK. Members of the Public - An individual in a controlled or UNRESTRICTED AREA. However, an individual is not a MEMBER OF THE PUBLIC during any period in which the individual receives an occupational dose (as defined in 10 CFR 20).

LL. Surveillance - Surveillance Requirements shall be met during the OPERATIONAL CONDITIONS or other conditions specified for individual limiting conditions for operation unless otherwise stated in an individual Surveillance Requirements. Each Surveillance Requirement shall be performed within the specified surveillance interval with a maximum allowable extension not to exceed 25 percent of the specified surveillance interval. It is not intended that this (extension) provision be used repeatedly as a convenience to extend surveillance intervals beyond that specified for surveillances that are not performed during refueling outages.

Performance of a Surveillance Requirement within the specified time interval shall constitute compliance and OPERABILITY requirements for a limiting condition for operation and associated action statements unless otherwise required by these specifications. Surveillance Requirements do not have to be performed on inoperable equipment.

MM. Surveillance Requirements for ASME Section XI Pump and Valve Program - Surveillance Requirements for Inservice Testing of ASME Code Class 1, 2, and 3 components shall be applicable as follows:

1. Inservice testing of ASME Code Class 1, 2, and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50, Section 50.55(g)(6)(i).

2. Surveillance intervals specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda for the inservice testing activities required by the ASME Boiler and Pressure Vessel Code and applicable Addenda shall be applicable as follows in these technical specifications:

ASME Boiler and Pressure Vessel Code and applicable Addenda terminology for inservice testing activities	Required frequencies for performing inservice testing activities
Weekly	At least once per 7 days
Monthly	At least once per 31 days
Quarterly or every 3 months	At least once per 92 days
Semiannually or every 6 months	At least once per 184 days
Every 9 months	At least once per 276 days
Yearly or annually	At least once per 366 days

3. The provisions of Specification 1.0.LL are applicable to the above required frequencies for performing inservice testing activities.

4. Performance of the above inservice testing activities shall be in addition to other specified surveillance requirements.

5. Nothing in the ASME Boiler and Pressure Vessel Code shall be construed to supersede the requirements of any technical specification.

6. The inservice inspection program for piping identified in NRC Generic Letter 88-01 shall be performed in accordance with the staff positions on schedule, methods, personnel, and sample expansion included in this generic letter.

3.8 BASES

(Deleted)

3.8.A LIQUID HOLDUP TANKS

Specification 3.8.A.5 includes any tanks containing radioactive material that are not surrounded by liners, dikes, or walls capable of holding the contents and that do not have overflows and surrounding area drains connected to the liquid radwaste treatment system. Restricting the quantity of radioactive material contained in the specified tanks provides assurance that in the event of an uncontrolled release of the tanks' contents, the resulting concentrations would be less than the limits of 10 CFR Part 20, Appendix B, Table 2, Column 2, at the nearest potable water supply and the nearest surface water supply in an UNRESTRICTED AREA.

3.8.B EXPLOSIVE GAS MIXTURE

Specification 3.8.B.9 and 10 is provided to ensure that the concentration of potentially explosive gas mixtures contained in the offgas system is maintained below the flammability limits of hydrogen. Maintaining the concentration of hydrogen below its flammability limit provides assurance that the releases of radioactive materials will be controlled in conformance with the requirements of General Design Criterion 60 of Appendix A to 10 CFR Part 50.

4.8.A and 4.8.B BASES

(Deleted)

3.8.C and 4.8.C BASES

(Deleted)

3.8.D and 4.8.D MECHANICAL VACUUM PUMP

The purpose of isolating the mechanical vacuum pump line is to limit the release of activity from the main condenser. During an accident, fission products would be transported from the reactor through the main steam lines to the condenser. The fission product radioactivity would be sensed by the main steam line radioactivity monitors which initiate isolation.

3.8.E and 4.8.E BASES

The limitations on removable contamination for sources requiring leak testing, including alpha emitters, based on 10 CFR 70.39(c) limits for plutonium. This limitation will ensure that leakage from byproduct, source, and special nuclear material sources will not exceed allowable intake values. Sealed sources are classified into three groups according to their use, with surveillance requirements commensurate with the probability of damage to a source in that group. Those sources which are frequently handled are required to be tested more often than those which are not. Sealed sources which are continuously enclosed within a shielded mechanism (i.e., sealed sources within radiation monitoring or boron measuring devices) are considered to be stored and need not be tested unless they are removed from the shielded mechanism.

6.8.1.2 Each administrative procedure required by Section 6.8.1.1.a. shall be reviewed by PORC and all other procedures required by Section 6.8.1.1.a. shall be reviewed in accordance with Section 6.5.3.

6.8.1.3 Temporary changes to procedures of Specification 6.8.1.1 may be made provided:

a. The intent of the original procedure is not altered;

b. The change is approved by two members of the plant management staff, at least one of whom holds a Senior Operator License on the unit affected;

c. The change is documented, reviewed by the PORC and approved by the Plant Manager within 14 days of implementation, for changes in administrative procedures requiring PORC review.

d. The change is documented, reviewed per Specification 6.5.3, and approved by the responsible group section supervisor within 14 days of implementation, for changes to procedures other than administrative procedures.

DRILLS

6.8.2 Drills on actions to be taken under emergency conditions involving release of radioactivity are specified in the Radiological Emergency Plan and shall be conducted annually. Annual drills shall also be conducted on the actions to be taken following failures of safety-related systems or components.

6.8.3 Radiation Control Procedures shall be maintained and made available to all station personnel. These procedures shall contain radiation dose limits and shall be consistent with the requirements of 10 CFR 20. This radiation protection program shall be organized to meet the requirements of 10 CFR 20 except for the "control device" or "alarm signal" required by 20.1601(a).

6.8.3.1 Each high radiation area as defined in 10 CFR 20 shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiological Work Permit. Individuals qualified in radiation protection procedures (e.g., a radiological control technician), or personnel escorted by such individuals, shall be exempt from RWP requirements during the performance of their assigned duties in high radiation areas with radiation dose rates equal to or less than 1 rem in 1 hour at 30 centimeters, provided they otherwise comply with approved radiation protection procedures for entry into high radiation areas. Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

a. A radiation monitoring device which continuously indicates the radiation dose rate in the area.

b. A radiation monitoring device which continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate level in the area has been established and personnel have been made knowledgeable of them.

c. An individual qualified in radiation protection procedures who is equipped with a radiation dose rate monitoring device. This individual shall be responsible for providing positive radiation protection control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified in the Radiological Work Permit.

6.8.3.2 In addition, areas that are accessible to personnel and that have radiation levels greater than 1 rem in 1 hour as measured at 30 centimeters, but less than 500 rads in 1 hour at 1 meter from the radiation source or from the surface which the radiation penetrates shall be provided with locked doors to prevent unauthorized entry. The keys shall be under the administrative control of the duty Shift Operations Supervisor, Radiological Control Manager or their respective designees. Doors shall remain locked except during periods of access by personnel under an approved RWP which specifies the dose rates in the immediate work areas and maximum allowable stay time for individuals in that area. In lieu of the stay time requirement of the RWP, direct or remote (such as closed circuit TV cameras) continuous surveillance may be made by individuals qualified in radiation protection procedures to provide positive exposure control over the activities being performed in the area.

6.8.3.3 Individual radiation areas that are accessible to personnel, have radiation levels greater than 1 rem in 1 hour as measured at 30 centimeters, but less than 500 rads in 1 hour at 1 meter from the radiation source, are located within large areas where no enclosure exists for the purpose of locking and where no enclosure can be reasonably constructed around the individual area, shall be barricaded, conspicuously posted, and a flashing light shall be activated as a warning device whenever the dose rate in the area exceeds or will shortly exceed 1 rem in 1 hour.

6.8.4 RADIOACTIVE EFFLUENT CONTROLS/RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAMS

The following programs shall be established, implemented, and maintained.

6.8.4.1 RADIOACTIVE EFFLUENT CONTROLS PROGRAM

A program shall be provided conforming with 10 CFR 50.36a for the control of radioactive effluents and for maintaining the doses to MEMBERS OF THE PUBLIC from radioactive effluents as low as reasonably achievable. The program (1) shall be contained in the ODCM, (2) shall be implemented by operating procedures, and (3) shall include remedial actions to be taken whenever the program limits are exceeded. The program shall include the following elements:

a. Limitations on the OPERABILITY of radioactive liquid and gaseous monitoring instrumentation including surveillance tests and setpoint determination in accordance with the methodology in the ODCM.

b. Limitations on the concentrations of radioactive material released in liquid effluents to UNRESTRICTED AREAS conforming to 10 times the concentration values stated in 10 CFR 20.1001-20.2401, Appendix B, Table 2, Column 2.

c. Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10 CFR 20.1302 and with the methodology and parameters in the ODCM.

d. Limitations on the annual and quarterly doses or dose commitment to a MEMBER OF THE PUBLIC from radioactive

materials in liquid effluents released from each unit to UNRESTRICTED AREAS conforming to Appendix I to 10 CFR Part 50.

e. Determination of cumulative and projected dose contributions from radioactive effluents for the current calendar quarter and current year in accordance with the methodology and parameters in the ODCM at least every 31 days.

f. Limitations on the OPERABILITY and use of the liquid and gaseous effluent treatment systems to ensure that the appropriate portions of these systems are used to reduce releases of radioactivity when the projected doses in a 31-day period would exceed 2 percent of the guidelines for the annual dose or dose commitment conforming to Appendix I to 10 CFR Part 50.

g. Limitations on the dose rate resulting from radioactive material released in gaseous effluents from the site to areas at or beyond the SITE BOUNDARY shall be limited to the following:

1. For noble gas: less than or equal to a dose rate of 500 mrem/yr to the total body and less than or equal to a dose rate of 3000 mrem/yr to the skin, and

2. For Iodine-131, Iodine-133, tritium, and for all radionuclides in particulate form with half-lives greater than 8 days: less than or equal to a dose rate of 1500 mrem/yr to any organ.

h. Limitations of the annual and quarterly air doses resulting from noble gases released in gaseous effluents from each unit to areas beyond the SITE BOUNDARY conforming to Appendix I to 10 CFR Part 50.

i Limitations on the annual and quarterly doses to a MEMBER OF THE PUBLIC from Iodine-131, Iodine-133, tritium, and all radionuclides in particulate form with half-lives greater than 8 days in gaseous effluents released from each unit to areas beyond the SITE BOUNDARY conforming to Appendix I to 10 CFR Part 50.

j. Limitations on the annual dose or dose commitment to any MEMBER OF THE PUBLIC due to releases of radioactivity and to radiation from uranium fuel cycle sources conforming to 40 CFR Part 190.

6.8.4.2 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

A program shall be provided to monitor the radiation and radionuclides in the environs of the plant. The program shall provide (1) representative measurements of radioactivity in the highest potential exposure pathways, and (2) verification of the accuracy of the effluent monitoring program and modeling of environmental exposure pathways. The program shall (1) be contained in the ODCM, (2) conform to the guidance of Appendix I to 10 CFR Part 50, and (3) include the following:

a. Monitoring, sampling, analysis, and reporting of radiation and radionuclides in the environment in accordance with the methodology and parameters in the ODCM,

b. A Land Use Census to ensure that changes in the use of area at and beyond the SITE BOUNDARY are identified and that modifications to the monitoring program are made if required by the results of this census, and

c. Participation in an Interlaboratory Comparison Program to ensure that independent checks on the precision and

accuracy of the measurements of radioactive materials in environmental sample matrices are performed as part of the quality assurance program for environmental monitoring.

6.9 REPORTING REQUIREMENTS

ROUTINE REPORTS

6.9.1 In addition to the applicable reporting requirements of Title 10, Code of Federal Regulations, the following identified reports shall be submitted to the Director of the Regional Office of NRC, unless otherwise noted.

6.9.1.1 STARTUP REPORT

a. A summary report of plant startup and power escalation testing shall be submitted following (1) receipt of an operating license, (2) amendment to the license involving a planned increase in power level, (3) installation of fuel that has a different design or has been manufactured by a different fuel supplier, and (4) modifications that may have significantly altered the nuclear, thermal, or hydraulic performance of the plant. The report shall address each of the tests identified in the FSAR and shall include a description of the measured values of the operating conditions or characteristics obtained during the test program and a comparison of these values with design predictions and specifications. Any corrective actions that were required to obtain satisfactory operation shall also be described. Any additional specific details required in license conditions based on other commitments shall be included in this report.

b. Startup reports shall be submitted within (1) 90 days following completion of the startup test program, (2) 90 days following resumption or commencement of commercial power operation, or (3) 9 months following initial criticality, whichever is earliest. If the Startup Report does not cover all three events (i.e., initial criticality, completion of startup test program, and resumption or commencement of commercial power operation), supplementary reports shall be submitted at least every three months until all three events have been completed.

6.9.1.2 ANNUAL OPERATING REPORT*

a. A tabulation on an annual basis of the number of station, utility and other personnel (including contractors) for whom monitoring was required receiving annual deep dose equivalent exposures greater than 100 mrem and their associated man rem exposure according to work and job functions, **e.g., reactor operations and surveillance, inservice inspection, routine maintenance, special maintenance (describe maintenance), waste processing, and refueling. The dose assignment to various duty functions may be estimates based on measurements obtained with self reading dosimeter, TLD, or film badge. Small exposures totaling less than 20% of the individual total dose need not be accounted for. In the aggregate, at least 80% of the total deep dose equivalent exposure received from external sources shall be assigned to specific major work functions.

b. Any mainsteam relief valve that opens in response to reaching its setpoint or due to operator action to control reactor pressure shall be reported.

*A single submittal may be made for a multiple unit station.
**This tabulation supplements the requirements of 20.2206 of 10 CFR Part 20.

8.	Secondary Containment Leak Rate Testing*	4.7.C.	Within 90 days of completion of each test.

*Each integrated leak rate test of the secondary containment shall be the subject of a summary technical report. This report should include data on the wind speed, wind direction, outside and inside temperatures during the test, concurrent reactor building pressure, and emergency ventilation flow rate. The report shall also include analyses and interpretations of those data which demonstrate compliance with the specified leak rate limits.

6.10 STATION OPERATING RECORDS AND RETENTION

6.10.1 Records and/or logs shall be kept in a manner convenient for review as indicated below:

a. All normal plant operation including such items as power level, fuel exposure, and shutdowns

b. Principal maintenance activities

c. Reportable Events

d. Checks, inspections, tests, and calibrations of components and systems, including such diverse items as source leakage

e. Reviews of changes made to the procedures or equipment or reviews of tests and experiments to comply with 10 CFR 50.59

f. Radioactive shipments

g. Test results in units of microcuries for leak tests performed pursuant to Specification 3.8.D

h. Record of annual physical inventory verifying accountability of sources on record

i. Records of gaseous and liquid radioactive waste released to the environs, and the resulting calculated dose to individual MEMBERS OF THE PUBLIC

j. Offsite environmental monitoring surveys

k. Fuel inventories and transfers

l. Plant radiation and contamination surveys

m. Radiation exposures for all plant personnel for whom monitoring was required

n. Updated, corrected, and as-built drawings of the plant

o. Reactor coolant system inservice inspection

p. Minutes of meetings of the NSRB

q. Design fatigue usage evaluation

Monitoring and recording requirements below will be met for various portions of the reactor coolant pressure boundary (RCPB) for which detailed fatigue usage evaluation per the ASME Boiler and Pressure Vessel Code Section III was performed for the conditions defined in the design specification. In this plant, the applicable codes require fatigue usage evaluation for the reactor pressure vessel only. The locations to be monitored shall be:

1. The feedwater nozzles

2. The shell at or near the waterline

3. The flange studs

b. A determination that the change will maintain the level of radioactive effluent control pursuant to 10 CFR 20.1302, 40 CFR Part 190, 10 CFR 50.36a, and Appendix I to 10 CFR Part 50 and not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations.

2. Shall become effective after review and acceptance by the PORC and the approval of the Plant Manager.

3. Shall be submitted to the Commission in the form of a complete, legible copy of the entire ODCM as a part of or concurrent with the Annual Radioactive Effluent Release Report for the period of the report in which any change to the ODCM was made. Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the page that was changed, and shall indicate the date (e.g., month/year) the change was implemented.

6.13 (Deleted)

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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. 220
License No. DPR-52

The Nuclear Regulatory Commission (the Commission) has found that:

A. The application for amendment by Tennessee Valley Authority (the licensee) dated August 27, 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. 220, 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 January 1, 1994.

FOR THE NUCLEAR REGULATORY COMMISSION

Joseph F. Williams FOR

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: December 2, 1993

ATTACHMENT TO LICENSE AMENDMENT NO. 220

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* and spill-over** pages are provided to maintain document completeness.

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6.0-23a	6.0-23a
6.0-23b	6.0-23b
6.0-23c	6.0-23c**
6.0-24	6.0-24*
6.0-25	6.0-25
6.0-26	6.0-26
6.0-26a	6.0-26a*
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3. The provisions of Specification 1.0.LL are applicable to the above required frequencies for performing inservice testing activities.

4. Performance of the above inservice testing activities shall be in addition to other specified surveillance requirements.

5. Nothing in the ASME Boiler and Pressure Vessel Code shall be construed to supersede the requirements of any technical specification.

6. The inservice inspection program for piping identified in NRC Generic Letter 88-01 shall be performed in accordance with the staff positions on schedule, methods, personnel, and sample expansion included in this generic letter.

3.8 BASES

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3.8.A LIQUID HOLDUP TANKS

Specification 3.8.A.5 includes any tanks containing radioactive material that are not surrounded by liners, dikes, or walls capable of holding the contents and that do not have overflows and surrounding area drains connected to the liquid radwaste treatment system. Restricting the quantity of radioactive material contained in the specified tanks provides assurance that in the event of an uncontrolled release of the tanks' contents, the resulting concentrations would be less than the limits of 10 CFR Part 20, Appendix B, Table 2, Column 2, at the nearest potable water supply and the nearest surface water supply in an UNRESTRICTED AREA.

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The purpose of isolating the mechanical vacuum pump line is to limit the release of activity from the main condenser. During an accident, fission products would be transported from the reactor through the main steam lines to the condenser. The fission product radioactivity would be sensed by the main steam line radioactivity monitors which initiate isolation.

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6.8.1.2 Each administrative procedure required by Section 6.8.1.1.a. shall be reviewed by PORC and all other procedures required by Section 6.8.1.1.a. shall be reviewed in accordance with Section 6.5.3.

6.8.1.3 Temporary changes to procedures of Specification 6.8.1.1 may be made provided:

a. The intent of the original procedure is not altered;

b. The change is approved by two members of the plant management staff, at least one of whom holds a Senior Operator License on the unit affected;

c. The change is documented, reviewed by the PORC and approved by the Plant Manager within 14 days of implementation, for changes in administrative procedures requiring PORC review.

d. The change is documented, reviewed per Specification 6.5.3, and approved by the responsible group section supervisor within 14 days of implementation, for changes to procedures other than administrative procedures.

DRILLS

6.8.2 Drills on actions to be taken under emergency conditions involving release of radioactivity are specified in the Radiological Emergency Plan and shall be conducted annually. Annual drills shall also be conducted on the actions to be taken following failures of safety-related systems or components.

6.8.3 Radiation Control Procedures shall be maintained and made available to all station personnel. These procedures shall contain radiation dose limits and shall be consistent with the requirements of 10 CFR 20. This radiation protection program shall be organized to meet the requirements of 10 CFR 20 except for the "control device" or "alarm signal" required by 20.1601(a).

6.8.3.1 Each high radiation area as defined in 10 CFR 20 shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiological Work Permit. Individuals qualified in radiation protection procedures (e.g., a radiological control technician) or personnel escorted by such individuals, shall be exempt from RWP requirements during the performance of their assigned duties in high radiation areas with radiation dose rates equal to or less than 1 rem in 1 hour at 30 centimeters, provided they otherwise comply with approved radiation protection procedures for entry into high radiation areas. Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

a. A radiation monitoring device which continuously indicates the radiation dose rate in the area.

b. A radiation monitoring device which continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate level in the area has been established and personnel have been made knowledgeable of them.

c. An individual qualified in radiation protection procedures who is equipped with a radiation dose rate monitoring device. This individual shall be responsible for providing positive radiation protection control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified in the Radiological Work Permit.

6.8.3.2 In addition, areas that are accessible to personnel and that have radiation levels greater than 1 rem in 1 hour as measured at 30 centimeters, but less than 500 rads in 1 hour at 1 meter from the radiation source or from the surface which the radiation penetrates shall be provided with locked doors to prevent unauthorized entry. The keys shall be under the administrative control of the duty Shift Operations Supervisor, Radiological Control Manager or their respective designees. Doors shall remain locked except during periods of access by personnel under an approved RWP which specifies the dose rates in the immediate work areas and maximum allowable stay time for individuals in that area. In lieu of the stay time requirement of the RWP, direct or remote (such as closed circuit TV cameras) continuous surveillance may be made by individuals qualified in radiation protection procedures to provide positive exposure control over the activities being performed in the area.

6.8.3.3 Individual radiation areas that are accessible to personnel, have radiation levels greater than 1 rem in 1 hour as measured at 30 centimeters, but less than 500 rads in 1 hour at 1 meter from the radiation source, are located within large areas where no enclosure exists for the purpose of locking and where no enclosure can be reasonably constructed around the individual area, shall be barricaded, conspicuously posted, and a flashing light shall be activated as a warning device whenever the dose rate in the area exceeds or will shortly exceed 1 rem in 1 hour.

6.8.4 RADIOACTIVE EFFLUENT CONTROLS/RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAMS

The following programs shall be established, implemented, and maintained.

6.8.4.1 RADIOACTIVE EFFLUENT CONTROLS PROGRAM

A program shall be provided conforming with 10 CFR 50.36a for the control of radioactive effluents and for maintaining the doses to MEMBERS OF THE PUBLIC from radioactive effluents as low as reasonably achievable. The program (1) shall be contained in the ODCM, (2) shall be implemented by operating procedures, and (3) shall include remedial actions to be taken whenever the program limits are exceeded. The program shall include the following elements:

a. Limitations on the OPERABILITY of radioactive liquid and gaseous monitoring instrumentation including surveillance tests and setpoint determination in accordance with the methodology in the ODCM.

b. Limitations on the concentrations of radioactive material released in liquid effluents to UNRESTRICTED AREAS conforming to 10 times the concentration values stated in 10 CFR 20.1001-20.2401, Appendix B, Table 2, Column 2.

c. Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10 CFR 20.1302 and with the methodology and parameters in the ODCM.

d. Limitations on the annual and quarterly doses or dose commitment to a MEMBER OF THE PUBLIC from radioactive materials in liquid effluents released from each unit to UNRESTRICTED AREAS conforming to Appendix I to 10 CFR Part 50.

e. Determination of cumulative and projected dose contributions from radioactive effluents for the current calendar quarter and current year in accordance with the methodology and parameters in the ODCM at least every 31 days.

f. Limitations on the OPERABILITY and use of the liquid and gaseous effluent treatment systems to ensure that the appropriate portions of these systems are used to reduce releases of radioactivity when the projected doses in a 31-day period would exceed 2 percent of the guidelines for the annual dose or dose commitment conforming to Appendix I to 10 CFR Part 50.

g. Limitations on the dose rate resulting from radioactive material released in gaseous effluents from the site to areas at or beyond the SITE BOUNDARY shall be limited to the following:

1. For noble gas: less than or equal to a dose rate of 500 mrem/yr to the total body and less than or equal to a dose rate of 3000 mrem/yr to the skin, and

2. For Iodine-131, Iodine-133, tritium, and for all radionuclides in particulate form with half lives greater than 8 days: less than or equal to a dose rate of 1500 mrem/yr to any organ.

h. Limitations of the annual and quarterly air doses resulting from noble gases released in gaseous effluents from each unit to areas beyond the SITE BOUNDARY conforming to Appendix I to 10 CFR Part 50.

i. Limitations on the annual and quarterly doses to a MEMBER OF THE PUBLIC from Iodine-131, Iodine-133, tritium, and all radionuclides in particulate form with half-lives greater than 8 days in gaseous effluents released from each unit to areas beyond the SITE BOUNDARY conforming to Appendix I to 10 CFR Part 50.

j. Limitations on the annual dose or dose commitment to any MEMBER OF THE PUBLIC due to releases of radioactivity and to radiation from uranium fuel cycle sources conforming to 40 CFR Part 190.

6.8.4.2 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

A program shall be provided to monitor the radiation and radionuclides in the environs of the plant. The program shall provide (1) representative measurements of radioactivity in the highest potential exposure pathways, and (2) verification of the accuracy of the effluent monitoring program and modeling of environmental exposure pathways. The program shall (1) be contained in the ODCM, (2) conform to the guidance of Appendix I to 10 CFR Part 50, and (3) include the following:

a. Monitoring, sampling, analysis, and reporting of radiation and radionuclides in the environment in accordance with the methodology and parameters in the ODCM,

b. A Land Use Census to ensure that changes in the use of area at and beyond the SITE BOUNDARY are identified and that modifications to the monitoring program are made if required by the results of this census, and

c. Participation in an Interlaboratory Comparison Program to ensure that independent checks on the precision and accuracy of the measurements of radioactive materials in environmental sample matrices are performed as part of the quality assurance program for environmental monitoring.

6.8.5 PROGRAMS

Postaccident Sampling

Postaccident sampling activities will ensure the capability to obtain and analyze reactor coolant, radioactive iodines and

particulates in plant gaseous effluents, and containment atmosphere samples under accident conditions. These activities shall include the following:

(i) Training of personnel,
(ii) Procedures for sampling and analysis,
(iii) Provisions for maintenance of sampling and analysis

6.9 REPORTING REQUIREMENTS

ROUTINE REPORTS

6.9.1 In addition to the applicable reporting requirements of Title 10, Code of Federal Regulations, the following identified reports shall be submitted to the Director of the Regional Office of NRC, unless otherwise noted.

6.9.1.1 STARTUP REPORT

a. A summary report of plant startup and power escalation testing shall be submitted following (1) receipt of an operating license, (2) amendment to the license involving a planned increase in power level, (3) installation of fuel that has a different design or has been manufactured by a different fuel supplier, and (4) modifications that may have significantly altered the nuclear, thermal, or hydraulic performance of the plant. The report shall address each of the tests identified in the FSAR and shall include a description of the measured values of the operating conditions or characteristics obtained during the test program and a comparison of these values with design predictions and specifications. Any corrective actions that were required to obtain satisfactory operation shall also be

6.9.1.1 STARTUP REPORT (Continued)

described. Any additional specific details required in license conditions based on other commitments shall be included in this report.

b. Startup reports shall be submitted within (1) 90 days following completion of the startup test program, (2) 90 days following resumption or commencement of commercial power operation, or (3) 9 months following initial criticality, whichever is earliest. If the Startup Report does not cover all three events (i.e., initial criticality, completion of startup test program, and resumption or commencement of commercial power operation), supplementary reports shall be submitted at least every three months until all three events have been completed.

6.9.1.2 ANNUAL OPERATING REPORT*

a. A tabulation on an annual basis of the number of station, utility and other personnel (including contractors) for whom monitoring was required receiving annual deep dose equivalent exposures greater than 100 mrem and their associated man rem exposure according to work and job functions, **e.g., reactor operations and surveillance, inservice inspection, routine maintenance, special maintenance (describe maintenance), waste processing, and refueling. The dose assignment to various duty functions may be estimates based on measurements obtained with self reading dosimeter, TLD, or film badge. Small exposures totaling less than 20% of the individual total dose need not be accounted for. In the aggregate, at least 80% of the

*A single submittal may be made for a multiple unit station.
**This tabulation supplements the requirements of 20.2206 of 10 CFR Part 20.

total deep dose equivalent exposure received from external sources shall be assigned to specific major work functions.

b. Any mainsteam relief valve that opens in response to reaching its setpoint or due to operator action to control reactor pressure shall be reported.

6.9.1.3 MONTHLY OPERATING REPORT

Routine reports of operating statistics and shutdown experience shall be submitted on a monthly basis to the Office of Inspection and Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, with a copy to the Regional Office, to be submitted no later than the fifteenth of each month following the calendar month covered by the report. A narrative summary of operating experience shall be submitted in the above schedule.

6.9.1.4 REPORTABLE EVENTS

Reportable events, including corrective actions and measures to prevent re-occurrence, shall be reported to the NRC in accordance with Section 50.73 to 10 CFR 50.

6.9.1.5 ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT

The Annual Radiological Environmental Operating Report covering the operation of the unit during the previous calendar year shall be submitted before May 1 of each year. A single submittal may be made for a multi-unit station. The report shall include summaries, interpretations, and analysis of trends of the results of the Radiological Environmental Monitoring Program for the reporting period. The material provided shall be consistent with the objectives outlined in (1) the ODCM and (2) Sections IV.B.2, IV.B.3, and IV.C of Appendix I to 10 CFR Part 50.

6.9.1.6 SOURCE TESTS

Results of required leak tests performed on sources if the tests reveal the presence of 0.005 microcurie or more of removable contamination.

6.9.1.7 CORE OPERATING LIMITS REPORT

a. Core operating limits shall be established and shall be documented in the CORE OPERATING LIMITS REPORT prior to each operating cycle, or prior to any remaining portion of an operating cycle, for the following:

(1) The APLHGR for Specification 3.5.I

(2) The LHGR for Specification 3.5.J

(3) The MCPR Operating Limit for Specification 3.5.K/4.5.K

b. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC, specifically those described in General Electric Licensing Topical Report NEDE-24011-P-A, "General Electric Standard Application for Reactor Fuel" (latest approved version).

c. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal-mechanical limits, core thermal-hydraulic limits, ECCS limits, nuclear limits such as shutdown margin limits, transient analysis limits, and accident analysis limits) of the safety analysis are met.

d. The CORE OPERATING LIMITS REPORT, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

8.	Secondary Containment Leak Rate Testing*	4.7.C.	Within 90 days of completion of each test.
9.	High-Range Primary Containment Radiation Monitors	3.2.F	Within 7 days after 7 days of inoperability.
10.	Wide-Range Gaseous Effluent Radiation Monitor and recorder	3.2.F	Within 7 days after 7 days of inoperability.

*Each integrated leak rate test of the secondary containment shall be the subject of a summary technical report. This report should include data on the wind speed, wind direction, outside and inside temperatures during the test, concurrent reactor building pressure, and emergency ventilation flow rate. The report shall also include analyses and interpretations of those data which demonstrate compliance with the specified leak rate limits.

6.10 STATION OPERATING RECORDS AND RETENTION

6.10.1 Records and/or logs shall be kept in a manner convenient for review as indicated below:

a. All normal plant operation including such items as power level, fuel exposure, and shutdowns

b. Principal maintenance activities

c. Reportable Events

d. Checks, inspections, tests, and calibrations of components and systems, including such diverse items as source leakage

e. Reviews of changes made to the procedures or equipment or reviews of tests and experiments to comply with 10 CFR 50.59

f. Radioactive shipments

g. Test results in units of microcuries for leak tests performed pursuant to Specification 3.8.D

h. Record of annual physical inventory verifying accountability of sources on record

i. Records of gaseous and liquid radioactive waste released to the environs, and the resulting calculated dose to individual MEMBERS OF THE PUBLIC

j. Offsite environmental monitoring surveys

k. Fuel inventories and transfers

l. Plant radiation and contamination surveys

m. Radiation exposures for all plant personnel for whom monitoring was required

n. Updated, corrected, and as-built drawings of the plant

o. Reactor coolant system inservice inspection

p. Minutes of meetings of the NSRB

q. Design fatigue usage evaluation

Monitoring and recording requirements below will be met for various portions of the reactor coolant pressure boundary (RCPB) for which detailed fatigue usage evaluation per the ASME Boiler and Pressure Vessel Code Section III was performed for the conditions defined in the design specification. In this plant, the applicable codes require fatigue usage evaluation for the reactor pressure vessel only. The locations to be monitored shall be:

1. The feedwater nozzles

2. The shell at or near the waterline

3. The flange studs

b. A determination that the change will maintain the level of radioactive effluent control pursuant to 10 CFR 20.1302, 40 CFR Part 190, 10 CFR 50.36a, and Appendix I to 10 CFR Part 50 and not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations.

2. Shall become effective after review and acceptance by the PORC and the approval of the Plant Manager.

3. Shall be submitted to the Commission in the form of a complete, legible copy of the entire ODCM as a part of or concurrent with the Annual Radioactive Effluent Release Report for the period of the report in which any change to the ODCM was made. Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the page that was changed, and shall indicate the date (e.g., month/year) the change was implemented.

6.13 (Deleted)

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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. 174
License No. DPR-68

The Nuclear Regulatory Commission (the Commission) has found that:

A. The application for amendment by Tennessee Valley Authority (the licensee) dated August 27, 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. 174, 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 January 1, 1994.

FOR THE NUCLEAR REGULATORY COMMISSION

Joseph P. Williams FOR

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: December 2, 1993

ATTACHMENT TO LICENSE AMENDMENT NO. 174

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* and spill-over** pages are provided to maintain document completeness.

REMOVE	INSERT
v	v
vi	vi*
1.0-11	1.0-11
1.0-12	1.0-12*
3.8/4.8-9	3.8/4.8-9
3.8/4.8-10	3.8/4.8-10*
6.0-21	6.0-21*
6.0-22	6.0-22
6.0-23	6.0-23
6.0-23a	6.0-23a
6.0-23b	6.0-23b
6.0-23c	6.0-23c**
6.0-24	6.0-24*
6.0-25	6.0-25
6.0-29	6.0-29*
6.0-30	6.0-30
6.0-33	6.0-33
6.0-33a	6.0-33a*

LIST OF TABLES

GG. Site Boundary - Shall be that line beyond which the land is not owned, leased, or otherwise controlled by TVA.

HH. Unrestricted Area - Any area at or beyond the SITE BOUNDARY to which access is not controlled by the licensee for purposes of protection of individuals from exposure to radiation and radioactive materials or any area within the SITE BOUNDARY used for industrial, commercial, institutional, or recreational purposes.

II. Dose Equivalent I-131 - The DOSE EQUIVALENT I-131 shall be the concentration of I-131 (in μCi/gm) which alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134, and I-135 actually present. The thyroid dose conversion factor used for this calculation shall be those listed in Table III of TID-14844 "Calculation of Distance Factors for Power and Test Reactor Sites".

JJ. Gaseous Waste Treatment System - The charcoal adsorber vessels installed on the discharge of the steam jet air ejector to provide delay to a unit's offgas activity prior to release.

KK. Members of the Public - An individual in a controlled or UNRESTRICTED AREA. However, an individual is not a MEMBER OF THE PUBLIC during any period in which the individual receives an occupational dose (as defined in 10 CFR 20).

LL. Surveillance - Surveillance Requirements shall be met during the OPERATIONAL CONDITIONS or other conditions specified for individual limiting conditions for operation unless otherwise stated in an individual Surveillance Requirements. Each Surveillance Requirement shall be performed within the specified surveillance interval with a maximum allowable extension not to exceed 25 percent of the specified surveillance interval. It is not intended that this (extension) provision be used repeatedly as a convenience to extend surveillance intervals beyond that specified for surveillances that are not performed during refueling outages.

Performance of a Surveillance Requirement within the specified time interval shall constitute compliance and OPERABILITY requirements for a limiting condition for operation and associated action statements unless otherwise required by these specifications. Surveillance Requirements do not have to be performed on inoperable equipment.

MM. Surveillance Requirements for ASME Section XI Pump and Valve Program - Surveillance Requirements for Inservice Testing of ASME Code Class 1, 2, and 3 components shall be applicable as follows:

1. Inservice testing of ASME Code Class 1, 2, and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50, Section 50.55a(g)(6)(i).

2. Surveillance intervals specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda for the inservice testing activities required by the ASME Boiler and Pressure Vessel Code and applicable Addenda shall be applicable as follows in these technical specifications:

ASME Boiler and Pressure Vessel Code and applicable Addenda terminology for inservice testing activities	Required frequencies for performing inservice testing activities
Weekly	At least once per 7 days
Monthly	At least once per 31 days
Quarterly or every 3 months	At least once per 92 days
Semiannually or every 6 months	At least once per 184 days
Every 9 months	At least once per 276 days
Yearly or annually	At least once per 366 days

3. The provisions of Specification 1.0.LL are applicable to the above required frequencies for performing inservice testing activities.

4. Performance of the above inservice testing activities shall be in addition to other specified surveillance requirements.

5. Nothing in the ASME Boiler and Pressure Vessel Code shall be construed to supersede the requirements of any technical specification.

6. The inservice inspection program for piping identifed in NRC Generic Letter 88-01 shall be performed in accordance with the staff positions on schedule, methods, personnel, and sample expansion included in this generic letter.

3.8 BASES

(Deleted)

3.8.A LIQUID HOLDUP TANKS

Specification 3.8.A.5 includes any tanks containing radioactive material that are not surrounded by liners, dikes, or walls capable of holding the contents and that do not have overflows and surrounding area drains connected to the liquid radwaste treatment system. Restricting the quantity of radioactive material contained in the specified tanks provides assurance that in the event of an uncontrolled release of the tanks' contents, the resulting concentrations would be less than the limits of 10 CFR Part 20, Appendix B, Table 2, Column 2, at the nearest potable water supply and the nearest surface water supply in an UNRESTRICTED AREA.

3.8.B EXPLOSIVE GAS MIXTURE

Specification 3.8.B.9 and 10 is provided to ensure that the concentration of potentially explosive gas mixtures contained in the offgas system is maintained below the flammability limits of hydrogen. Maintaining the concentration of hydrogen below its flammability limit provides assurance that the releases of radioactive materials will be controlled in conformance with the requirements of General Design Criterion 60 of Appendix A to 10 CFR Part 50.

4.8.A and 4.8.B BASES

(Deleted)

3.8.C and 4.8.C BASES

(Deleted)

3.8.D and 4.8.D MECHANICAL VACUUM PUMP

The purpose of isolating the mechanical vacuum pump line is to limit the release of activity from the main condenser. During an accident, fission products would be transported from the reactor through the main steam lines to the condenser. The fission product radioactivity would be sensed by the main steam line radioactivity monitors which initiate isolation.

3.8.E and 4.8.E BASES

The limitations on removable contamination for sources requiring leak testing, including alpha emitters, based on 10 CFR 70.39(c) limits for plutonium. This limitation will ensure that leakage from byproduct, source, and special nuclear material sources will not exceed allowable intake values. Sealed sources are classified into three groups according to their use, with surveillance requirements commensurate with the probability of damage to a source in that group. Those sources which are frequently handled are required to be tested more often than those which are not. Sealed sources which are continuously enclosed within a shielded mechanism (i.e., sealed sources within radiation monitoring or boron measuring devices) are considered to be stored and need not be tested unless they are removed from the shielded mechanism.

6.8.1.2 Each administrative procedure required by Section 6.8.1.1.a. shall be reviewed by PORC and all other procedures required by Section 6.8.1.1.a. shall be reviewed in accordance with Section 6.5.3.

6.8.1.3 Temporary changes to procedures of Specification 6.8.1.1 may be made provided:

a. The intent of the original procedure is not altered;

b. The change is approved by two members of the plant management staff, at least one of whom holds a Senior Operator License on the unit affected;

c. The change is documented, reviewed by the PORC and approved by the Plant Manager within 14 days of implementation, for changes in administrative procedures requiring PORC review.

d. The change is documented, reviewed per Specification 6.5.3, and approved by the responsible group section supervisor within 14 days of implementation, for changes to procedures other than administrative procedures.

DRILLS

6.8.2 Drills on actions to be taken under emergency conditions involving release of radioactivity are specified in the Radiological Emergency Plan and shall be conducted annually. Annual drills shall also be conducted on the actions to be taken following failures of safety-related systems or components.

6.8.3 Radiation Control Procedures shall be maintained and made available to all station personnel. These procedures shall contain radiation dose limits and shall be consistent with the requirements of 10 CFR 20. This radiation protection program shall be organized to meet the requirements of 10 CFR 20 except for the "control device" or "alarm signal" required by 20.1601(a).

6.8.3.1 Each high radiation area as defined in 10 CFR 20 shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiological Work Permit. Individuals qualified in radiation protection procedures (e.g., a radiological control technician) or personnel escorted by such individuals, shall be exempt from RWP requirements during the performance of their assigned duties in high radiation areas with radiation dose rates equal to or less than 1 rem in 1 hour at 30 centimeters, provided they otherwise comply with approved radiation protection procedures for entry into high radiation areas. Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

a. A radiation monitoring device which continuously indicates the radiation dose rate in the area.

b. A radiation monitoring device which continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate level in the area has been established and personnel have been made knowledgeable of them.

c. An individual qualified in radiation protection procedures who is equipped with a radiation dose rate monitoring device. This individual shall be responsible for providing positive radiation protection control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified in the Radiological Work Permit.

6.8.3.2 In addition, areas that are accessible to personnel and that have radiation levels greater then 1 rem in 1 hour as measured at 30 centimeters, but less than 500 rads in 1 hour at 1 meter from the radiation source or from the surface which the radiation penetrates shall be provided with locked doors to prevent unauthorized entry. The keys shall be under the administrative control of the duty Shift Operations Supervisor, Radiological Control Manager or their respective designees. Doors shall remain locked except during periods of access by personnel under an approved RWP which specifies the dose rates in the immediate work areas and maximum allowable stay time for individuals in that area. In lieu of the stay time requirement of the RWP, direct or remote (such as closed circuit TV cameras) continuous surveillance may be made by individuals qualified in radiation protection procedures to provide positive exposure control over the activities being performed in the area.

6.8.3.3 Individual radiation areas that are accessible to personnel, have radiation levels greater then 1 rem in 1 hour as measured at 30 centimeters, but less than 500 rads in 1 hour at 1 meter from the radiation source, are located within large areas where no enclosure exists for the purpose of locking and where no enclosure can be reasonably constructed around the individual area, shall be barricaded, conspicuously posted, and a flashing light shall be activated as a warning device whenever the dose rate in the area exceeds or will shortly exceed 1 rem in 1 hour.

6.8.4 RADIOACTIVE EFFLUENT CONTROLS/RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAMS

The following programs shall be established, implemented, and maintained.

6.8.4.1 RADIOACTIVE EFFLUENT CONTROLS PROGRAM

A program shall be provided conforming with 10 CFR 50.36a for the control of radioactive effluents and for maintaining the doses to MEMBERS OF THE PUBLIC from radioactive effluents as low as reasonably achievable. The program (1) shall be contained in the ODCM, (2) shall be implemented by operating procedures, and (3) shall include remedial actions to be taken whenever the program limits are exceeded. The program shall include the following elements:

a. Limitations on the OPERABILITY of radioactive liquid and gaseous monitoring instrumentation including surveillance tests and setpoint determination in accordance with the methodology in the ODCM.

b. Limitations on the concentrations of radioactive material released in liquid effluents to UNRESTRICTED AREAS conforming to 10 times the concentration values stated in 10 CFR 20.1001-20.2401, Appendix B, Table 2, Column 2.

c. Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10 CFR 20.1302 and with the methodology and parameters in the ODCM.

d. Limitations on the annual and quarterly doses or dose commitment to a MEMBER OF THE PUBLIC from radioactive materials in liquid effluents released from each unit to UNRESTRICTED AREAS conforming to Appendix I to 10 CFR Part 50.

e. Determination of cumulative and projected dose contributions from radioactive effluents for the current calendar quarter and current year in accordance with the methodology and parameters in the ODCM at least every 31 days.

f. Limitations on the OPERABILITY and use of the liquid and gaseous effluent treatment systems to ensure that the appropriate portions of these systems are used to reduce releases of radioactivity when the projected doses in a 31-day period would exceed 2 percent of the guidelines for the annual dose or dose commitment conforming to Appendix I to 10 CFR Part 50.

g. Limitations on the dose rate resulting from radioactive material released in gaseous effluents from the site to areas at or beyond the SITE BOUNDARY shall be limited to the following:

1. For noble gas: less than or equal to a dose rate of 500 mrem/yr to the total body and less than or equal to a dose rate of 3000 mrem/yr to the skin, and

2. For Iodine-131, Iodine-133, tritium, and for all radionuclides in particulate form with half-lives greater than 8 days: less than or equal to a dose rate of 1500 mrem/yr to any organ.

h. Limitations of the annual and quarterly air doses resulting from noble gases released in gaseous effluents from each unit to areas beyond the SITE BOUNDARY conforming to Appendix I to 10 CFR Part 50.

i. Limitations on the annual and quarterly doses to a MEMBER OF THE PUBLIC from Iodine-131, Iodine-133, tritium, and all radionuclides in particulate form with half-lives greater

than 8 days in gaseous effluents released from each unit to areas beyond the SITE BOUNDARY conforming to Appendix I to 10 CFR Part 50.

j. Limitations on the annual dose or dose commitment to any MEMBER OF THE PUBLIC due to releases of radioactivity and to radiation from uranium fuel cycle sources conforming to 40 CFR Part 190.

6.8.4.2 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

A program shall be provided to monitor the radiation and radionuclides in the environs of the plant. The program shall provide (1) representative measurements of radioactivity in the highest potential exposure pathways, and (2) verification of the accuracy of the effluent monitoring program and modeling of environmental exposure pathways. The program shall (1) be contained in the ODCM, (2) conform to the guidance of Appendix I to 10 CFR Part 50, and (3) include the following:

a. Monitoring, sampling, analysis, and reporting of radiation and radionuclides in the environment in accordance with the methodology and parameters in the ODCM,

b. A Land Use Census to ensure that changes in the use of area at and beyond the SITE BOUNDARY are identified and that modifications to the monitoring program are made if required by the results of this census, and

c. Participation in an Interlaboratory Comparison Program to ensure that independent checks on the precision and accuracy of the measurements of radioactive materials in environmental sample matrices are performed as part of the quality assurance program for environmental monitoring.

6.9 REPORTING REQUIREMENTS

ROUTINE REPORTS

6.9.1 In addition to the applicable reporting requirements of Title 10, Code of Federal Regulations, the following identified reports shall be submitted to the Director of the Regional Office of NRC, unless otherwise noted.

6.9.1.1 STARTUP REPORT

a. A summary report of plant startup and power escalation testing shall be submitted following (1) receipt of an operating license, (2) amendment to the license involving a planned increase in power level, (3) installation of fuel that has a different design or has been manufactured by a different fuel supplier, and (4) modifications that may have significantly altered the nuclear, thermal, or hydraulic performance of the plant. The report shall address each of the tests identified in the FSAR and shall include a description of the measured values of the operating conditions or characteristics obtained during the test program and a comparison of these values with design predictions and specifications. Any corrective actions that were required to obtain satisfactory operation shall also be described. Any additional specific details required in license conditions based on other commitments shall be included in this report.

b. Startup reports shall be submitted within (1) 90 days following completion of the startup test program, (2) 90 days following resumption or commencement of commercial power operation, or (3) 9 months following initial criticality, whichever is earliest. If the Startup Report does not cover all three events (i.e., initial criticality, completion of startup test program, and resumption or commencement of commercial power operation), supplementary reports shall be submitted at least every three months until all three events have been completed.

6.9.1.2 ANNUAL OPERATING REPORT*

a. A tabulation on an annual basis of the number of station, utility and other personnel (including contractors) for whom monitoring was required receiving annual deep dose equivalent exposures greater than 100 mrem and their associated man rem exposure according to work and job functions, **e.g., reactor operations and surveillance, inservice inspection, routine maintenance, special maintenance (describe maintenance), waste processing, and refueling. The dose assignment to various duty functions may be estimates based on measurements obtained with self reading dosimeter, TLD, or film badge. Small exposures totaling less than 20% of the individual total dose need not be accounted for. In the aggregate, at least 80% of the total deep dose equivalent exposure received from external sources shall be assigned to specific major work functions.

b. Any mainsteam relief valve that opens in response to reaching its setpoint or due to operator action to control reactor pressure shall be reported.

*A single submittal may be made for a multiple unit station.
**This tabulation supplements the requirements of 20.2206 of 10 CFR Part 20.

8.	Secondary Containment Leak Rate Testing*	4.7.C.	Within 90 days of completion of each test.

*Each integrated leak rate test of the secondary containment shall be the subject of a summary technical report. This report should include data on the wind speed, wind direction, outside and inside temperatures during the test, concurrent reactor building pressure, and emergency ventilation flow rate. The report shall also include analyses and interpretations of those data which demonstrate compliance with the specified leak rate limits.

6.10 STATION OPERATING RECORDS AND RETENTION

6.10.1 Records and/or logs shall be kept in a manner convenient for review as indicated below:

a. All normal plant operation including such items as power level, fuel exposure, and shutdowns

b. Principal maintenance activities

c. Reportable Events

d. Checks, inspections, tests, and calibrations of components and systems, including such diverse items as source leakage

e. Reviews of changes made to the procedures or equipment or reviews of tests and experiments to comply with 10 CFR 50.59

f. Radioactive shipments

g. Test results in units of microcuries for leak tests performed pursuant to Specification 3.8.D

h. Record of annual physical inventory verifying accountability of sources on record

i. Records of gaseous and liquid radioactive waste released to the environs, and the resulting calculated dose to individual MEMBERS OF THE PUBLIC

j. Offsite environmental monitoring surveys

k. Fuel inventories and transfers

l. Plant radiation and contamination surveys

m. Radiation exposures for all plant personnel for whom monitoring was required.

n. Updated, corrected, and as-built drawings of the plant

o. Reactor coolant system inservice inspection

p. Minutes of meetings of the NSRB

q. Design fatigue usage evaluation

Monitoring and recording requirements below will be met for various portions of the reactor coolant pressure boundary (RCPB) for which detailed fatigue usage evaluation per the ASME Boiler and Pressure Vessel Code Section III was performed for the conditions defined in the design specification. In this plant, the applicable codes require fatigue usage evaluation for the reactor pressure vessel only. The locations to be monitored shall be:

1. The feedwater nozzles

2. The shell at or near the waterline

3. The flange studs

b. A determination that the change will maintain the level of radioactive effluent control pursuant to 10 CFR 20.1302, 40 CFR Part 190, 10 CFR 50.36a, and Appendix I to 10 CFR Part 50 and not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations.

2. Shall become effective after review and acceptance by the PORC and the approval of the Plant Manager.

3. Shall be submitted to the Commission in the form of a complete, legible copy of the entire ODCM as part of or concurrent with the Annual Radioactive Effluent Release Report for the period of the report in which any change to the ODCM was made. Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the page that was changed, and shall indicate the date (e.g., month/year) the change was implemented.

6.13 (Deleted).

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