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

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-259

BROWNS FERRY NUCLEAR PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 149
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 June 17, 1988 as supplemented June 23, and June 24, 1988, 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. 149, 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.

FOR THE NUCLEAR REGULATORY COMMISSION

Suzanne Black

Suzanne Black, Assistant Director
for Projects
TVA Projects Division
Office of Special Projects

Attachment:
Changes to the Technical
Specifications

Date of Issuance: June 30, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 149

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 pages* are provided to maintain document completeness.

REMOVE	INSERT
6.0-1	6.0-1
6.0-2	6.0-2
6.0-3	6.0-3
6.0-4	6.0-4
6.0-5	6.0-5
6.0-6	6.0-6
6.0-7	6.0-7
6.0-8	6.0-8
6.0-9	6.0-9
6.0-10	6.0-10
6.0-11	6.0-11
6.0-12	6.0-12
6.0-13	6.0-13
6.0-14	6.0-14
6.0-15	6.0-15
6.0-16	6.0-16
6.0-17	6.0-17
6.0-18	6.0-18
6.0-19	6.0-19
6.0-20	6.0-20
6.0-21	6.0-21
6.0-22	6.0-22
6.0-23	6.0-23
6.0-24	6.0-24
6.0-25	6.0-25
6.0-26	6.0-26
6.0-27	6.0-27
6.0-28	6.0-28
6.0-29	6.0-29
6.0-30	6.0-30
6.0-31	6.0-31
6.0-32	6.0-32
6.0-33	6.0-33
6.0-34	-

6.0 ADMINISTRATIVE CONTROLS

6.1 RESPONSIBILITY

6.1.1 The Plant Manager shall be responsible for overall unit operation and shall delegate in writing the succession to this responsibility during his absence.

6.1.2 The Shift Operations Supervisor (or during his absence from the Control Room, a designated individual) shall be responsible for the Control Room command function. A management directive to this effect, signed by the Site Director shall be reissued to all station personnel on an annual basis.

6.2 ORGANIZATION

6.2.1 Offsite and Onsite Organizations

An onsite and offsite organization shall be established for unit operation and corporate management. The onsite and offsite organization shall include the positions for activities affecting the safety of the nuclear power plant.

a. Lines of authority, responsibility, and communication shall be established and defined from the highest management levels through intermediate levels to and including all operating organization positions. These relationships shall be documented and updated, as appropriate, in the form of organizational charts, functional descriptions of departmental responsibilities and relationships, and job descriptions for key personnel positions, or in equivalent forms of documentation. These requirements shall be documented in the FSAR and will be updated in accordance with 10 CFR 50.71(e).

6.2.1 (Cont'd)

b. The Senior Vice President, Nuclear Power, shall have corporate responsibility for overall plant nuclear safety. This individual shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining, and providing technical support in the plant so that continued nuclear safety is assured.

c. The Plant Manager shall be responsible for overall unit safe operation, and shall have control over those onsite resources necessary for safe operation and maintenance of the plant.

d. The individuals who train the operating staff and those who carry out health physics and quality assurance functions may report to the appropriate onsite manager; however, they shall have sufficient organizational freedom to ensure their independence from operating pressures.

6.2.2 Plant Staff

a. Shift manning requirements, shall as a minimum, be as described in Table 6.2.A and below.

b. A licensed senior reactor operator shall be present at the site at all times when there is fuel in the reactor.

c. A licensed reactor operator shall be in the control room whenever there is fuel in the reactor.

6.2.2 (Cont.)

d. Two licensed reactor operators shall be in the control room during any cold startups, while shutting down the reactor, and during recovery from unit trip. In addition, a person holding a senior operator license shall be in the control room for that unit whenever it is in an operational mode other than cold shutdown or refueling.

e. A Health Physics Technician* shall be present at the facility at all times when there is fuel in the reactor.

f. A person holding a senior operator license or a senior operator license limited to fuel handling, shall be present during alteration of the core to directly supervise the activity and during this time shall not be assigned other duties.

g. A site fire brigade of at least five members shall be maintained onsite at all times.* The fire brigade shall not include the Shift Engineer and the other members of the minimum shift crew necessary for safe shutdown of the unit, nor any personnel required for other essential functions during a fire emergency.

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*The Health Physics Technician and fire brigade composition may be less than the minimum requirements for a period of time not to exceed 2 hours, in order to accommodate unexpected absence, provided immediate action is taken to fill the required positions.

Table 6.2.A
Minimum Shift Crew Requirements[b]

Position	Units in Operation				Type of License
	0	1	2[d]	3	
Senior Operator[a]	1	1	1	1	SRO
Senior Operator	0	1	2	2	SRO
Licensed Operators	3	3	3	3	RO or SRO
Additional Licensed Operators[c]	0	1	2	2	RO or SRO
Assistant Unit Operators (AUO)	4	4	5	5	None
Shift Technical Advisor (STA)	0	1	1	1	None
Health Physics Technician	1	1	1	1	None

Note for Table 6.2.A

a. A senior operator will be assigned responsibility for overall plant operation at all times there is fuel in any unit.

b. Except for the senior operator discussed in note "a", the shift crew composition may be one less than the minimum requirements of Table 6.2.A for a period of time not to exceed two hours in order to accommodate unexpected absence of on-duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements of Table 6.2.A. This provision does not permit any shift crew position to be unmanned upon shift change due to an oncoming shift crewman being late or absent.

c. One of the Additional Licensed Operators must be assigned to each control room with an operating unit.

d. The number of required licensed personnel, when the operating units are controlled from a common control room, are two senior operators and four operators.

6.3 PLANT STAFF QUALIFICATIONS

Qualifications of the Browns Ferry Nuclear Plant management and operating staff shall meet the minimum acceptable levels as described in ANSI - N18.1, Selection and Training of Nuclear Power Plant Personnel, dated March 8, 1971. The qualifications of the Health Physics Supervisor will meet or exceed the minimum acceptable levels as described in Regulatory Guide 1.8, Revision 1, dated September 1975. The Shift Technical Advisor shall have a bachelor's degree or equivalent in a scientific or engineering discipline with specific training in plant design and transient and accident response and analysis.

6.4 TRAINING

A retraining and replacement training program for station personnel shall be in accordance with ANSI - N18.1, Selection and Training of Nuclear Power Plant Personnel, dated March 8, 1971. The minimum frequency of the retraining program shall be every two years.

6.5 PLANT REVIEW AND AUDIT

6.5.1 PLANT OPERATIONS REVIEW COMMITTEE (PORC)

FUNCTION

6.5.1.1 a. The PORC shall function to advise the Plant Manager in all matters related to nuclear safety.

b. This advisory function shall be performed by the PORC acting in a formal meeting or by members acting individually without a formal meeting.

COMPOSITION

6.5.1.2 The PORC shall be composed of the:

a.	Chairman:	Plant Manager
	Alternate Chairman:	Assistant to Plant Manager
	Alternate Chairman or Member:	Technical Services Superintendent
	Member:	Unit Superintendents (3)
	Member:	Maintenance Superintendent
	Member:	Quality Assurance Staff Supervisor
	Member:	Health Physics Supervisor

b. All alternate chairmen and alternate members shall be appointed in writing by the PORC chairman.

MEETING FREQUENCY

6.5.1.3 The PORC shall convene in a formal meeting at least once a month and as directed by the chairman. Other PORC meetings may be requested by the chairmen or members as required.

6.5.1.4 For expedited meetings, when it is not practical to convene as a group, the chairman or alternate chairman may conduct committee business by polling the members individually (by telephone or in person) or via a serialized review.

QUORUM

6.5.1.5 The quorum necessary for the PORC to act in a formal meeting shall consist of the chairman or alternate chairman and at least five members or their alternates. Members shall be considered present if they are in telephone communication with the committee.

RESPONSIBILITIES

6.5.1.6 The PORC shall be responsible for the activities listed below. The PORC may delegate the performance of reviews, but will maintain cognizance over and responsibility for them, e.g., subcommittees.

a. Review of administrative procedures for the control of the technical and cross-disciplinary review of (1) all procedures required by Specification 6.8.1.1, and changes thereto, (2) any other procedures and changes thereto determined by the Plant Manager to affect nuclear safety.

b. Review of the administrative procedures required by Appendix A of Regulatory Guide 1.33, Revision 2, February 1978 and changes thereto.

c. Review of emergency operating procedures and changes thereto.

d. Review implementing procedures of the Radiological Emergency Plan and the Industrial Security Program.

e. Review of all proposed changes to the Technical Specifications.

f. Review of safety evaluation for proposed tests or experiments to be completed under the provisions of 10 CFR 50.59

g. Review proposed changes to the Radiological Effluent Manual.

h. Review adequacy of the Process Control Program and Offsite Dose Calculation Manual at least once every 24 months.

i. Review changes to the radwaste treatment systems.

j. Review of every unplanned onsite release of radioactive material to the environs including the preparation and forwarding of reports covering evaluation, recommendation, and disposition of the corrective action to prevent recurrence to the Senior Vice President, Nuclear Power, and to the Nuclear Safety Review Board.

k. Review of all safety evaluations for modifications to structures, systems or components that affect nuclear safety to verify that such actions did not constitute an unreviewed safety question as defined in 10 CFR 50.59, or requires a change to these Technical Specifications.

l. Review of reportable events, unusual events, operating anomalies, and abnormal performance of plant equipment.

m. Investigate reported or suspected incidents involving safety questions or violations of the Technical Specifications.

n. Review of unit operations to detect potential hazards to nuclear safety. Items that may be included in this review are NRC inspection reports, QA audit, NSRB audit results, American Nuclear Insurer (ANI) inspection results, and significant corrective action reports (CARs).

o. Performance of special reviews, investigations, or analysis, and report thereon as requested by the Plant Manager or the Nuclear Safety Review Board.

AUTHORITY

6.5.1.7 The PORC shall:

a. Recommend to the Plant Manager in writing, approval, or disapproval of items considered under 6.5.1.6.a through i above.

1. The recommendation shall be based on a majority vote of the PORC at a formal meeting.

2. The recommendation shall be based on a unanimous vote of the PORC when the PORC members are acting individually.

3. Each member or alternate member shall have one vote.

b. Furnish for consideration a determination in writing with regard to whether or not each item considered under 6.5.1.6.f above constitutes an unreviewed safety question.

c. Make recommendations to the Plant Manager in writing that action reviewed under 6.5.1.6.k above did not constitute an unreviewed safety question.

d. Provide written notification within 24 hours to the Site Director and the Nuclear Safety Review Board of disagreements between the PORC and the Plant Manager. However, the Plant Manager shall have responsibility for resolution of such disagreements pursuant to Specification 6.1.

RECORDS

6.5.1.8 The PORC shall maintain written minutes of each PORC meeting including expedited meetings that, as a minimum, document the results of all PORC activities performed under the responsibility and authority provisions of these technical specifications. Copies shall be provided to the Site Director and the Nuclear Safety Review Board.

6.5.2 NUCLEAR SAFETY REVIEW BOARD (NSRB)

FUNCTION

6.5.2.1 The NSRB shall function to provide independent review and audit cognizance of designated activities in the areas of:

a. Nuclear power plant operations
b. Nuclear engineering
c. Chemistry and radiochemistry
d. Metallurgy
e. Instrumentation and control
f. Radiological safety
g. Mechanical and electrical engineering, and
h. Quality assurance practices

COMPOSITION

6.5.2.2 The NSRB shall be composed of at least five members, including the Chairman. Members of the NSRB may be from the Nuclear Power or other TVA organizations, or external to TVA.

QUALIFICATIONS

6.5.2.3 The Chairman, members, alternate members of the NSRB shall be appointed in writing by the Senior Vice President, Nuclear Power and shall have an academic degree in engineering or a physical science field, or the equivalent; and in addition, shall have a minimum of 5 years technical experience in one or more areas given in 6.5.2.1. No more than two alternates shall participate as voting members in NSRB activities at any one time.

CONSULTANTS

6.5.2.4 Consultants shall be utilized to provide expert advice as determined by the NSRB.

MEETING FREQUENCY

6.5.2.5 The NSRB shall meet at least once per six months.

QUORUM

6.5.2.6 The minimum quorum of the NSRB necessary for the performance of the NSRB review and audit functions of these technical specifications shall consist of more than half of the NSRB membership or at least five members, whichever is greater. The quorum shall include the Chairman or his appointed alternate and the NSRB members including appointed alternate members meeting the requirements of 6.5.2.3. No more than a minority of the quorum shall have line responsibility for operation of the unit.

REVIEW

6.5.2.7 The NSRB shall review:

a. The safety evaluations for: (1) changes to procedures, equipment or systems, and (2) tests or experiments completed under the provision of Section 50.59, 10 CFR, to verify that such actions did not constitute an unreviewed safety question.

b. Proposed changes to procedures, equipment or systems which involve an unreviewed safety question as defined in Section 50.59, 10 CFR.

c. Proposed tests or experiments which involve an unreviewed safety question as defined in Section 50.59, 10 CFR.

d. Proposed changes to Technical Specifications or this Operating License.

e. Violations of Codes, regulations, orders, Technical Specifications, license requirements, or of internal procedures or instructions having nuclear safety significance.

f. Significant operating abnormalities or deviations from normal and expected performance of plant equipment that affect nuclear safety.

g. All Reportable Events

h. All recognized indications of an unanticipated deficiency in some aspect of design or operation of structures, systems, or components that could affect nuclear safety; and

i. Reports and meeting minutes of the PORC.

AUDITS

6.5.2.8 Audits of unit activities shall be performed under the cognizance of the NSRB. These audits shall encompass:

a. The conformance of plant operation to provisions contained within the Technical Specifications and applicable license conditions at least once per 12 months.

b. The performance, training and qualifications of the entire plant staff at least once per 12 months.

c. The results of actions taken to correct deficiencies occurring in site equipment, structures, systems or method of operation that affect nuclear safety at least once per 6 months.

d. The performance of activities required by the Operational Quality Assurance Program to meet the criteria of Appendix B, 10 CFR Part 50, at least once per 24 months.

e. The Site Radiological Emergency Plan and implementing procedures at least once every 12 months.

f. The Plant Physical Security Plan and implementing procedures at least once every 12 months.

g. Any other area of site operation considered appropriate by the NSRB or the Senior Vice President, Nuclear Power.

h. The fire protection programmatic controls including the implementing procedures at least once per 24 months.

AUTHORITY

6.5.2.9 The NSRB shall report to and advise the Senior Vice President, Nuclear Power on those areas of responsibility specified in Specifications 6.5.2.7 and 6.5.2.8.

RECORDS

6.5.2.10 Reports of activities shall be prepared, approved, and distributed as indicated below:

a. Minutes of each NSRB meeting shall be prepared, approved and forwarded to the Senior Vice President, Nuclear Power within 14 days following each meeting.

b. Reports of reviews encompassed by Section 6.5.2.7 above, shall be prepared, approved and forwarded to the Senior Vice President, Nuclear Power within 14 days following completion of the review.

c. Audit reports encompassed by Specification 6.5.2.8 above, shall be forwarded to the Senior Vice President, Nuclear Power and to the management positions responsible for the areas audited within 30 days after completion of the audit.

i. An independent fire protection and loss prevention program inspection and audit shall be performed annually utilizing either qualified offsite license personnel or an outside fire protection firm.

j. An inspection and audit of the fire protection and loss prevention program shall be performed by an outside qualified fire consultant at intervals no greater than 3 years.

k. The Radiological Environmental Monitoring program and the results thereof at least once per 12 months.

l. The performance of activities required by the Quality Assurance Program to meet the criteria of Regulatory Guide 4.15, December 1977, or Regulatory Guide 1.21, Rev. 1, 1974, and Regulatory Guide 4.1, 1975, at least once every 12 months.

m. The performance of activities required by the Safeguards Contingency Plan to meet the criteria of 10 CFR 73.40(d) at least once every 12 months.

n. The Offsite Dose Calculation Manual and implementing procedures at least once per 24 months.

o. The Process Control Program and implementing procedures for solidification of wet radioactive wastes at least once per 24 months.

p. The Radiological Effluent Manual and implementing procedures at least once per 12 months.

6.5.3 TECHNICAL REVIEW AND APPROVAL OF PROCEDURES

ACTIVITIES

6.5.3.1 Procedures required by Technical Specification 6.8.1.1 and other procedures which affect plant nuclear safety, and changes (other than editorial or typographical changes) thereto, shall be prepared, reviewed and approved. Each procedure or procedure change shall be reviewed by an individual other than the preparer. The reviewer may be from the same organization or from a different organization. Procedures other than Site Director Standard Practices will be approved by the responsible Section Supervisor, or applicable Plant Superintendent.

6.5.3.2 Proposed changes or modifications to plant nuclear safety-related structures, systems and components shall be reviewed as designated by the Plant Manager. Each such modification shall be reviewed by an individual/group other than the individual/group which designed the modification, but who may be from the same organization as the individual/group which designed the modification. Proposed modifications to plant nuclear safety-related structures, systems and components shall be approved by the Plant Manager, prior to implementation.

6.5.3.3 Individuals responsible for reviews performed in accordance with 6.5.3.1 shall be members of the site supervisory staff previously designated by the Plant Manager. Each such review shall include a determination of whether or not additional, cross-disciplinary, review is necessary. If deemed necessary, such review shall be performed by review personnel of the appropriate discipline.

6.5.3.4 The Plant Manager shall approve all administrative procedures requiring PORC review prior to implementation.

6.6 REPORTABLE EVENT ACTION

6.6.1 The following actions shall be taken for REPORTABLE EVENTS:

a. The Commission shall be notified and a report submitted pursuant to the requirements of Section 50.73 to 10 CFR Part 50, and

b. Each REPORTABLE EVENT shall be reviewed by the PORC and the results of this review shall be submitted to the NSRB and the Site Director.

6.7 SAFETY LIMIT VIOLATION

6.7.1 The following actions shall be taken in the event a Safety Limit is violated:

a. The NRC Operations Center shall be notified by telephone as soon as possible and in all cases within 1 hour. The Senior Vice President, Nuclear Power and the NSRB shall be notified within 24 hours.

b. A Safety Limit Violation Report shall be prepared. The report shall be reviewed by the PORC. This report shall describe (1) applicable circumstances preceding the violation, (2) effects of the violation upon facility components, systems, or structures, and (3) corrective action taken to prevent recurrence.

c. The Safety Limit Violation Report shall be submitted to the Commission, the NSRB, and the Senior Vice President, Nuclear Power within 14 days of the violation.

d. Critical operation of the unit shall not be resumed until authorized by the Commission.

6.8 PROCEDURES/INSTRUCTIONS AND PROGRAMS

6.8.1 PROCEDURES

6.8.1.1 Written procedures shall be established, implemented and maintained covering the activities referenced below:

a. The applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978.

b. Limitations on the amount of overtime worked by individuals performing safety-related functions in accordance with NRC Policy statement on working hours (Generic Letter No. 82-12).

c. Surveillance and test activities of safety-related equipment.

d. Security plan implementation.

e. Emergency plan implementation.

f. Fire Protection Program implementation.

g. Radiological Effluent Manual implementing procedures.

h. Process Control Program (PCP).

i. Offsite Dose Calculation Manual.

j. Administrative procedures which control technical and cross-disciplinary review.

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.

RADIATION CONTROL PROCEDURES

6.8.3 Radiation Control Procedures shall be maintained and made available to all station personnel. These procedures shall show permissible radiation exposure 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 in lieu of the "control device" or "alarm signal" required by paragraph 20.203 (c) of 10 CFR 20.

6.8.3.1 Each high radiation area in which the intensity of radiation is greater than 100 mrem/hr but less than or equal to 1000 mrem/hr 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.* 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 control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the facility Health Physicist in the Radiological Work Permit.

6.8.3.2 Each high radiation area in which the intensity of radiation is greater than 1,000 mrem/hr shall be subject to the provisions of (1) above; and, in addition, access to the source and/or area shall be secured by lock(s). The key(s) shall be under the administrative control of the shift engineer. In the case of a high radiation area established for a period of 30 days or less, direct surveillance to prevent unauthorized entry may be substituted for permanent access control.

* Health Physics personnel, or personnel escorted by Health Physics personnel, in accordance with approved emergency procedures, shall be exempt from the RWP issuance requirement during the performance of their assigned radiation protection duties, provided they comply with approved radiation protection procedures for entry into high radiation areas.

QUALITY ASSURANCE PROCEDURES - EFFLUENT AND ENVIRONMENTAL MONITORING

6.8.4 Quality Assurance procedures shall be established, implemented, and maintained for effluent and environmental monitoring, using the guidance in Regulatory Guide 1.21, Rev. 1, June 1974 and Regulatory Guide 4.1, Rev. 1, April 1975 or Regulatory Guide 4.15, Dec. 1977.

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) receiving exposures greater than 100 mrem/yr 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 pocket dosimeter, TLD, or film badge measurements. 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 whole body dose 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.

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*A single submittal may be made for a multiple unit station.

**This tabulation supplements the requirements of 20.407 of 10 CFR Part 20.

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 RADIOACTIVE EFFLUENT RELEASE REPORT

Deleted (See REM section F-2)

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.

6.9.2 SPECIAL REPORTS

Reports on the following areas shall be submitted in writing to the Director of Regional Office of Inspection and Enforcement:

1.	Fatigue Usage	6.10.1.q	Annual Operating Report
2.	Relief Valve Tailpipe	3.2.F	Within 30 days after inoperability of thermocouple and acoustic monitor on one valve.
3.	Seismic Instrumentation Inoperability	3.2.J.3	Within 10 days after 30 days of inoperability.
4.	Meteorological Monitoring Instrumentation Inoperability	3.2.I.2	Within 10 days after 7 days of inoperability.
5.	Primary Containment Integrated Leak Rate Testing	4.7.A.2	Within 90 days of completion of each test.

6. Data shall be retrieved from all seismic instruments actuated during a seismic event and analyzed to determine the magnitude of the vibratory ground motion. A Special

	Report shall be submitted within 10 days after the event describing the magnitude, frequency spectrum, and resultant effect upon plant features important to safety.		
7.	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. Gaseous and liquid radioactive waste released to the environs

j. Offsite environmental monitoring surveys

k. Fuel inventories and transfers

l. Plant radiation and contamination surveys

m. Radiation exposures for all plant personnel

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

Transients that occur during plant operations will be reviewed and a cumulative fatigue usage factor determined.

For transients which are more severe than the transients evaluated in the stress report, code fatigue usage calculations will be made and tabulated separately.

In the annual operating report, the fatigue usage factor determined for the transients defined above shall be added and a cumulative fatigue usage factor to date shall be reported. When the cumulative usage factor reaches a value of 1.0, an inservice inspection shall be included for the specific location at the next scheduled inspection (3-1/3-year interval) period and 3-1/3-year intervals thereafter, and a subsequent evaluation performed in accordance with the rules of ASME Section XI Code if any flaw indications are detected. The results of the evaluation shall be submitted in a Special Report for review by the Commission.

6.10.2 Except where covered by applicable regulations, items a through h above shall be retained for a period of at least 5 years and item i through q shall be retained for the life of the plant. A complete inventory of radioactive materials in possession shall be maintained current at all times.

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1. See paragraph N-415.2, ASME Section III, 1965 Edition.

6.11 PROCESS CONTROL PROGRAM (PCP)

1. The PCP shall be approved by the Commission prior to implementation.

2. Changes to the PCP shall be submitted to the Commission in the semi-annual Radioactive Effluent Release Report for the period in which the change(s) was made. This submittal shall contain:

   a. Sufficiently detailed information to totally support the change.

   b. A determination that the change did not change the overall conformance of the solidified product to existing criteria.

3. Changes to the PCP shall become effective upon review and acceptance by PORC.

6.12 OFFSITE DOSE CALCULATIONAL MANUAL (ODCM)

1. The ODCM shall be approved by the Commission prior to implementation.

2. Changes to the ODCM shall be submitted to the Commission in the semi-annual Radioactive Effluent Release Report for the period in which the change(s) was made. This submittal shall contain:

   a. Sufficiently detailed information to totally support the change.

3. Changes to the ODCM shall become effective upon review and acceptance by PORC.

6.13 RADIOLOGICAL EFFLUENT MANUAL (REM)

1. The REM shall be approved by the Commission prior to implementation.

2. Changes to the REM shall be reviewed by PORC prior to implementation.

3. Changes to the REM shall be approved by the Commission prior to implementation.

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

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-260

BROWNS FERRY NUCLEAR PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No.145
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 June 17, 1988 as supplemented June 23, and June 24, 1988, 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. 145, 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.

FOR THE NUCLEAR REGULATORY COMMISSION

Suzanne Black

Suzanne Black, Assistant Director
for Projects
TVA Projects Division
Office of Special Projects

Attachment:
Changes to the Technical
Specifications

Date of Issuance: June 30, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 145

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 pages* are provided to maintain document completeness.

REMOVE	INSERT
6.0-1	6.0-1
6.0-2	6.0-2
6.0-3	6.0-3
6.0-4	6.0-4
6.0-5	6.0-5
6.0-6	6.0-6
6.0-7	6.0-7
6.0-8	6.0-8
6.0-9	6.0-9
6.0-10	6.0-10
6.0-11	6.0-11
6.0-12	6.0-12
6.0-13	6.0-13
6.0-14	6.0-14
6.0-15	6.0-15
6.0-16	6.0-16
6.0-17	6.0-17
6.0-18	6.0-18
6.0-19	6.0-19
6.0-20	6.0-20
6.0-21	6.0-21
6.0-22	6.0-22
6.0-23	6.0-23
6.0-24	6.0-24
6.0-25	6.0-25
6.0-26	6.0-26
6.0-27	6.0-27
6.0-28	6.0-28
6.0-29	6.0-29
6.0-30	6.0-30
6.0-31	6.0-31
6.0-32	6.0-32
6.0-33	6.0-33
6.0-34	-

6.0 ADMINISTRATIVE CONTROLS

6.1 RESPONSIBILITY

6.1.1 The Plant Manager shall be responsible for overall unit operation and shall delegate in writing the succession to this responsibility during his absence.

6.1.2 The Shift Operations Supervisor (or during his absence from the Control Room, a designated individual) shall be responsible for the Control Room command function. A management directive to this effect, signed by the Site Director shall be reissued to all station personnel on an annual basis.

6.2 ORGANIZATION

6.2.1 Offsite and Onsite Organizations

An onsite and offsite organization shall be established for unit operation and corporate management. The onsite and offsite organization shall include the positions for activities affecting the safety of the nuclear power plant.

a. Lines of authority, responsibility, and communication shall be established and defined from the highest management levels through intermediate levels to and including all operating organization positions. These relationships shall be documented and updated, as appropriate, in the form of organizational charts, functional descriptions of departmental responsibilities and relationships, and job descriptions for key personnel positions, or in equivalent forms of documentation. These requirements shall be documented in the FSAR and will be updated in accordance with 10 CFR 50.71(e).

6.2.1 (Cont'd)

b. The Senior Vice President, Nuclear Power, shall have corporate responsibility for overall plant nuclear safety. This individual shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining, and providing technical support in the plant so that continued nuclear safety is assured.

c. The Plant Manager shall be responsible for overall unit safe operation, and shall have control over those onsite resources necessary for safe operation and maintenance of the plant.

d. The individuals who train the operating staff and those who carry out health physics and quality assurance functions may report to the appropriate onsite manager; however, they shall have sufficient organizational freedom to ensure their independence from operating pressures.

6.2.2 Plant Staff

a. Shift manning requirements, shall as a minimum, be as described in Table 6.2.A and below.

b. A licensed senior reactor operator shall be present at the site at all times when there is fuel in the reactor.

c. A licensed reactor operator shall be in the control room whenever there is fuel in the reactor.

6.2.2 (Cont.)

d. Two licensed reactor operators shall be in the control room during any cold startups, while shutting down the reactor, and during recovery from unit trip. In addition, a person holding a senior operator license shall be in the control room for that unit whenever it is in an operational mode other than cold shutdown or refueling.

e. A Health Physics Technician* shall be present at the facility at all times when there is fuel in the reactor.

f. A person holding a senior operator license or a senior operator license limited to fuel handling, shall be present during alteration of the core to directly supervise the activity and during this time shall not be assigned other duties.

g. A site fire brigade of at least five members shall be maintained onsite at all times.* The fire brigade shall not include the Shift Engineer and the other members of the minimum shift crew necessary for safe shutdown of the unit, nor any personnel required for other essential functions during a fire emergency.

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*The Health Physics Technician and fire brigade composition may be less than the minimum requirements for a period of time not to exceed 2 hours, in order to accommodate unexpected absence, provided immediate action is taken to fill the required positions.

Table 6.2.A
Minimum Shift Crew Requirements[b]

Position	Units in Operation				Type of License
	0	1	2[d]	3	
Senior Operator[a]	1	1	1	1	SRO
Senior Operator	0	1	2	2	SRO
Licensed Operators	3	3	3	3	RO or SRO
Additional Licensed Operators[c]	0	1	2	2	RO or SRO
Assistant Unit Operators (AUO)	4	4	5	5	None
Shift Technical Advisor (STA)	0	1	1	1	None
Health Physics Technician	1	1	1	1	None

Note for Table 6.2.A

a. A senior operator will be assigned responsibility for overall plant operation at all times there is fuel in any unit.

b. Except for the senior operator discussed in note "a", the shift crew composition may be one less than the minimum requirements of Table 6.2.A for a period of time not to exceed two hours in order to accommodate unexpected absence of on-duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements of Table 6.2.A. This provision does not permit any shift crew position to be unmanned upon shift change due to an oncoming shift crewman being late or absent.

c. One of the Additional Licensed Operators must be assigned to each control room with an operating unit.

d. The number of required licensed personnel, when the operating units are controlled from a common control room, are two senior operators and four operators.

6.3 PLANT STAFF QUALIFICATIONS

Qualifications of the Browns Ferry Nuclear Plant management and operating staff shall meet the minimum acceptable levels as described in ANSI - N18.1, Selection and Training of Nuclear Power Plant Personnel, dated March 8, 1971. The qualifications of the Health Physics Supervisor will meet or exceed the minimum acceptable levels as described in Regulatory Guide 1.8, Revision 1, dated September 1975. The Shift Technical Advisor shall have a bachelor's degree or equivalent in a scientific or engineering discipline with specific training in plant design and transient and accident response and analysis.

6.4 TRAINING

A retraining and replacement training program for station personnel shall be in accordance with ANSI - N18.1, Selection and Training of Nuclear Power Plant Personnel, dated March 8, 1971. The minimum frequency of the retraining program shall be every two years.

6.5 PLANT REVIEW AND AUDIT

6.5.1 PLANT OPERATIONS REVIEW COMMITTEE (PORC)

FUNCTION

6.5.1.1 a. The PORC shall function to advise the Plant Manager in all matters related to nuclear safety.

b. This advisory function shall be performed by the PORC acting in a formal meeting or by members acting individually without a formal meeting.

COMPOSITION

6.5.1.2 The PORC shall be composed of the:

a. Chairman:	Plant Manager
Alternate Chairman:	Assistant to Plant Manager
Alternate Chairman or Member:	Technical Services Superintendent
Member:	Unit Superintendents (3)
Member:	Maintenance Superintendent
Member:	Quality Assurance Staff Supervisor
Member:	Health Physics Supervisor

b. All alternate chairmen and alternate members shall be appointed in writing by the PORC chairman.

MEETING FREQUENCY

6.5.1.3 The PORC shall convene in a formal meeting at least once a month and as directed by the chairman. Other PORC meetings may be requested by the chairmen or members as required.

6.5.1.4 For expedited meetings, when it is not practical to convene as a group, the chairman or alternate chairman may conduct committee business by polling the members individually (by telephone or in person) or via a serialized review.

QUORUM

6.5.1.5 The quorum necessary for the PORC to act in a formal meeting shall consist of the chairman or alternate chairman and at least five members or their alternates. Members shall be considered present if they are in telephone communication with the committee.

RESPONSIBILITIES

6.5.1.6 The PORC shall be responsible for the activities listed below. The PORC may delegate the performance of reviews, but will maintain cognizance over and responsibility for them, e.g., subcommittees.

a. Review of administrative procedures for the control of the technical and cross-disciplinary review of (1) all procedures required by Specification 6.8.1.1, and changes thereto, (2) any other procedures and changes thereto determined by the Plant Manager to affect nuclear safety.

b. Review of the administrative procedures required by Appendix A of Regulatory Guide 1.33, Revision 2, February 1978 and changes thereto.

c. Review of emergency operating procedures and changes thereto.

d. Review implementing procedures of the Radiological Emergency Plan and the Industrial Security Program.

e. Review of all proposed changes to the Technical Specifications.

f. Review of safety evaluation for proposed tests or experiments to be completed under the provisions of 10 CFR 50.59

g. Review proposed changes to the Radiological Effluent Manual.

h. Review adequacy of the Process Control Program and Offsite Dose Calculation Manual at least once every 24 months.

i. Review changes to the radwaste treatment systems.

j. Review of every unplanned onsite release of radioactive material to the environs including the preparation and forwarding of reports covering evaluation, recommendation, and disposition of the corrective action to prevent recurrence to the Senior Vice President, Nuclear Power, and to the Nuclear Safety Review Board.

k. Review of all safety evaluations for modifications to structures, systems or components that affect nuclear safety to verify that such actions did not constitute an unreviewed safety question as defined in 10 CFR 50.59, or requires a change to these Technical Specifications.

l. Review of reportable events, unusual events, operating anomalies, and abnormal performance of plant equipment.

m. Investigate reported or suspected incidents involving safety questions or violations of the Technical Specifications.

n. Review of unit operations to detect potential hazards to nuclear safety. Items that may be included in this review are NRC inspection reports, QA audit, NSRB audit results, American Nuclear Insurer (ANI) inspection results, and significant corrective action reports (CARs).

o. Performance of special reviews, investigations, or analysis, and report thereon as requested by the Plant Manager or the Nuclear Safety Review Board.

AUTHORITY

6.5.1.7 The PORC shall:

a. Recommend to the Plant Manager in writing, approval, or disapproval of items considered under 6.5.1.6.a through i above.

1. The recommendation shall be based on a majority vote of the PORC at a formal meeting.

2. The recommendation shall be based on a unanimous vote of the PORC when the PORC members are acting individually.

3. Each member or alternate member shall have one vote.

b. Furnish for consideration a determination in writing with regard to whether or not each item considered under 6.5.1.6.f above constitutes an unreviewed safety question.

c. Make recommendations to the Plant Manager in writing that action reviewed under 6.5.1.6.k above did not constitute an unreviewed safety question.

d. Provide written notification within 24 hours to the Site Director and the Nuclear Safety Review Board of disagreements between the PORC and the Plant Manager. However, the Plant Manager shall have responsibility for resolution of such disagreements pursuant to Specification 6.1.

RECORDS

6.5.1.8 The PORC shall maintain written minutes of each PORC meeting including expedited meetings that, as a minimum, document the result of all PORC activities performed under the responsibility and authority provisions of these technical specifications. Copies shall be provided to the Site Director and the Nuclear Safety Review Board.

6.5.2 NUCLEAR SAFETY REVIEW BOARD (NSRB)

FUNCTION

6.5.2.1 The NSRB shall function to provide independent review and audit cognizance of designated activities in the areas of:

a. Nuclear power plant operations
b. Nuclear engineering
c. Chemistry and radiochemistry
d. Metallurgy
e. Instrumentation and control
f. Radiological safety
g. Mechanical and electrical engineering, and
h. Quality assurance practices

COMPOSITION

6.5.2.2 The NSRB shall be composed of at least five members, including the Chairman. Members of the NSRB may be from the Nuclear Power or other TVA organizations, or external to TVA.

QUALIFICATIONS

6.5.2.3 The Chairman, members, alternate members of the NSRB shall be appointed in writing by the Senior Vice President, Nuclear Power and shall have an academic degree in engineering or a physical science field, or the equivalent; and in addition, shall have a minimum of 5 years technical experience in one or more areas given in 6.5.2.1. No more than two alternates shall participate as voting members in NSRB activities at any one time.

CONSULTANTS

6.5.2.4 Consultants shall be utilized to provide expert advice as determined by the NSRB.

MEETING FREQUENCY

6.5.2.5 The NSRB shall meet at least once per six months.

QUORUM

6.5.2.6 The minimum quorum of the NSRB necessary for the performance of the NSRB review and audit functions of these technical specifications shall consist of more than half of the NSRB membership or at least five members, whichever is greater. The quorum shall include the Chairman or his appointed alternate and the NSRB members including appointed alternate members meeting the requirements of 6.5.2.3. No more than a minority of the quorum shall have line responsibility for operation of the unit.

REVIEW

6.5.2.7 The NSRB shall review:

a. The safety evaluations for: (1) changes to procedures, equipment or systems, and (2) tests or experiments completed under the provision of Section 50.59, 10 CFR, to verify that such actions did not constitute an unreviewed safety question.

b. Proposed changes to procedures, equipment or systems which involve an unreviewed safety question as defined in Section 50.59, 10 CFR.

c. Proposed tests or experiments which involve an unreviewed safety question as defined in Section 50.59, 10 CFR.

d. Proposed changes to Technical Specifications or this Operating License.

e. Violations of Codes, regulations, orders, Technical Specifications, license requirements, or of internal procedures or instructions having nuclear safety significance.

f. Significant operating abnormalities or deviations from normal and expected performance of plant equipment that affect nuclear safety.

g. All Reportable Events

h. All recognized indications of an unanticipated deficiency in some aspect of design or operation of structures, systems, or components that could affect nuclear safety; and

i. Reports and meeting minutes of the PORC.

AUDITS

6.5.2.8 Audits of unit activities shall be performed under the cognizance of the NSRB. These audits shall encompass:

a. The conformance of plant operation to provisions contained within the Technical Specifications and applicable license conditions at least once per 12 months.

b. The performance, training and qualifications of the entire plant staff at least once per 12 months.

c. The results of actions taken to correct deficiencies occurring in site equipment, structures, systems or method of operation that affect nuclear safety at least once per 6 months.

d. The performance of activities required by the Operational Quality Assurance Program to meet the criteria of Appendix B, 10 CFR Part 50, at least once per 24 months.

e. The Site Radiological Emergency Plan and implementing procedures at least once every 12 months.

f. The Plant Physical Security Plan and implementing procedures at least once every 12 months.

g. Any other area of site operation considered appropriate by the NSRB or the Senior Vice President, Nuclear Power.

h. The fire protection programmatic controls including the implementing procedures at least once per 24 months.

i. An independent fire protection and loss prevention program inspection and audit shall be performed annually utilizing either qualified offsite license personnel or an outside fire protection firm.

j. An inspection and audit of the fire protection and loss prevention program shall be performed by an outside qualified fire consultant at intervals no greater than 3 years.

k. The Radiological Environmental Monitoring program and the results thereof at least once per 12 months.

l. The performance of activities required by the Quality Assurance Program to meet the criteria of Regulatory Guide 4.15, December 1977, or Regulatory Guide 1.21, Rev. 1, 1974, and Regulatory Guide 4.1, 1975, at least once every 12 months.

m. The performance of activities required by the Safeguards Contingency Plan to meet the criteria of 10 CFR 73.40(d) at least once every 12 months.

n. The Offsite Dose Calculation Manual and implementing procedures at least once per 24 months.

o. The Process Control Program and implementing procedures for solidification of wet radioactive wastes at least once per 24 months.

p. The Radiological Effluent Manual and implementing procedures at least once per 12 months.

AUTHORITY

6.5.2.9 The NSRB shall report to and advise the Senior Vice President, Nuclear Power on those areas of responsibility specified in Specifications 6.5.2.7 and 6.5.2.8.

RECORDS

6.5.2.10 Reports of activities shall be prepared, approved, and distributed as indicated below:

a. Minutes of each NSRB meeting shall be prepared, approved and forwarded to the Senior Vice President, Nuclear Power within 14 days following each meeting.

b. Reports of reviews encompassed by Section 6.5.2.7 above, shall be prepared, approved and forwarded to the Senior Vice President, Nuclear Power within 14 days following completion of the review.

c. Audit reports encompassed by Specification 6.5.2.8 above, shall be forwarded to the Senior Vice President, Nuclear Power and to the management positions responsible for the areas audited within 30 days after completion of the audit.

6.5.3 TECHNICAL REVIEW AND APPROVAL OF PROCEDURES

ACTIVITIES

6.5.3.1 Procedures required by Technical Specification 6.8.1.1 and other procedures which affect plant nuclear safety, and changes (other than editorial or typographical changes) thereto, shall be prepared, reviewed and approved. Each procedure or procedure change shall be reviewed by an individual other than the preparer. The reviewer may be from the same organization or from a different organization. Procedures other than Site Director Standard Practices will be approved by the responsible Section Supervisor, or applicable Plant Superintendent.

6.5.3.2 Proposed changes or modifications to plant nuclear safety-related structures, systems and components shall be reviewed as designated by the Plant Manager. Each such modification shall be reviewed by an individual/group other than the individual/group which designed the modification, but who may be from the same organization as the individual/group which designed the modification. Proposed modifications to plant nuclear safety-related structures, systems and components shall be approved by the Plant Manager, prior to implementation.

6.5.3.3 Individuals responsible for reviews performed in accordance with 6.5.3.1 shall be members of the site supervisory staff previously designated by the Plant Manager. Each such review shall include a determination of whether or not additional, cross-disciplinary, review is necessary. If deemed necessary, such review shall be performed by review personnel of the appropriate discipline.

6.5.3.4 The Plant Manager shall approve all administrative procedures requiring PORC review prior to implementation.

6.6 REPORTABLE EVENT ACTION

6.6.1 The following actions shall be taken for REPORTABLE EVENTS:

a. The Commission shall be notified and a report submitted pursuant to the requirements of Section 50.73 to 10 CFR Part 50, and

b. Each REPORTABLE EVENT shall be reviewed by the PORC and the results of this review shall be submitted to the NSRB and the Site Director.

6.7 SAFETY LIMIT VIOLATION

6.7.1 The following actions shall be taken in the event a Safety Limit is violated:

a. The NRC Operations Center shall be notified by telephone as soon as possible and in all cases within 1 hour. The Senior Vice President, Nuclear Power and the NSRB shall be notified within 24 hours.

b. A Safety Limit Violation Report shall be prepared. The report shall be reviewed by the PORC. This report shall describe (1) applicable circumstances preceding the violation, (2) effects of the violation upon facility components, systems, or structures, and (3) corrective action taken to prevent recurrence.

c. The Safety Limit Violation Report shall be submitted to the Commission, the NSRB, and the Senior Vice President, Nuclear Power within 14 days of the violation.

d. Critical operation of the unit shall not be resumed until authorized by the Commission.

6.8 PROCEDURES/INSTRUCTIONS AND PROGRAMS

6.8.1 PROCEDURES

6.8.1.1 Written procedures shall be established, implemented and maintained covering the activities referenced below:

a. The applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978.

b. Limitations on the amount of overtime worked by individuals performing safety-related functions in accordance with NRC Policy statement on working hours (Generic Letter No. 82-12).

c. Surveillance and test activities of safety-related equipment.

d. Security plan implementation.

e. Emergency plan implementation.

f. Fire Protection Program implementation.

g. Radiological Effluent Manual implementing procedures.

h. Process Control Program (PCP).

i. Offsite Dose Calculation Manual.

j. Administrative procedures which control technical and cross-disciplinary review.

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 show permissible radiation exposure 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 in lieu of the "control device" or "alarm signal" required by paragraph 20.203 (c) of 10 CFR 20.

6.8.3.1 Each high radiation area in which the intensity of radiation is greater than 100 mrem/hr but less than or equal to 1000 mrem/hr 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.* 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 control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the facility Health Physicist in the Radiological Work Permit.

6.8.3.2 Each high radiation area in which the intensity of radiation is greater than 1,000 mrem/hr shall be subject to the provisions of (1) above; and, in addition, access to the source and/or area shall be secured by lock(s). The key(s) shall be under the administrative control of the shift engineer. In the case of a high radiation area established for a period of 30 days or less, direct surveillance to prevent unauthorized entry may be substituted for permanent access control.

* Health Physics personnel, or personnel escorted by Health Physics personnel, in accordance with approved emergency procedures, shall be exempt from the RWP issuance requirement during the performance of their assigned radiation protection duties, provided they comply with approved radiation protection procedures for entry into high radiation areas.

QUALITY ASSURANCE PROCEDURES - EFFLUENT AND ENVIRONMENTAL MONITORING

6.8.4 Quality Assurance procedures shall be established, implemented, and maintained for effluent and environmental monitoring, using the guidance in Regulatory Guide 1.21, Rev. 1, June 1974 and Regulatory Guide 4.1, Rev. 1, April 1975 or Regulatory Guide 4.15, Dec. 1977.

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) receiving exposures greater than 100 mrem/yr 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 pocket dosimeter, TLD, or film badge measurements. 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 whole body dose 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.

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*A single submittal may be made for a multiple unit station.

**This tabulation supplements the requirements of 20.407 of 10 CFR Part 20.

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 RADIOACTIVE EFFLUENT RELEASE REPORT

Deleted (See REM section F-2)

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.

6.9.2 SPECIAL REPORTS

Reports on the following areas shall be submitted in writing to the Director of Regional Office of Inspection and Enforcement:

1.	Fatigue Usage	6.10.1.q	Annual Operating Report
2.	Relief Valve Tailpipe	3.2.F	Within 30 days after inoperability of thermocouple and acoustic monitor on one valve.
3.	Seismic Instrumentation Inoperability	3.2.J.3	Within 10 days after 30 days of inoperability.
4.	Meteorological Monitoring Instrumentation Inoperability	3.2.I.2	Within 10 days after 7 days of inoperability.
5.	Primary Containment Integrated Leak Rate Testing	4.7.A.2	Within 90 days of completion of each test.

6. Data shall be retrieved from all seismic instruments actuated during a seismic event and analyzed to determine the magnitude of the vibratory ground motion. A Special

Report shall be submitted within 10 days after the event describing the magnitude, frequency spectrum, and resultant effect upon plant features important to safety.

7.	Secondary Containment Leak Rate Testing*	4.7.C.	Within 90 days of completion of each test.
8	High Range Primary Containment Radiation Monitors	3.2.F	Within 7 days after 7 days of inoperability.
9.	High-Range Gaseous Effluent Radiation Monitors	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 these 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. Gaseous and liquid radioactive waste released to the environs

j. Offsite environmental monitoring surveys

k. Fuel inventories and transfers

l. Plant radiation and contamination surveys

m. Radiation exposures for all plant personnel

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

Transients that occur during plant operations will be reviewed and a cumulative fatigue usage factor determined.

For transients which are more severe than the transients evaluated in the stress report, code fatigue usage calculations will be made and tabulated separately.

In the annual operating report, the fatigue usage factor determined for the transients defined above shall be added and a cumulative fatigue usage factor to date shall be reported. When the cumulative usage factor reaches a value of 1.0, an inservice inspection shall be included for the specific location at the next scheduled inspection (3-1/3-year interval) period and 3-1/3-year intervals thereafter, and a subsequent evaluation performed in accordance with the rules of ASME Section XI Code if any flaw indications are detected. The results of the evaluation shall be submitted in a Special Report for review by the Commission.

6.10.2 Except where covered by applicable regulations, items a through h above shall be retained for a period of at least 5 years and item i through q shall be retained for the life of the plant. A complete inventory of radioactive materials in possession shall be maintained current at all times.

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1. See paragraph N-415.3, ASME Section III, 1965 Edition.

6.11 PROCESS CONTROL PROGRAM (PCP)

1. The PCP shall be approved by the Commission prior to implementation.

2. Changes to the PCP shall be submitted to the Commission in the semi-annual Radioactive Effluent Release Report for the period in which the change(s) was made. This submittal shall contain:

   a. Sufficiently detailed information to totally support the change.

   b. A determination that the change did not change the overall conformance of the solidified product to existing criteria.

3. Changes to the PCP shall become effective upon review and acceptance by PORC.

6.12 OFFSITE DOSE CALCULATIONAL MANUAL (ODCM)

1. The ODCM shall be approved by the Commission prior to implementation.

2. Changes to the ODCM shall be submitted to the Commission in the semi-annual Radioactive Effluent Release Report for the period in which the change(s) was made. This submittal shall contain:

   a. Sufficiently detailed information to totally support the change.

3. Changes to the ODCM shall become effective upon review and acceptance by PORC.

6.13 RADIOLOGICAL EFFLUENT MANUAL (REM)

1. The REM shall be approved by the Commission prior to implementation.

2. Changes to the REM shall be reviewed by PORC prior to implementation.

3. Changes to the REM shall be approved by the Commission prior to implementation.

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

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-296

BROWNS FERRY NUCLEAR PLANT, UNIT 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 120
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 June 17, 1988 as supplemented June 23, and June 24, 1988, 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. 120, 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.

FOR THE NUCLEAR REGULATORY COMMISSION

Suzanne Black

Suzanne Black, Assistant Director
for Projects
TVA Projects Division
Office of Special Projects

Attachment:
Changes to the Technical
Specifications

Date of Issuance: June 30, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 145

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 pages* are provided to maintain document completeness.

REMOVE	INSERT
6.0-1	6.0-1
6.0-2	6.0-2
6.0-3	6.0-3
6.0-4	6.0-4
6.0-5	6.0-5
6.0-6	6.0-6
6.0-7	6.0-7
6.0-8	6.0-8
6.0-9	6.0-9
6.0-10	6.0-10
6.0-11	6.0-11
6.0-12	6.0-12
6.0-13	6.0-13
6.0-14	6.0-14
6.0-15	6.0-15
6.0-16	6.0-16
6.0-17	6.0-17
6.0-18	6.0-18
6.0-19	6.0-19
6.0-20	6.0-20
6.0-21	6.0-21
6.0-22	6.0-22
6.0-23	6.0-23
6.0-24	6.0-24
6.0-25	6.0-25
6.0-26	6.0-26
6.0-27	6.0-27
6.0-28	6.0-28
6.0-29	6.0-29
6.0-30	6.0-30
6.0-31	6.0-31
6.0-32	6.0-32
6.0-33	6.0-33
6.0-34	-

6.0 ADMINISTRATIVE CONTROLS

6.1 RESPONSIBILITY

6.1.1 The Plant Manager shall be responsible for overall unit operation and shall delegate in writing the succession to this responsibility during his absence.

6.1.2 The Shift Operations Supervisor (or during his absence from the Control Room, a designated individual) shall be responsible for the Control Room command function. A management directive to this effect, signed by the Site Director shall be reissued to all station personnel on an annual basis.

6.2 ORGANIZATION

6.2.1 Offsite and Onsite Organizations

An onsite and offsite organization shall be established for unit operation and corporate management. The onsite and offsite organization shall include the positions for activities affecting the safety of the nuclear power plant.

a. Lines of authority, responsibility, and communication shall be established and defined from the highest management levels through intermediate levels to and including all operating organization positions. These relationships shall be documented and updated, as appropriate, in the form of organizational charts, functional descriptions of departmental responsibilities and relationships, and job descriptions for key personnel positions, or in equivalent forms of documentation. These requirements shall be documented in the FSAR and will be updated in accordance with 10 CFR 50.71(e).

6.2.1 (Cont'd)

b. The Senior Vice President, Nuclear Power, shall have corporate responsibility for overall plant nuclear safety. This individual shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining, and providing technical support in the plant so that continued nuclear safety is assured.

c. The Plant Manager shall be responsible for overall unit safe operation, and shall have control over those onsite resources necessary for safe operation and maintenance of the plant.

d. The individuals who train the operating staff and those who carry out health physics and quality assurance functions may report to the appropriate onsite manager; however, they shall have sufficient organizational freedom to ensure their independence from operating pressures.

6.2.2 Plant Staff

a. Shift manning requirements, shall as a minimum, be as described in Table 6.2.A and below.

b. A licensed senior reactor operator shall be present at the site at all times when there is fuel in the reactor.

c. A licensed reactor operator shall be in the control room whenever there is fuel in the reactor.

6.2.2 (Cont.)

d. Two licensed reactor operators shall be in the control room during any cold startups, while shutting down the reactor, and during recovery from unit trip. In addition, a person holding a senior operator license shall be in the control room for that unit whenever it is in an operational mode other than cold shutdown or refueling.

e. A Health Physics Technician* shall be present at the facility at all times when there is fuel in the reactor.

f. A person holding a senior operator license or a senior operator license limited to fuel handling, shall be present during alteration of the core to directly supervise the activity and during this time shall not be assigned other duties.

g. A site fire brigade of at least five members shall be maintained onsite at all times.* The fire brigade shall not include the Shift Engineer and the other members of the minimum shift crew necessary for safe shutdown of the unit, nor any personnel required for other essential functions during a fire emergency.

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*The Health Physics Technician and fire brigade composition may be less than the minimum requirements for a period of time not to exceed 2 hours, in order to accommodate unexpected absence, provided immediate action is taken to fill the required positions.

Table 6.2.A
Minimum Shift Crew Requirements[b]

Position	Units in Operation				Type of License
	0	1	2[d]	3	
Senior Operator[a]	1	1	1	1	SRO
Senior Operator	0	1	2	2	SRO
Licensed Operators	3	3	3	3	RO or SRO
Additional Licensed Operators[c]	0	1	2	2	RO or SRO
Assistant Unit Operators (AUO)	4	4	5	5	None
Shift Technical Advisor (STA)	0	1	1	1	None
Health Physics Technician	1	1	1	1	None

Note for Table 6.2.A

a. A senior operator will be assigned responsibility for overall plant operation at all times there is fuel in any unit.

b. Except for the senior operator discussed in note "a", the shift crew composition may be one less than the minimum requirements of Table 6.2.A for a period of time not to exceed two hours in order to accommodate unexpected absence of on-duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements of Table 6.2.A. This provision does not permit any shift crew position to be unmanned upon shift change due to an oncoming shift crewman being late or absent.

c. One of the Additional Licensed Operators must be assigned to each control room with an operating unit.

d. The number of required licensed personnel, when the operating units are controlled from a common control room, are two senior operators and four operators.

6.3 PLANT STAFF QUALIFICATIONS

Qualifications of the Browns Ferry Nuclear Plant management and operating staff shall meet the minimum acceptable levels as described in ANSI - N18.1, Selection and Training of Nuclear Power Plant Personnel, dated March 8, 1971. The qualifications of the Health Physics Supervisor will meet or exceed the minimum acceptable levels as described in Regulatory Guide 1.8, Revision 1, dated September 1975. The Shift Technical Advisor shall have a bachelor's degree or equivalent in a scientific or engineering discipline with specific training in plant design and transient and accident response and analysis.

6.4 TRAINING

A retraining and replacement training program for station personnel shall be in accordance with ANSI - N18.1, Selection and Training of Nuclear Power Plant Personnel, dated March 8, 1971. The minimum frequency of the retraining program shall be every two years.

6.5 PLANT REVIEW AND AUDIT

6.5.1 PLANT OPERATIONS REVIEW COMMITTEE (PORC)

FUNCTION

6.5.1.1 a. The PORC shall function to advise the Plant Manager in all matters related to nuclear safety.

b. This advisory function shall be performed by the PORC acting in a formal meeting or by members acting individually without a formal meeting.

COMPOSITION

6.5.1.2 The PORC shall be composed of the:

a. Chairman:	Plant Manager
Alternate Chairman:	Assistant to Plant Manager
Alternate Chairman or Member:	Technical Services Superintendent
Member:	Unit Superintendents (3)
Member:	Maintenance Superintendent
Member:	Quality Assurance Staff Supervisor
Member:	Health Physics Supervisor

b. All alternate chairmen and alternate members shall be appointed in writing by the PORC chairman.

MEETING FREQUENCY

6.5.1.3 The PORC shall convene in a formal meeting at least once a month and as directed by the chairman. Other PORC meetings may be requested by the chairmen or members as required.

6.5.1.4 For expedited meetings, when it is not practical to convene as a group, the chairman or alternate chairman may conduct committee business by polling the members individually (by telephone or in person) or via a serialized review.

QUORUM

6.5.1.5 The quorum necessary for the PORC to act in a formal meeting shall consist of the chairman or alternate chairman and at least five members or their alternates. Members shall be considered present if they are in telephone communication with the committee.

RESPONSIBILITIES

6.5.1.6 The PORC shall be responsible for the activities listed below. The PORC may delegate the performance of reviews, but will maintain cognizance over and responsibility for them, e.g., subcommittees.

a. Review of administrative procedures for the control of the technical and cross-disciplinary review of (1) all procedures required by Specification 6.8.1.1, and changes thereto, (2) any other procedures and changes thereto determined by the Plant Manager to affect nuclear safety.

b. Review of the administrative procedures required by Appendix A of Regulatory Guide 1.33, Revision 2, February 1978 and changes thereto.

c. Review of emergency operating procedures and changes thereto.

d. Review implementing procedures of the Radiological Emergency Plan and the Industrial Security Program.

e. Review of all proposed changes to the Technical Specifications.

f. Review of safety evaluation for proposed tests or experiments to be completed under the provisions of 10 CFR 50.59

g. Review proposed changes to the Radiological Effluent Manual.

h. Review adequacy of the Process Control Program and Offsite Dose Calculation Manual at least once every 24 months.

i. Review changes to the radwaste treatment systems.

j. Review of every unplanned onsite release of radioactive material to the environs including the preparation and forwarding of reports covering evaluation, recommendation, and disposition of the corrective action to prevent recurrence to the Senior Vice President, Nuclear Power, and to the Nuclear Safety Review Board.

k. Review of all safety evaluations for modifications to structures, systems or components that affect nuclear safety to verify that such actions did not constitute an unreviewed safety question as defined in 10 CFR 50.59, or requires a change to these Technical Specifications.

l. Review of reportable events, unusual events, operating anomalies, and abnormal performance of plant equipment.

m. Investigate reported or suspected incidents involving safety questions or violations of the Technical Specifications.

n. Review of unit operations to detect potential hazards to nuclear safety. Items that may be included in this review are NRC inspection reports, QA audit, NSRB audit results, American Nuclear Insurer (ANI) inspection results, and significant corrective action reports (CARs).

o. Performance of special reviews, investigations, or analysis, and report thereon as requested by the Plant Manager or the Nuclear Safety Review Board.

AUTHORITY

6.5.1.7 The PORC shall:

a. Recommend to the Plant Manager in writing, approval, or disapproval of items considered under 6.5.1.6.a through i above.

1. The recommendation shall be based on a majority vote of the PORC at a formal meeting.

2. The recommendation shall be based on a unanimous vote of the PORC when the PORC members are acting individually.

3. Each member or alternate member shall have one vote.

b. Furnish for consideration a determination in writing with regard to whether or not each item considered under 6.5.1.6.f above constitutes an unreviewed safety question.

c. Make recommendations to the Plant Manager in writing that action reviewed under 6.5.1.6.k above did not constitute an unreviewed safety question.

d. Provide written notification within 24 hours to the Site Director and the Nuclear Safety Review Board of disagreements between the PORC and the Plant Manager. However, the Plant Manager shall have responsibility for resolution of such disagreements pursuant to Specification 6.1.

RECORDS

6.5.1.8 The PORC shall maintain written minutes of each PORC meeting including expedited meetings that, as a minimum, document the result of all PORC activities performed under the responsibility and authority provisions of these technical specifications. Copies shall be provided to the Site Director and the Nuclear Safety Review Board.

6.5.2 NUCLEAR SAFETY REVIEW BOARD (NSRB)

FUNCTION

6.5.2.1 The NSRB shall function to provide independent review and audit cognizance of designated activities in the areas of:

a. Nuclear power plant operations
b. Nuclear engineering
c. Chemistry and radiochemistry
d. Metallurgy
e. Instrumentation and control
f. Radiological safety
g. Mechanical and electrical engineering, and
h. Quality assurance practices

COMPOSITION

6.5.2.2 The NSRB shall be composed of at least five members, including the Chairman. Members of the NSRB may be from the Nuclear Power or other TVA organizations, or external to TVA.

QUALIFICATIONS

6.5.2.3 The Chairman, members, alternate members of the NSRB shall be appointed in writing by the Senior Vice President, Nuclear Power and shall have an academic degree in engineering or a physical science field, or the equivalent; and in addition, shall have a minimum of 5 years technical experience in one or more areas given in 6.5.2.1. No more than two alternates shall participate as voting members in NSRB activities at any one time.

CONSULTANTS

6.5.2.4 Consultants shall be utilized to provide expert advice as determined by the NSRB.

MEETING FREQUENCY

6.5.2.5 The NSRB shall meet at least once per six months.

QUORUM

6.5.2.6 The minimum quorum of the NSRB necessary for the performance of the NSRB review and audit functions of these technical specifications shall consist of more than half of the NSRB membership or at least five members, whichever is greater. The quorum shall include the Chairman or his appointed alternate and the NSRB members including appointed alternate members meeting the requirements of 6.5.2.3. No more than a minority of the quorum shall have line responsibility for operation of the unit.

REVIEW

6.5.2.7 The NSRB shall review:

a. The safety evaluations for: (1) changes to procedures, equipment or systems, and (2) tests or experiments completed under the provision of Section 50.59, 10 CFR, to verify that such actions did not constitute an unreviewed safety question.

b. Proposed changes to procedures, equipment or systems which involve an unreviewed safety question as defined in Section 50.59, 10 CFR.

c. Proposed tests or experiments which involve an unreviewed safety question as defined in Section 50.59, 10 CFR.

d. Proposed changes to Technical Specifications or this Operating License.

e. Violations of Codes, regulations, orders, Technical Specifications, license requirements, or of internal procedures or instructions having nuclear safety significance.

f. Significant operating abnormalities or deviations from normal and expected performance of plant equipment that affect nuclear safety.

g. All Reportable Events

h. All recognized indications of an unanticipated deficiency in some aspect of design or operation of structures, systems, or components that could affect nuclear safety; and

i. Reports and meeting minutes of the PORC.

AUDITS

6.5.2.8 Audits of unit activities shall be performed under the cognizance of the NSRB. These audits shall encompass:

a. The conformance of plant operation to provisions contained within the Technical Specifications and applicable license conditions at least once per 12 months.

b. The performance, training and qualifications of the entire plant staff at least once per 12 months.

c. The results of actions taken to correct deficiencies occurring in site equipment, structures, systems or method of operation that affect nuclear safety at least once per 6 months.

d. The performance of activities required by the Operational Quality Assurance Program to meet the criteria of Appendix B, 10 CFR Part 50, at least once per 24 months.

e. The Site Radiological Emergency Plan and implementing procedures at least once every 12 months.

f. The Plant Physical Security Plan and implementing procedures at least once every 12 months.

g. Any other area of site operation considered appropriate by the NSRB or the Senior Vice President, Nuclear Power.

h. The fire protection programmatic controls including the implementing procedures at least once per 24 months.

i. An independent fire protection and loss prevention program inspection and audit shall be performed annually utilizing either qualified offsite license personnel or an outside fire protection firm.

j. An inspection and audit of the fire protection and loss prevention program shall be performed by an outside qualified fire consultant at intervals no greater than 3 years.

k. The Radiological Environmental Monitoring program and the results thereof at least once per 12 months.

l. The performance of activities required by the Quality Assurance Program to meet the criteria of Regulatory Guide 4.15, December 1977, or Regulatory Guide 1.21, Rev. 1, 1974, and Regulatory Guide 4.1, 1975, at least once every 12 months.

m. The performance of activities required by the Safeguards Contingency Plan to meet the criteria of 10 CFR 73.40(d) at least once every 12 months.

n. The Offsite Dose Calculation Manual and implementing procedures at least once per 24 months.

o. The Process Control Program and implementing procedures for solidification of wet radioactive wastes at least once per 24 months.

p. The Radiological Effluent Manual and implementing procedures at least once per 12 months.

AUTHORITY

6.5.2.9 The NSRB shall report to and advise the Senior Vice President, Nuclear Power on those areas of responsibility specified in Specifications 6.5.2.7 and 6.5.2.8.

RECORDS

6.5.2.10 Reports of activities shall be prepared, approved, and distributed as indicated below:

a. Minutes of each NSRB meeting shall be prepared, approved and forwarded to the Senior Vice President, Nuclear Power within 14 days following each meeting.

b. Reports of reviews encompassed by Section 6.5.2.7 above, shall be prepared, approved and forwarded to the Senior Vice President, Nuclear Power within 14 days following completion of the review.

c. Audit reports encompassed by Specification 6.5.2.8 above, shall be forwarded to the Senior Vice President, Nuclear Power and to the management positions responsible for the areas audited within 30 days after completion of the audit.

6.5.3 TECHNICAL REVIEW AND APPROVAL OF PROCEDURES

ACTIVITIES

6.5.3.1 Procedures required by Technical Specification 6.8.1.1 and other procedures which affect plant nuclear safety, and changes (other than editorial or typographical changes) thereto, shall be prepared, reviewed and approved. Each procedure or procedure change shall be reviewed by an individual other than the preparer. The reviewer may be from the same organization or from a different organization. Procedures other than Site Director Standard Practices will be approved by the responsible Section Supervisor, or applicable Plant Superintendent.

6.5.3.2 Proposed changes or modifications to plant nuclear safety-related structures, systems and components shall be reviewed as designated by the Plant Manager. Each such modification shall be reviewed by an individual/group other than the individual/group which designed the modification, but who may be from the same organization as the individual/group which designed the modification. Proposed modifications to plant nuclear safety-related structures, systems and components shall be approved by the Plant Manager, prior to implementation.

6.5.3.3 Individuals responsible for reviews performed in accordance with 6.5.3.1 shall be members of the site supervisory staff previously designated by the Plant Manager. Each such review shall include a determination of whether or not additional, cross-disciplinary, review is necessary. If deemed necessary, such review shall be performed by review personnel of the appropriate discipline.

6.5.3.4 The Plant Manager shall approve all administrative procedures requiring PORC review prior to implementation.

6.6 REPORTABLE EVENT ACTION

6.6.1 The following actions shall be taken for REPORTABLE EVENTS:

a. The Commission shall be notified and a report submitted pursuant to the requirements of Section 50.73 to 10 CFR Part 50, and

b. Each REPORTABLE EVENT shall be reviewed by the PORC and the results of this review shall be submitted to the NSRB and the Site Director.

6.7 SAFETY LIMIT VIOLATION

6.7.1 The following actions shall be taken in the event a Safety Limit is violated:

a. The NRC Operations Center shall be notified by telephone as soon as possible and in all cases within 1 hour. The Senior Vice President, Nuclear Power and the NSRB shall be notified within 24 hours.

b. A Safety Limit Violation Report shall be prepared. The report shall be reviewed by the PORC. This report shall describe (1) applicable circumstances preceding the violation, (2) effects of the violation upon facility components, systems, or structures, and (3) corrective action taken to prevent recurrence.

c. The Safety Limit Violation Report shall be submitted to the Commission, the NSRB, and the Senior Vice President, Nuclear Power within 14 days of the violation.

d. Critical operation of the unit shall not be resumed until authorized by the Commission.

6.8 PROCEDURES/INSTRUCTIONS AND PROGRAMS

6.8.1 PROCEDURES

6.8.1.1 Written procedures shall be established, implemented and maintained covering the activities referenced below:

a. The applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978.

b. Limitations on the amount of overtime worked by individuals performing safety-related functions in accordance with NRC Policy statement on working hours (Generic Letter No. 82-12).

c. Surveillance and test activities of safety-related equipment.

d. Security plan implementation.

e. Emergency plan implementation.

f. Fire Protection Program implementation.

g. Radiological Effluent Manual implementing procedures.

h. Process Control Program (PCP).

i. Offsite Dose Calculation Manual.

j. Administrative procedures which control technical and cross-disciplinary review.

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.

RADIATION CONTROL PROCEDURES

6.8.3 Radiation Control Procedures shall be maintained and made available to all station personnel. These procedures shall show permissible radiation exposure 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 in lieu of the "control device" or "alarm signal" required by paragraph 20.203 (c) of 10 CFR 20.

6.8.3.1 Each high radiation area in which the intensity of radiation is greater than 100 mrem/hr but less than or equal to 1000 mrem/hr 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.* 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 control over the activities

within the area and shall perform periodic radiation surveillance at the frequency specified by the facility Health Physicist in the Radiological Work Permit.

6.8.3.2 Each high radiation area in which the intensity of radiation is greater than 1,000 mrem/hr shall be subject to the provisions of (1) above; and, in addition, access to the source and/or area shall be secured by lock(s). The key(s) shall be under the administrative control of the shift engineer. In the case of a high radiation area established for a period of 30 days or less, direct surveillance to prevent unauthorized entry may be substituted for permanent access control.

* Health Physics personnel, or personnel escorted by Health Physics personnel, in accordance with approved emergency procedures, shall be exempt from the RWP issuance requirement during the performance of their assigned radiation protection duties, provided they comply with approved radiation protection procedures for entry into high radiation areas.

QUALITY ASSURANCE PROCEDURES - EFFLUENT AND ENVIRONMENTAL MONITORING

6.8.4 Quality Assurance procedures shall be established, implemented, and maintained for effluent and environmental monitoring, using the guidance in Regulatory Guide 1.21, Rev. 1, June 1974 and Regulatory Guide 4.1, Rev. 1, April 1975 or Regulatory Guide 4.15, Dec. 1977

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) receiving exposures greater than 100 mrem/yr 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 pocket dosimeter, TLD, or film badge measurements. 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 whole body dose 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.

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*A single submittal may be made for a multiple unit station.

**This tabulation supplements the requirements of 20.407 of 10 CFR Part 20.

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 RADIOACTIVE EFFLUENT RELEASE REPORT

Deleted (See REM section F-2)

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.

6.9.2 SPECIAL REPORTS

Reports on the following areas shall be submitted in writing to the Director of Regional Office of Inspection and Enforcement:

1.	Fatigue Usage	6.10.1.q	Annual Operating Report
2.	Relief Valve Tailpipe	3.2.F	Within 30 days after inoperability of thermocouple and acoustic monitor on one valve.
3.	Seismic Instrumentation Inoperability	3.2.J.3	Within 10 days after 30 days of inoperability.
4.	Meteorological Monitoring Instrumentation Inoperability	3.2.I.2	Within 10 days after 7 days of inoperability.
5.	Primary Containment Integrated Leak Rate Testing	4.7.A.2	Within 90 days of completion of each test.

6. Data shall be retrieved from all seismic instruments actuated during a seismic event and analyzed to determine the magnitude of the vibratory ground motion. A Special

	Report shall be submitted within 10 days after the event describing the magnitude, frequency spectrum, and resultant effect upon plant features important to safety.		
7.	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. Gaseous and liquid radioactive waste released to the environs

j. Offsite environmental monitoring surveys

k. Fuel inventories and transfers

l. Plant radiation and contamination surveys

m. Radiation exposures for all plant personnel

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

Transients that occur during plant operations will be reviewed and a cumulative fatigue usage factor determined.

For transients which are more severe than the transients evaluated in the stress report, code fatigue usage calculations will be made and tabulated separately.

In the annual operating report, the fatigue usage factor determined for the transients defined above shall be added and a cumulative fatigue usage factor to date shall be reported. When the cumulative usage factor reaches a value of 1.0, an inservice inspection shall be included for the specific location at the next scheduled inspection (3-1/3-year interval) period and 3-1/3-year intervals thereafter, and a subsequent evaluation performed in accordance with the rules of ASME Section XI Code if any flaw indications are detected. The results of the evaluation shall be submitted in a Special Report for review by the Commission.

6.10.2 Except where covered by applicable regulations, items a through h above shall be retained for a period of at least 5 years and item i through q shall be retained for the life of the plant. A complete inventory of radioactive materials in possession shall be maintained current at all times.

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1. See paragraph N-415.2, ASME Section III, 1965 Edition.

6.11 PROCESS CONTROL PROGRAM (PCP)

1. The PCP shall be approved by the Commission prior to implementation.

2. Changes to the PCP shall be submitted to the Commission in the semi-annual Radioactive Effluent Release Report for the period in which the change(s) was made. This submittal shall contain:

   a. Sufficiently detailed information to totally support the change.

   b. A determination that the change did not change the overall conformance of the solidified product to existing criteria.

3. Changes to the PCP shall become effective upon review and acceptance by PORC.

6.12 OFFSITE DOSE CALCULATIONAL MANUAL (ODCM)

1. The ODCM shall be approved by the Commission prior to implementation.

2. Changes to the ODCM shall be submitted to the Commission in the semi-annual Radioactive Effluent Release Report for the period in which the change(s) was made. This submittal shall contain:

   a. Sufficiently detailed information to totally support the change.

3. Changes to the ODCM shall become effective upon review and acceptance by PORC.

6.13 RADIOLOGICAL EFFLUENT MANUAL (REM)

1. The REM shall be approved by the Commission prior to implementation.

2. Changes to the REM shall be reviewed by PORC prior to implementation.

3. Changes to the REM shall be approved by the Commission prior to implementation.