

- (4) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
- (5) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulation set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

The licensee is authorized to operate the facility at reactor core power levels not in excess of 3586.6 megawatts thermal (100 percent power) in accordance with the conditions specified herein.

(2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 147 And the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into this license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(3) Deleted.

(4) Deleted.

(5) Deleted.

(6) The licensee shall implement and maintain in effect all provisions of the approved fire protection program as described in the licensee's Fire Protection Report, and as approved in the SER dated February 1987 through Supplement No. 8, 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.

- (3) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
- (4) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
- (5) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulation set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

The licensee is authorized to operate the facility at reactor core power levels not in excess of 3586.6 megawatts thermal (100 percent rated power) in accordance with the conditions specified herein.

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A (NUREG-1113), as revised through Amendment No.147, and the Environmental Protection Plan contained in Appendix B, both of which were attached to License No. NPF-37, dated February 14, 1985, are hereby incorporated into this license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

- (3) Deleted.
- (4) Deleted.
- (5) Deleted.

1.1 Definitions

DOSE EQUIVALENT I-131	DOSE EQUIVALENT I-131 shall be that concentration of I-131 (microcuries/gram) that alone would produce the same dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134, and I-135 actually present. The dose conversion factors used for this calculation shall be those listed in Table III of TID-14844, AEC, 1962, "Calculation of Distance Factors for Power and Test Reactor Sites," or those listed in Table E-7 of Regulatory Guide 1.109, Rev. 1, NRC, 1977, or ICRP 30, Supplement to Part 1, page 192-212, Table titled, "Committed Dose Equivalent in Target Organs or Tissues per Intake of Unit Activity," or Federal Guidance Report 11 "Limiting Values of Radionuclide Intake and Air Concentration and Dose Conversion Factors for Inhalation, Submersion and Ingestion", 1988; (Table 2.1, Exposure-To-Dose Conversion Factors for Inhalation).
\bar{E} - AVERAGE DISINTEGRATION ENERGY	\bar{E} shall be the average (weighted in proportion to the concentration of each radionuclide in the reactor coolant at the time of sampling) of the sum of the average beta and gamma energies (in MeV) per disintegration for non-iodine isotopes, with half lives > 10 minutes, making up at least 95% of the total non-iodine activity in the coolant.
ENGINEERED SAFETY FEATURE (ESF) RESPONSE TIME	The ESF RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its ESF actuation setpoint at the channel sensor until the ESF equipment is capable of performing its safety function (i.e., the valves travel to their required positions, pump discharge pressures reach their required values, etc.). Times shall include diesel generator starting and sequence loading delays, where applicable. The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured. In lieu of measurement, response time may be verified for selected components provided that the components and methodology for verification have been previously reviewed and approved by the NRC.

1.1 Definitions

PRESSURE AND
TEMPERATURE LIMITS
REPORT (PTLR)

The PTLR is the unit specific document that provides the reactor vessel pressure and temperature limits including heatup and cooldown rates, and the pressurizer Power Operated Relief Valve (PORV) lift settings for the current reactor vessel fluence period. These pressure and temperature limits shall be determined for each fluence period in accordance with Specification 5.6.6. Unit operation within these limits is addressed in LCO 3.4.3, "RCS Pressure and Temperature (P/T) Limits," and LCO 3.4.12, "Low Temperature Overpressure Protection (LTOP) System."

QUADRANT POWER TILT
RATIO (QPTR)

QPTR shall be the ratio of the maximum upper excore detector calibrated output to the average of the upper excore detector calibrated outputs, or the ratio of the maximum lower excore detector calibrated output to the average of the lower excore detector calibrated outputs, whichever is greater.

RATED THERMAL POWER
(RTP)

RTP shall be a total reactor core heat transfer rate to the reactor coolant of 3586.6 MWt.

REACTOR TRIP
SYSTEM (RTS) RESPONSE
TIME

The RTS RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its RTS trip setpoint at the channel sensor until loss of stationary gripper coil voltage. The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured. In lieu of measurement, response time may be verified for selected components provided that the components and methodology for verification have been previously reviewed and approved by the NRC.

RECENTLY IRRADIATED FUEL

Fuel that has occupied part of a critical reactor core within the previous 48 hours. Note that all fuel that has been in a critical reactor core is referred to as irradiated fuel.

VC Filtration System Actuation Instrumentation
3.3.7

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time of Condition A or B not met during movement of irradiated fuel assemblies.	D.1 Suspend movement of irradiated fuel assemblies.	Immediately
E. Required Action and associated Completion Time of Condition A or B not met in MODE 5 or 6.	E.1 Initiate action to restore one VC Filtration System train to OPERABLE status.	Immediately

SURVEILLANCE REQUIREMENTS

-----NOTE-----
Refer to Table 3.3.7-1 to determine which SRs apply for each VC Filtration System Actuation Function.

SURVEILLANCE	FREQUENCY
SR 3.3.7.1 Perform CHANNEL CHECK.	12 hours
SR 3.3.7.2 Perform COT.	92 days
SR 3.3.7.3 Perform CHANNEL CALIBRATION.	18 months

VC Filtration System Actuation Instrumentation 3.3.7

Table 3.3.7-1 (page 1 of 1)
VC Filtration System Actuation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	TRIP SETPOINT
1. Control Room Radiation-Gaseous	1,2,3,4,5,6,(a)	2 per train	SR 3.3.7.1 SR 3.3.7.2 SR 3.3.7.3	≤ 2 mR/hr
2. Safety Injection	Refer to LCO 3.3.2, "ESFAS Instrumentation," Function 1, for all initiation functions and requirements.			

(a) During movement of irradiated fuel assemblies.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time not met. <u>OR</u> Two channels inoperable.	B.1 Place in emergency mode one FHB Ventilation System train capable of being powered by an OPERABLE emergency power source.	Immediately
	<u>OR</u> B.2.1 Suspend movement of RECENTLY IRRADIATED FUEL assemblies in the fuel handling building.	Immediately
	<u>AND</u> B.2.2 -----NOTE----- Only required with equipment hatch not intact. -----	
	Suspend movement of RECENTLY IRRADIATED FUEL assemblies in the containment.	Immediately

FHB Ventilation System Actuation Instrumentation 3.3.8

Table 3.3.8-1 (page 1 of 1)
FHB Ventilation System Actuation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	TRIP SETPOINT
1. Fuel Handling Building Radiation	(a),(b)	2	SR 3.3.8.1 SR 3.3.8.2 SR 3.3.8.3	≤ 5 mR/hr
2. Safety Injection	Refer to LCD 3.3.2, "ESFAS Instrumentation," Function 1, for all initiation functions and requirements.			

- (a) During movement of RECENTLY IRRADIATED FUEL assemblies in the fuel handling building.
- (b) During movement of RECENTLY IRRADIATED FUEL assemblies in the containment with the equipment hatch not intact.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Required Action and associated Completion Time of Condition A not met in MODE 5 or 6, or during movement of irradiated fuel assemblies.	C.1.1 Place OPERABLE VC Filtration System train in emergency mode.	Immediately
	<u>AND</u>	
	C.1.2 Verify OPERABLE VC Filtration System train is capable of being powered by an OPERABLE emergency power source.	Immediately
	<u>OR</u>	
	C.2.1 Suspend movement of irradiated fuel assemblies.	Immediately
	<u>AND</u>	
	C.2.2 Suspend positive reactivity additions.	Immediately

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Two VC Filtration System trains inoperable in MODE 5 or 6, or during movement of irradiated fuel assemblies.	D.1 Suspend movement of irradiated fuel assemblies.	Immediately
	<u>AND</u> D.2 Suspend positive reactivity additions.	Immediately
E. Two VC Filtration System trains inoperable in MODE 1, 2, 3, or 4.	E.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.10.1 Operate each VC Filtration System train with: a. Flow through the makeup system filters for ≥ 10 continuous hours with the heaters operating; and b. Flow through the recirculation charcoal adsorber for ≥ 15 minutes.	31 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Required Action and associated Completion Time of Condition A not met in MODE 5 or 6, or during movement of irradiated fuel assemblies.	C.1.1 Place OPERABLE VC Temperature Control System train in operation.	Immediately
	<u>AND</u>	
	C.1.2 Verify OPERABLE VC Temperature Control System train is capable of being powered by an OPERABLE emergency power source.	Immediately
	<u>OR</u>	
	C.2.1 Suspend movement of irradiated fuel assemblies.	Immediately
	<u>AND</u>	
	C.2.2 Suspend positive reactivity additions.	Immediately

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Two VC Temperature Control System trains inoperable in MODE 5 or 6, or during movement of irradiated fuel assemblies.	D.1 Suspend movement of irradiated fuel assemblies.	Immediately
	<u>AND</u> D.2 Suspend positive reactivity additions.	Immediately
E. Two VC Temperature Control System trains inoperable in MODE 1, 2, 3, or 4.	E.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.11.1 Verify control room temperature $\leq 90^{\circ}\text{F}$.	12 hours
SR 3.7.11.2 Verify each VC Temperature Control System train has the capability to remove the required heat load.	18 months

3.7 PLANT SYSTEMS

3.7.13 Fuel Handling Building Exhaust Filter Plenum (FHB) Ventilation System

LCO 3.7.13 Two FHB Ventilation System trains shall be OPERABLE.

APPLICABILITY: During movement of RECENTLY IRRADIATED FUEL assemblies in the fuel building,
During movement of RECENTLY IRRADIATED FUEL assemblies in the containment with the equipment hatch not intact.

ACTIONS

-----NOTE-----
LCO 3.0.3 is not applicable.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One FHB Ventilation System train inoperable.	A.1 Restore FHB Ventilation System train to OPERABLE status.	7 days
B. Required Action and associated Completion Time not met.	B.1.1 Place OPERABLE FHB Ventilation System train in emergency mode.	Immediately
	<u>AND</u>	
	B.1.2 Verify OPERABLE FHB Ventilation System train is capable of being powered by an OPERABLE emergency power source.	Immediately
	<u>OR</u>	
		(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. (continued)	B.2.1 Suspend movement of RECENTLY IRRADIATED FUEL assemblies in the fuel handling building.	Immediately
	<p><u>AND</u></p> <p>B.2.2 -----NOTE----- Only required with equipment hatch not intact. -----</p> <p>Suspend movement of RECENTLY IRRADIATED FUEL assemblies in the containment.</p>	Immediately

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Two FHB Ventilation System trains inoperable.	C.1 Suspend movement of RECENTLY IRRADIATED FUEL assemblies in the fuel handling building.	Immediately
	<p><u>AND</u></p> <p>C.2 -----NOTE----- Only required with equipment hatch not intact. -----</p> <p>Suspend movement of RECENTLY IRRADIATED FUEL assemblies in the containment.</p>	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.13.1 Operate each FHB Ventilation System train for ≥ 15 minutes.	31 days

(continued)

ACTIONS (continued)

SURVEILLANCE		FREQUENCY
SR 3.7.13.2	Perform required FHB Ventilation System filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.7.13.3	<p>-----NOTE----- Only required during movement of RECENTLY IRRADIATED FUEL assemblies with the equipment hatch not intact. -----</p> <p>Verify one FHB Ventilation System train can maintain a pressure ≤ -0.25 inches water gauge relative to atmospheric pressure during the emergency mode of operation.</p>	7 days on a STAGGERED TEST BASIS
SR 3.7.13.4	Verify each FHB Ventilation System train actuates on an actual or simulated actuation signal.	18 months
SR 3.7.13.5	<p>-----NOTE----- Only required during movement of RECENTLY IRRADIATED FUEL assemblies in the fuel handling building with the equipment hatch intact. -----</p> <p>Verify one FHB Ventilation System train can maintain a pressure ≤ -0.25 inches water gauge relative to atmospheric pressure during the emergency mode of operation at a flow rate $\leq 23,100$ cfm.</p>	18 months on a STAGGERED TEST BASIS

3.9 REFUELING OPERATIONS

3.9.4 Containment Penetrations

- LCO 3.9.4 The containment penetrations shall be in the following status:
- a. One door in the personnel air lock closed and the equipment hatch held in place by ≥ 4 bolts;
 - b. One door in the emergency air lock closed; and
 - c. Each penetration providing direct access from the containment atmosphere to the outside atmosphere either:
 1. Closed by a manual or automatic isolation valve, blind flange, or equivalent, or
 2. Capable of being closed by an OPERABLE Containment Ventilation Isolation System.

-----NOTE-----
LCO 3.9.4.a is not required to be met when in compliance with LCO 3.7.13, "Fuel Handling Building Exhaust Filter Plenum (FHB) Ventilation System," or its associated Conditions and Required Actions.

APPLICABILITY: During movement of RECENTLY IRRADIATED FUEL assemblies within containment.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more containment penetrations not in required status.	A.1 Suspend movement of RECENTLY IRRADIATED FUEL assemblies within containment.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.4.1	Verify each required containment penetration is in the required status.	7 days
SR 3.9.4.2	Verify each required containment purge valve actuates to the isolation position on an actual or simulated actuation signal.	18 months
SR 3.9.4.3	Verify the isolation time of each required containment purge valve is within limits.	In accordance with the Inservice Testing Program

3.9 REFUELING OPERATIONS

3.9.7 Refueling Cavity Water Level

LCO 3.9.7 Refueling cavity water level shall be maintained ≥ 23 ft above the top of reactor vessel flange.

APPLICABILITY: During movement of irradiated fuel assemblies within containment.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Refueling cavity water level not within limit.	A.1 Suspend movement of irradiated fuel assemblies within containment.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.9.7.1 Verify refueling cavity water level is ≥ 23 ft above the top of reactor vessel flange.	24 hours

5.5 Programs and Manuals

5.5.11 Ventilation Filter Testing Program (VFTP) (continued)

- b. Demonstrate for each of the ESF filter systems that an inplace test of the charcoal adsorber shows a bypass specified below when tested in conformance with Regulatory Guide 1.52, Revision 2, and ANSI N510-1980, with any exceptions noted in Appendix A of the UFSAR, at the system flow rate specified below. Verification of the specified flow rates may be accomplished during the performance of SRs 3.7.10.4, 3.7.12.4, and 3.7.13.5, as applicable:

<u>ESF Ventilation System</u>	<u>Flow Rate</u>	<u>Bypass</u>
VC Filtration System (makeup)	≥ 5400 cfm and ≤ 6600 cfm	< 1%
VC Filtration System (recirculation, charcoal bed after complete or partial replacement).	$\geq 44,550$ cfm and $\leq 54,450$ cfm	< 0.1%
VC Filtration System (recirculation for reasons other than complete or partial charcoal bed replacement)	$\geq 44,550$ cfm and $\leq 54,450$ cfm	< 2%
Nonaccessible Area Exhaust Filter Plenum Ventilation System (after structural maintenance of the charcoal adsorber housings)	$\geq 55,669$ cfm and $\leq 68,200$ cfm per train, and $\geq 18,556$ cfm and $\leq 22,733$ cfm per bank	< 1%
Nonaccessible Area Exhaust Filter Plenum Ventilation System (for reasons other than structural maintenance of the charcoal adsorber housings)	$\geq 55,669$ cfm and $\leq 68,200$ cfm per train	< 1%
FHB Ventilation System	$\geq 18,900$ cfm and $\leq 23,100$ cfm per train	< 1%

5.5 Programs and Manuals

5.5.11 Ventilation Filter Testing Program (VFTP) (continued)

- c. Demonstrate for each of the ESF filter systems that a laboratory test of a sample of the charcoal adsorber, when obtained as described in Regulatory Guide 1.52, Revision 2, shows the methyl iodide penetration less than the value specified below when tested in conformance with Regulatory Guide 1.52, Revision 2, ANSI N510-1980, and ASTM D3803-1989, with any exceptions noted in Appendix A of the UFSAR, at a temperature of 30°C and a Relative Humidity (RH) specified below:

<u>ESF Ventilation System</u>	<u>Penetration</u>	<u>RH</u>
VC Filtration System (makeup)	2.0%	70%
VC Filtration System (recirculation)	4%	70%
Nonaccessible Area Exhaust Filter Plenum Ventilation System	4.5%	70%
FHB Ventilation System	10%	95%

- d. Demonstrate for each of the ESF filter systems that the pressure drop across the combined HEPA filters and the charcoal adsorbers is < 6 inches of water gauge when tested in conformance with Regulatory Guide 1.52, Revision 2, and ANSI N510-1980, with any exceptions noted in Appendix A of the UFSAR, at the system flow rate specified below. Verification of the specified flow rates may be accomplished during the performance of SRs 3.7.10.4, 3.7.12.4, and 3.7.13.5, as applicable:

<u>ESF Ventilation System</u>	<u>Flow Rate</u>
VC Filtration System (makeup)	≥ 5400 cfm and ≤ 6600 cfm
Nonaccessible Area Exhaust Filter Plenum Ventilation System	≥ 55,669 cfm and ≤ 68,200 cfm per train
FHB Ventilation System	≥ 18,900 cfm and ≤ 23,100 cfm

5.5 Programs and Manuals

5.5.15 Safety Function Determination Program (SFDP) (continued)

The SFDP identifies where a loss of safety function exists. If a loss of safety function is determined to exist by this program, the appropriate Conditions and Required Actions of the LCO in which the loss of safety function exists are required to be entered.

5.5.16 Containment Leakage Rate Testing Program

A program shall be established to implement the leakage rate testing of the containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, September 1995 and NEI 94-01, Revision 0.

The peak calculated containment internal pressure for the design basis loss of coolant accident, P_a , is 42.8 psig for Unit 1 and 38.4 psig for Unit 2.

The maximum allowable containment leakage rate, L_a , at P_a , shall be 0.20% of containment air weight per day.

Leakage Rate acceptance criteria are:

- a. Containment leakage rate acceptance criterion is $\leq 1.0 L_a$. During the first unit startup following testing in accordance with this program, the leakage rate acceptance criteria are $< 0.60 L_a$ for the Type B and C tests and $< 0.75 L_a$ for Type A tests; and