(12) Deleted.

(13) Deleted.

(14) Browns Ferry Nuclear Plant shall implement and maintain in effect all provisions of the approved Fire Protection Program as described in the Final Safety Analysis Report for BFN as approved in the SEs dated December 8, 1988, March 6, 1991, March 31, 1993, November 2, 1995 and Supplement dated November 3, 1989 subject to the following provision:

The licensee may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

(15) The licensee shall maintain the Augmented Quality Program for the Standby Liquid Control System to provide quality control elements to ensure component reliability for the required alternative source term function defined in the Updated Final Safety Analyses Report.

D. This amended license is effective as of the date of issuance and shall expire midnight on June 28, 2014.

FOR THE ATOMIC ENERGY COMMISSION

Original Signed By
S/ A. Giambusso
A. Giambusso, Deputy Director
for Reactor Projects
Directorate of Licensing

Attachment:
Appendices A & B - Technical Specifications

Date of Issuance: JUN 28, 1974

See Appendix B for additional License Conditions.

3.1 REACTIVITY CONTROL SYSTEMS

3.1.7 Standby Liquid Control (SLC) System

LCO 3.1.7 Two SLC subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One SLC subsystem inoperable.	A.1	Restore SLC subsystem to OPERABLE status.	7 days
B. Two SLC subsystems inoperable.	B.1	Restore one SLC subsystem to OPERABLE status.	8 hours
C. Required Action and associated Completion Time not met.	C.1	Be in MODE 3.	12 hours
	AND		
	C.2	Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.1.7.1	Verify available volume of sodium pentaborate solution (SPB) is ≥ 4000 gallons.	24 hours
SR 3.1.7.2	Verify continuity of explosive charge.	31 days
SR 3.1.7.3	Verify the SPB concentration is ≥ 8.0% by weight.	31 days AND Once within 24 hours after water or boron is added to solution
SR 3.1.7.4	Verify the SPB concentration is ≤ 9.2% by weight. OR	31 days AND Once within 24 hours after water or boron is added to solution (continued)

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
	Verify the concentration and temperature of boron in solution are within the limits of Figure 3.1.7-1.	Once within 8 hours after discovery that SPB concentration is > 9.2% by weight AND 12 hours thereafter
SR 3.1.7.5	Verify the minimum quantity of Boron-10 in the SLC solution tank and available for injection is ≥ 186 pounds.	31 days
SR 3.1.7.6	Verify the SLC conditions satisfy the following equation: $\frac{(\ C\ )(\ Q\ )(\ E\ )}{(13\ \text{wt. \%})(86\ \text{gpm})(19.8\ \text{atom\%})} \geq 1$ where, C = sodium pentaborate solution concentration (weight percent) Q = pump flow rate (gpm) E = Boron-10 enrichment (atom percent Boron-10)	31 days AND Once within 24 hours after water or boron is added to the solution
SR 3.1.7.7	Verify each pump develops a flow rate ≥ 39 gpm at a discharge pressure ≥ 1325 psig.	24 months

(continued)

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.1.7.8	Verify flow through one SLC subsystem from pump into reactor pressure vessel.	24 months on a STAGGERED TEST BASIS
SR 3.1.7.9	Verify all piping between storage tank and pump suction is unblocked.	24 months
SR 3.1.7.10	Verify sodium pentaborate enrichment is within the limits established by SR 3.1.7.6 by calculating within 24 hours and verifying by analysis within 30 days.	24 months AND After addition to SLC tank
SR 3.1.7.11	Verify each SLC subsystem manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position, or can be aligned to the correct position.	31 days

Table 3.3.6.2-1 (page 1 of 1)
Secondary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Reactor Vessel Water Level - Low, Level 3	1,2,3, (a)	2	SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.3 SR 3.3.6.2.4	≥ 528 inches above vessel zero
2. Drywell Pressure - High	1,2,3	2	SR 3.3.6.2.2 SR 3.3.6.2.3 SR 3.3.6.2.4	≤ 2.5 psig
3. Reactor Zone Exhaust Radiation - High	1,2,3, (a)	1	SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.3 SR 3.3.6.2.4	≤ 100 mR/hr
4. Refueling Floor Exhaust Radiation - High	1,2,3, (a)	1	SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.3 SR 3.3.6.2.4	≤ 100 mR/hr

(a) During operations with a potential for draining the reactor vessel.

Table 3.3.7.1-1 (page 1 of 1)
Control Room Emergency Ventilation System Instrumentation

	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1.	Reactor Vessel Water Level - Low, Level 3	1,2,3,(a)	2	B	SR 3.3.7.1.1 SR 3.3.7.1.2 SR 3.3.7.1.5 SR 3.3.7.1.6	≥ 528 inches above vessel zero
2.	Drywell Pressure - High	1,2,3	2	B	SR 3.3.7.1.2 SR 3.3.7.1.5 SR 3.3.7.1.6	≤ 2.5 psig
3.	Reactor Zone Exhaust Radiation - High	1,2,3 (a)	1	C	SR 3.3.7.1.1 SR 3.3.7.1.2 SR 3.3.7.1.5 SR 3.3.7.1.6	≤ 100 mR/hr
4.	Refueling Floor Exhaust Radiation - High	1,2,3, (a)	1	C	SR 3.3.7.1.1 SR 3.3.7.1.2 SR 3.3.7.1.5 SR 3.3.7.1.6	≤ 100 mR/hr
5.	Control Room Air Supply Duct Radiation - High	1,2,3, (a)	1	D	SR 3.3.7.1.1 SR 3.3.7.1.2 SR 3.3.7.1.3 SR 3.3.7.1.4	≤ 270 cpm above background

(a) During operations with a potential for draining the reactor vessel.

3.6 CONTAINMENT SYSTEMS

3.6.4.1 Secondary Containment

LCO 3.6.4.1 The secondary containment shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3,
During operations with a potential for draining the reactor vessel (OPDRVs).

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. Secondary containment inoperable in MODE 1, 2, or 3.	A.1	Restore secondary containment to OPERABLE status.	4 hours
B. Required Action and associated Completion Time of Condition A not met.	B.1 AND B.2	Be in MODE 3. Be in MODE 4.	12 hours 36 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Secondary containment inoperable during OPDRVs.	C.1 Initiate action to suspend OPDRVs.	Immediately

3.6 CONTAINMENT SYSTEMS

3.6.4.2 Secondary Containment Isolation Valves (SCIVs)

LCO 3.6.4.2 Each SCIV shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3,
During operations with a potential for draining the reactor vessel (OPDRVs).

ACTIONS

----------NOTES----------

1. Penetration flow paths may be unisolated intermittently under administrative controls.
2. Separate Condition entry is allowed for each penetration flow path.
3. Enter applicable Conditions and Required Actions for systems made inoperable by SCIVs.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more penetration flow paths with one SCIV inoperable.	A.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange. AND	8 hours (continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time of Condition A or B not met during OPDRVs.	D.1 Initiate action to suspend OPDRVs.	Immediately

3.6 CONTAINMENT SYSTEMS

3.6.4.3 Standby Gas Treatment (SGT) System

LCO 3.6.4.3 Three SGT subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3,
During operations with a potential for draining the reactor vessel (OPDRVs).

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One SGT subsystem inoperable.	A.1	Restore SGT subsystem to OPERABLE status.	7 days
B. Required Action and associated Completion Time of Condition A not met in MODE 1, 2, or 3.	B.1	Be in MODE 3.	12 hours
	AND		
	B.2	Be in MODE 4.	36 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Required Action and associated Completion Time of Condition A not met during OPDRVs.	C.1 Place two OPERABLE SGT subsystems in operation. OR C.2 Initiate action to suspend OPDRVs.	Immediately Immediately
D. Two or three SGT subsystems inoperable in MODE 1, 2, or 3.	D.1 Enter LCO 3.0.3.	Immediately

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Two or three SGT subsystems inoperable during OPDRVs.	E.1 Initiate action to suspend OPDRVs.	Immediately

3.7 PLANT SYSTEMS

3.7.3 Control Room Emergency Ventilation (CREV) System

LCO 3.7.3 Two CREV subsystems shall be OPERABLE.

---NOTE---
The main control room boundary may be opened intermittently under administrative control.

APPLICABILITY: MODES 1, 2, and 3,
During operations with a potential for draining the reactor vessel (OPDRVs).

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One CREV subsystem inoperable.	A.1	Restore CREV subsystem to OPERABLE status.	7 days
B. Two CREV subsystems inoperable due to inoperable control room boundary in MODES 1, 2, and 3.	B.1	Restore control room boundary to OPERABLE status.	24 hours
C. Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, or 3.	C.1 AND	Be in MODE 3.	12 hours
	C.2	Be in MODE 4.	36 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time of Condition A not met during OPDRVs.	D.1 Place OPERABLE CREV subsystem in pressurization mode. OR D.2 Initiate action to suspend OPDRVs.	Immediately Immediately
E. Two CREV subsystems inoperable in MODE 1, 2, or 3 for reasons other than Condition B.	E.1 Enter LCO 3.0.3.	Immediately

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. Two CREV subsystems inoperable during OPDRVs.	F.1 Initiate action to suspend OPDRVs.	Immediately

3.9 REFUELING OPERATIONS

3.9.9 Decay Time

LCO 3.9.9 The reactor shall be subcritical for at least 24 hours.

APPLICABILITY: During in-vessel fuel movement.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. With the reactor subcritical for less than 24 hours.	A.1 Suspend in-vessel fuel movement.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.9.1	Verify the reactor has been subcritical for at least 24 hours.	Once prior to the movement of irradiated fuel in the reactor vessel

B 3.9 REFUELING OPERATIONS

B 3.9.9 Decay Time

BASES

BACKGROUND

This postulated refueling accident involves the drop of a fuel assembly on top of the reactor core during refueling operations (Ref. 1). The drop over the reactor core is more limiting than the drop over the spent fuel pool since the kinetic energy for the drop over the reactor core area (greater than 23 feet) produces a larger number of damaged fuel pins on impact than the shorter drops that could occur over the fuel pool. The refueling accident is analyzed using Alternate Source Term methodology governed by 10 CFR 50.67 and the guidelines of Regulatory Guide 1.183 (Ref. 2).

The refueling accident analysis assumes that the accident occurs at least 24 hours after plant shutdown. Specifically, a 24-hour radioactive decay time of the fission product inventory is assumed during the interval between shutdown and movement of assemblies in the reactor core.

APPLICABLE SAFETY ANALYSES

The minimum requirement of 24 hours of reactor subcriticality prior to movement of irradiated fuel assemblies in the reactor vessel ensures that sufficient time has elapsed to allow the radioactive decay of the short-lived fission products. This decay time is an initial condition of the refueling accident analysis.

Decay time satisfies the requirements of Criterion 2 of the NRC Policy Statement (Ref. 3).

(continued)

BASES (continued)

LCO	The specified decay time limit requires the reactor to be subcritical for at least 24 hours. Implicit in this TS is the Applicability (during movement of irradiated fuel in the reactor vessel). This ensures that sufficient time has elapsed to allow the radioactive decay of the short-lived fission products, thus reducing the fission product inventory and reducing the effects of a refueling accident.
APPLICABILITY	The decay time restriction is applicable only during movement of irradiated fuel in the reactor vessel following reactor operation. Therefore, it effectively prohibits movement of irradiated fuel in the reactor vessel during the first 24 hours following reactor shutdown.
ACTIONS	A.1 With the reactor subcritical less than 24 hours, all movement of irradiated fuel in the reactor vessel must be suspended. As stated above, movement of irradiated fuel in the reactor vessel is prohibited during the first 24 hours following reactor shutdown.
SURVEILLANCE REQUIREMENTS	SR 3.9.9.1 Since movement of irradiated fuel in the reactor vessel is prohibited during the first 24 hours following reactor shutdown, a verification of time subcritical must be made prior to movement of irradiated fuel in the reactor vessel. This is done by confirming the time and date of subcriticality, and verifying that at least 24 hours have elapsed. The Frequency of "once prior to movement of irradiated fuel in the reactor vessel" ensures that the operation is within the design basis assumption for decay time in the refueling accident analysis.

(continued)

BASES (continued)

REFERENCES

1. FSAR, Section 14.6.4.

2. Regulatory Guide 1.183, "Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors", USNRC, July 2000.

3. NRC No. 93-102, "Final Policy Statement on Technical Specification Improvements," July 23, 1993.