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August 7, 1985

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Ms. E. G. Adensam, Chief
Licensing Branch No. 4

Re: Catawba Nuclear Station, Units 1 and 2
Docket Nos. 50-413 and 50-414

Dear Mr. Denton:

Please find enclosed revised pages for the proposed Catawba Units 1 and 2 Technical Specifications. These proposed Technical Specification changes replace the corresponding pages previously included in my March 15, 1985 submittal.

If you have any questions regarding this submittal, please contact Mr. Roger Ouellette at (704)373-7530.

Very truly yours,

H.B. Tucker 1585

Hal B. Tucker

RWO:slb

Enclosures

cc: w/o enclosures
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3021
1/1

TABLE 2.2.-1
REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TOTAL ALLOWANCE (TA)	Z	SENSOR ERROR (S)	TRIP SETPOINT	ALLOWABLE VALUE
1. Manual Reactor Trip	N.A.	N.A.	N.A.	N.A.	N.A.
2. Power Range, Neutron Flux					
a. High Setpoint	7.5	4.56	0	$\leq$109% of RTP*	$\leq$111.1% of RTP*
b. Low Setpoint	8.3	4.56	0	$\leq$25% of RTP*	$\leq$27.1% of RTP*
3. Power Range, Neutron Flux, High Positive Rate	1.6	0.5	0	$\leq$5% of RTP* with a time constant $\geq$ 2 seconds	$\leq$6.3% of RTP* with a time constant $\geq$ 2 seconds
4. Power Range, Neutron Flux, High Negative Rate	1.6	0.5	0	$\leq$5% of RTP* with a time constant $\geq$2 seconds	$\leq$6.3% of RTP* with a time constant $\geq$2 seconds
5. Intermediate Range, Neutron Flux	17.0	8.4	0	$\leq$25% of RTP*	$\leq$31% of RTP*
6. Source Range, Neutron Flux	17.0	10	0	$\leq 10^5$ cps	$\leq 1.4 \times 10^5$ cps
7. Overtemperature ΔT	7.2	4.47	2.03	See Note 1	See Note 2
8. Overpower ΔT	4.3	1.3	1.2	See Note 3	See Note 4
9. Pressurizer Pressure-Low	4.0	2.21	1.5	$\geq$1945 psig	$\geq$1938 psig***
10. Pressurizer Pressure-High	7.5	4.96	0.5	$\leq$2385 psig	$\leq$2399 psig
11. Pressurizer Water Level-High	5.0	2.18	1.5	$\leq$92% of instrument span	$\leq$93.8% of instrument span
12. Reactor Coolant Flow-Low	2.5	1.77	0.6	$\geq$90% of loop design flow**	$\geq$89.2% of loop design flow**

*RTP = RATED THERMAL POWER
**Loop design flow = 96,900 gpm
***Time constants utilized in the lead-lag controller for Pressurizer Pressure-Low are 2 seconds for lead and 1 second for lag. Channel calibration shall ensure that these time constants are adjusted to these values.

LIMITING CONDITION FOR OPERATION

ACTION (Continued)

2. The Power Range Neutron Flux* - High Setpoints to less than or equal to 55% of RATED THERMAL POWER within the next 4 hours.

c. With the indicated AFD outside of the above required target band for more than 1 hour of cumulative penalty deviation time during the previous 24 hours and with THERMAL POWER less than 50% but greater than 15% of RATED THERMAL POWER, the THERMAL POWER shall not be increased equal to or greater than 50% of RATED THERMAL POWER until the indicated AFD is within the above required target band. The provisions of Specification 3.0.4 are not applicable for operation up to 50% of RATED THERMAL POWER.

SURVEILLANCE REQUIREMENTS

4.2.1.1 The indicated AFD shall be determined to be within its limits during POWER OPERATION above 15% of RATED THERMAL POWER by:

a. Monitoring the indicated AFD for each OPERABLE excore channel:

1) At least once per 7 days when the AFD Monitor Alarm is OPERABLE, and

2) At least once per hour for the first 24 hours after restoring the AFD Monitor Alarm to OPERABLE status.

b. Monitoring and logging the indicated AFD for each OPERABLE excore channel at least once per hour for the first 24 hours and at least once per 30 minutes thereafter, when the AFD Monitor Alarm is inoperable. The logged values of the indicated AFD shall be assumed to exist during the interval preceding each logging.

c. The provisions of Specification 4.04 are not applicable.

4.2.1.2 The indicated AFD shall be considered outside of its target band when two or more OPERABLE excore channels are indicating the AFD to be outside the target band. Penalty deviation outside of the above required target band shall be accumulated on a time basis of:

a. One minute penalty deviation for each 1 minute of POWER OPERATION outside of the target band at THERMAL POWER levels equal to or above 50% of RATED THERMAL POWER, and

*Surveillance testing of the Power Range Neutron Flux Channel may be performed pursuant to Specification 4.3.1.1 provided the indicated AFD is maintained within the Acceptable Operation Limits of Figure 3.2-1. A total of 16 hours operation may be accumulated with the AFD outside of the above required target band during testing without penalty deviation.

SURVEILLANCE REQUIREMENTS (Continued)

b. One-half minute penalty deviation for each 1 minute of POWER OPERATION outside of the target band at THERMAL POWER levels between 15% and 50% of RATED THERMAL POWER.

4.2.1.3 The target flux difference of each OPERABLE excore channel shall be determined by measurement at least once per 92 Effective Full Power Days. The provisions of Specification 4.0.4 are not applicable.

4.2.1.4 The target flux difference shall be updated at least once per 31 Effective Full Power Days by either determining the target flux difference pursuant to Specification 4.2.1.3 above or by linear interpolation between the most recently measured value and 0% at the end of the cycle life. The provisions of Specification 4.0.4 are not applicable.

LIMITING CONDITION FOR OPERATION

ACTION (Continued)

2. Reduce THERMAL POWER to less than 50% of RATED THERMAL POWER within 2 hours and reduce the Power Range Neutron Flux-High Trip Setpoints to less than or equal to 55% of RATED THERMAL POWER within the next 4 hours; and

3. Identify and correct the cause of the cut-of-limit condition prior to increasing THERMAL POWER; subsequent POWER OPERATION above 50% of RATED THERMAL POWER may proceed provided that the QUADRANT POWER TILT RATIO is verified within its limit at least once per hour for 12 hours or until verified at 95% or greater RATED THERMAL POWER.

d. The provisions of Specification 3.0.4 are not applicable.

c. The provisions of Specification 4.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.2.4.1 The QUADRANT POWER TILT RATIO shall be determined to be within the limit above 50% of RATED THERMAL POWER by:

a. Calculating the ratio at least once per 7 days when the alarm is OPERABLE, and

b. Calculating the ratio at least once per 12 hours during steady-state operation when the alarm is inoperable.

4.2.4.2 The QUADRANT POWER TILT RATIO shall be determined to be within the limit when above 75% of RATED THERMAL POWER with one Power Range channel inoperable by using the movable incore detectors to confirm that the normalized symmetric power distribution, obtained from two sets of four symmetric thimble locations or full-core flux map, is consistent with the indicated QUADRANT POWER TILT RATIO at least once per 12 hours.

TABLE 3.2-1

DNB PARAMETERS

PARAMETER	LIMITS
	Four Loops in Operation
~~Indicated Reactor Coolant System T_{avg}~~	~~$\leq$ 592.5°F~~
~~Indicated Pressurizer Pressure~~	~~$\geq$ 2220 psig*~~

INSERT FROM NEXT PAGE

*Limit not applicable during either a THERMAL POWER ramp in excess of 5% of RATED THERMAL POWER per minute or a THERMAL POWER step in excess of 10% of RATED THERMAL POWER.

Dev./Station _____ Unit ____ File No. _____

Subject _____

_____ By _____ Date _____

Sheet No. ___ of ____ Problem No. _____ Checked By _____ Date _____

INSERTION FOR PAGE 3/4 2-16

Average Temperature

Meter average	- 4 channels:	$\leq$	592.75°F
	- 3 channels:	$\leq$	592.44°F
Computer average	- 4 channels:	$\leq$	593.30°F
	- 3 channels:	$\leq$	593.05°F

Pressurizer Pressure

Meter average	- 4 channels:	$\geq$	2225.8 psig*
	- 3 channels:	$\geq$	2229.1 psig*
Computer average	- 4 channels:	$\geq$	2221.0 psig*
	- 3 channels:	$\geq$	2223.5 psig*

TABLE 3.3-1 (Continued)

ACTION STATEMENTS (Continued)

ACTION 4 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, suspend all operations involving positive reactivity changes.

ACTION 5 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or open the Reactor trip breakers, suspend all operations involving positive reactivity changes and verify Valves NV-231, NV-237, NV-241, and NV-244 are closed and secured in position within the next hour.

ACTION 6 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:

a. The inoperable channel is placed in the tripped condition within 1 hour, and

b. The Minimum Channels OPERABLE requirement is met; however, the inoperable channel may be bypassed for up to 2 hours for surveillance testing of other channels per Specification 4.3.1.1.

ACTION 7 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed until performance of the next required ANALOG CHANNEL OPERATIONAL TEST provided the inoperable channel is placed in the tripped condition within 1 hour.

ACTION 8 - With less than the Minimum Number of Channels OPERABLE, within 1 hour determine by observation of the associated permissive status light(s) that the interlock is in its required state for the existing plant condition, or apply Specification 3.0.3.

ACTION 9 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 6 hours; however, one channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.1.1, provided the other channel is OPERABLE.

ACTION 10 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or open the Reactor trip breakers within the next hour.

ACTION 11 - With the number of OPERABLE channels less than the Total Number of Channels, operation may continue provided the inoperable channels are placed in the tripped condition within 1 hour.

TABLE 3.3-3

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
1. Safety Injection (Reactor Trip, Phase "A" Isolation, Feedwater Isolation, Control Room Area Ventilation Operation, Auxiliary Feedwater-Motor-Driven Pump, Purge & Exhaust Isolation, Annulus Ventilation Operation, Auxiliary Building Filtered ~~Ventilation~~ Exhaust Operation, Emergency Diesel Generator Operation, Component Cooling Water, Turbine Trip, and Nuclear Service Water Operation)					
a. Manual Initiation	2	1	2	1, 2, 3, 4	18
b. Automatic Actuation Logic and Actuation Relays	2	1	2	1, 2, 3, 4	14
c. Containment Pressure-High	3	2	2	1, 2, 3	15*
d. Pressurizer Pressure-Low	4	2	3	1, 2, 3#	19*
e. Steam Line Pressure-Low	3/steam line	2/steam line in any steam line	2/steam line	1, 2, 3#	15*

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
8. Auxiliary Feedwater (Continued)					
g. Auxiliary Feedwater Suction Pressure-Low					
1) ~~X~~ CAPS 5220, 5221, 5222	6-3/pump	2/pump	2/pump	1, 2, 3	15
2) ~~X~~ CAPS 5230, 5231, 523~~X~~ Z	6-3/pump	2/pump	2/pump	1, 2, 3	15
9. Containment Sump Recirculation					
a. Automatic Actuation Logic and Actuation Relays	2	1	2	1, 2, 3, 4	14
b. Refueling Water Storage Tank Level-Low	4	2	3	1, 2, 3, 4	16
Coincident With Safety Injection	See Item 1. above for all Safety Injection initiating functions and requirements.				
10. Loss of Power					
a. 4 kV Bus Undervoltage-Loss of Voltage	3/Bus	2/Bus	2/Bus	1, 2, 3, 4	15*
b. 4 kV Bus Undervoltage-Grid Degraded Voltage	3/Bus	2/Bus	2/Bus	1, 2, 3, 4	15*
11. Control Room Area Ventilation Operation					
a. Automatic Actuation Logic and Actuation Relays	2	1	2	All	24

TABLE 3.3-4

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TOTAL ALLOWANCE (TA)	Z	SENSOR ERROR (S)	TRIP SETPOINT	ALLOWABLE VALUE
1. Safety Injection (Reactor Trip, Phase "A" Isolation, Feedwater Isolation, Control Room Area Ventilation Operation, Auxiliary Feedwater-Motor-Driven Pump, Purge & Exhaust Isolation, Annulus Ventilation Operation, Auxiliary Building Filtered ~~Ventilation~~ Exhaust Operation, Emergency Diesel Generator Operation, Component Cooling Water, Turbine Trip, and Nuclear Service Water Operation)					
a. Manual Initiation	N.A.	N.A.	N.A.	N.A.	N.A.
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.
c. Containment Pressure-High	8.2	0.71	1.5	$\leq$ 1.2 psig	$\leq$ 1.4 psig
d. Pressurizer Pressure-Low	16.1	14.4	1.5	$\geq$ 1845 psig	$\geq$ 1839 psig
e. Steam Line Pressure-Low	4.6	1.31	1.5	$\geq$ 725 psig	$\geq$ 694 psig*
2. Containment Spray					
a. Manual Initiation	N.A.	N.A.	N.A.	N.A.	N.A.
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.
c. Containment Pressure-High-High	12.7	0.71	1.5	$\leq$ 3 psig	$\leq$ 3.2 psig

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TOTAL ALLOWANCE (TA)	Z	SENSOR ERROR (S)	TRIP SETPOINT	ALLOWABLE VALUE
15. Emergency Diesel Generator Operation (Diesel Building Ventilation Operation, Nuclear Service Water Operation) (Continued)					
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.
c. Loss-of-Offsite Power	N.A.	N.A.	N.A.	$\geq$ 3500 V	$\geq$ 3200 V
d. Safety Injection	See Item. 1 above for all Safety Injection Setpoints and Allowable Values.				
16. Auxiliary Building Filtered ~~Ventilation~~ Exhaust Operation					
a. Manual Initiation	N.A.	N.A.	N.A.	N.A.	N.A.
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.
c. Safety Injection	See Item 1. above for all Safety Injection Setpoints and Allowable Values.				
17. Diesel Building Ventilation Operation					
a. Manual Initiation	N.A.	N.A.	N.A.	N.A.	N.A.
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.
c. Emergency Diesel Generator Operation	See Item 15. above for all Emergency Diesel Generator Operation Setpoints and Allowable Values.				

TABLE 3.3-10 (Continued)

ACCIDENT MONITORING INSTRUMENTATION

INSTRUMENT	TOTAL NO. OF CHANNELS	MINIMUM CHANNELS OPERABLE
15. In Core Thermocouples	4/core quadrant	2/core quadrant
16. Unit Vent - High-High Range Area Monitor (EMF-54)	N.A.	1
17. Steam Relief Valve Exhaust Radiation Monitor (1 EMF-26, 27, 28 or 29)	N.A.	1
18. Containment Area - High Range Radiation Monitor (EMF-53 A or B)	N.A.	1
19. Reactor Vessel Water Level	2	1
20. Reactor Coolant Radiation Level (EMF-48) and 2EMF 10, 11, 12 or 13	N.A.	1

TABLE NOTATIONS

* Not applicable if the associated block valve is in the closed position.

** Not applicable if the associated block valve is in the closed position and power is removed.

TABLE 4.3-7 (Continued)

ACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT (Continued)	CHANNEL CHECK	CHANNEL CALIBRATION
15. In Core Thermocouples	M	R
16. Unit Vent - High-High Range Area Monitor (EMF-54)	M	R
17. Steam Relief Valve Exhaust Radiation Monitor (EMF-26, 27, 28 and 29) & 2EMF-10, 11, 12 and 13	M	R
18. Containment Area - High Range Radiation Monitor (EMF-53 A&B)	M	R*
19. Reactor Vessel Water Level	M	R
20. Reactor Coolant Radiation Level (EMF-48)	M	R

*CHANNEL CALIBRATION may consist of an electronic calibration of the channel, not including the detector, for range decades above 10R/h and a one point calibration check of the detector below 10R/h with an installed or portable gamma source.

SURVEILLANCE REQUIREMENTS

4.4.4.1 In addition to the requirements of Specification 4.0.5, each PORV shall be demonstrated OPERABLE at least once per 18 months by:

a. Performance of a CHANNEL CALIBRATION, and

b. Operating the valve through one complete cycle of full travel.

4.4.4.2 Each block valve shall be demonstrated OPERABLE at least once per 92 days by operating the valve through one complete cycle of full travel unless the block valve is closed with power removed in order to meet the requirements of ACTION b. or c. in Specification 3.4.4.

4.4.4.3* The emergency power supply for the PORVs and block valves shall be demonstrated OPERABLE at least once per 18 months by:

a. Manually transferring motive (N_2) and control power from the normal to the emergency power supply, ~~and~~

c ~~b~~. Operating the valves through a complete cycle of full travel.

b. Isolating and venting the normal (air) supply, and

* Not applicable to Unit 1 until after the first refueling outage.

MATERIAL PROPERTY BASIS

COPPER CONTENT : CONSERVATIVELY ASSUMED TO BE 0.10 WT%
(ACTUAL CONTENT = 0.08 WT%)

RT_{NDT} INITIAL : CONSERVATIVELY ASSUMED TO BE 40°F
(ACTUAL RT_{NDT} = -8°F)

RT_{NDT} AFTER 16 EFPY: 1/4T, 110°F
3/4T, 87°F

CURVE APPLICABLE FOR HEATUP RATES UP TO 60°F/HR FOR THE SERVICE PERIOD UP TO 16 EFPY AND CONTAINS MARGINS OF 10°F AND 60 PSIG FOR POSSIBLE INSTRUMENT ERRORS

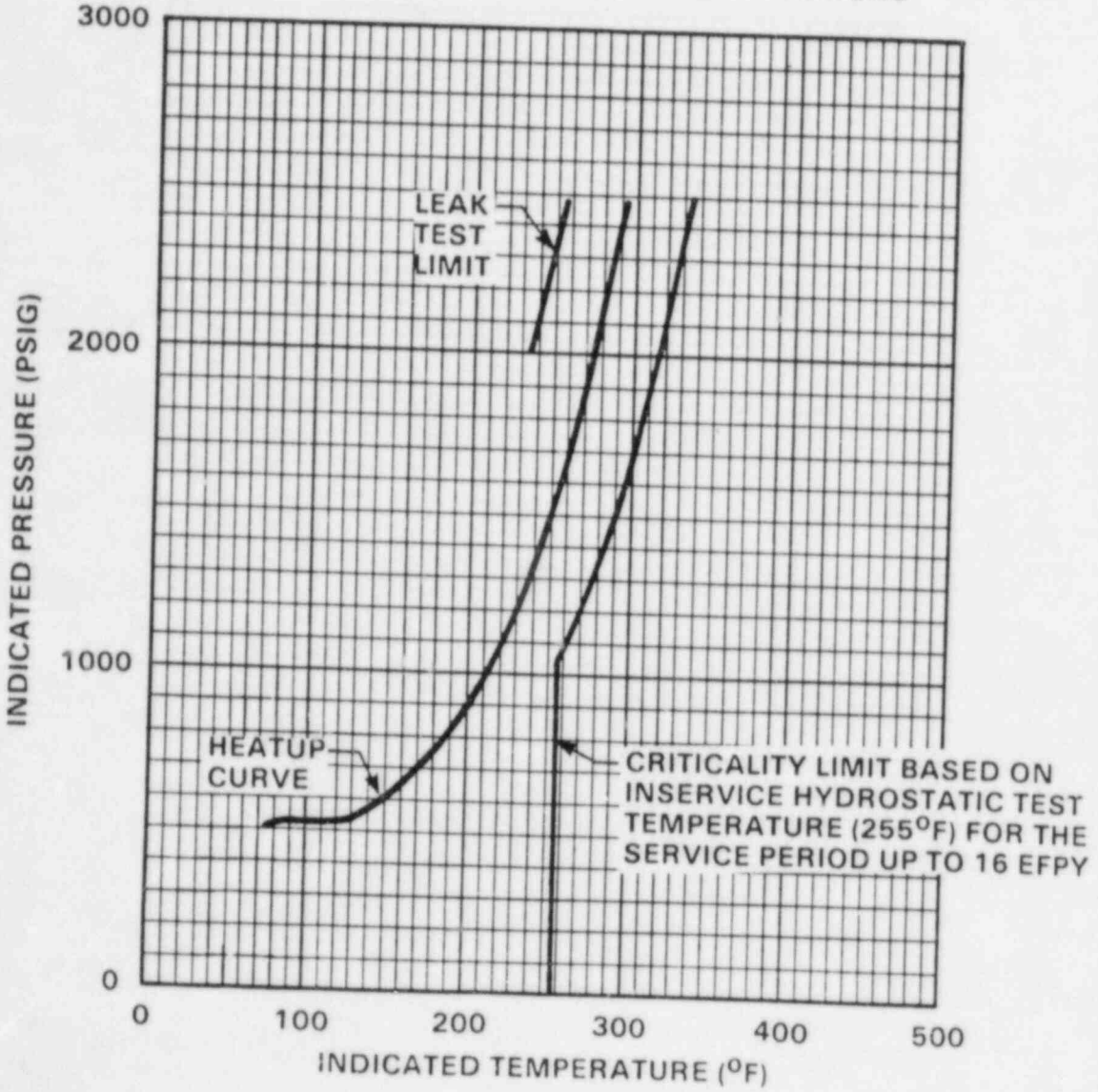


FIGURE 3.4-2

REACTOR COOLANT SYSTEM HEATUP LIMITATIONS
APPLICABLE UP TO 16 EFPY

MATERIAL PROPERTY BASIS

COPPER CONTENT : CONSERVATIVELY ASSUMED TO BE 0.10 WT%
(ACTUAL CONTENT = 0.08 WT%)

RT_{NDT} INITIAL : CONSERVATIVELY ASSUMED TO BE 40°F
(ACTUAL RT_{NDT} = -8°F)

RT_{NDT} AFTER 16 EFPY : 1/4T, 110°F
3/4T, 87°F

CURVE APPLICABLE FOR COOLDOWN RATES UP TO 100°F/HR FOR THE SERVICE PERIOD UP TO 16 EFPY AND CONTAINS MARGINS OF 10°F AND 60 PSIG FOR POSSIBLE INSTRUMENT ERRORS

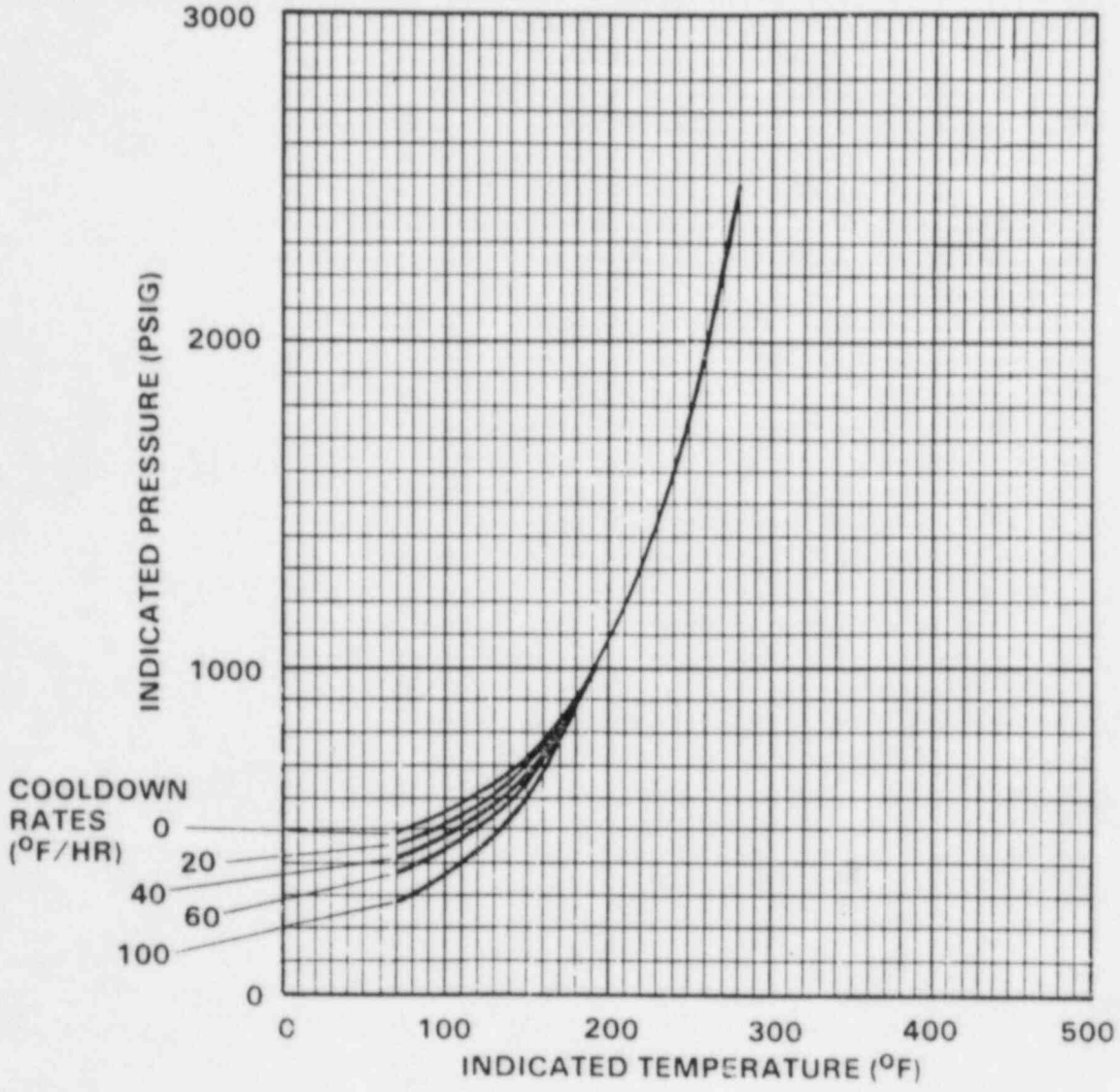


FIGURE 3.4-3

REACTOR COOLANT SYSTEM COOLDOWN LIMITATIONS - APPLICABLE UP TO 16 EFPY

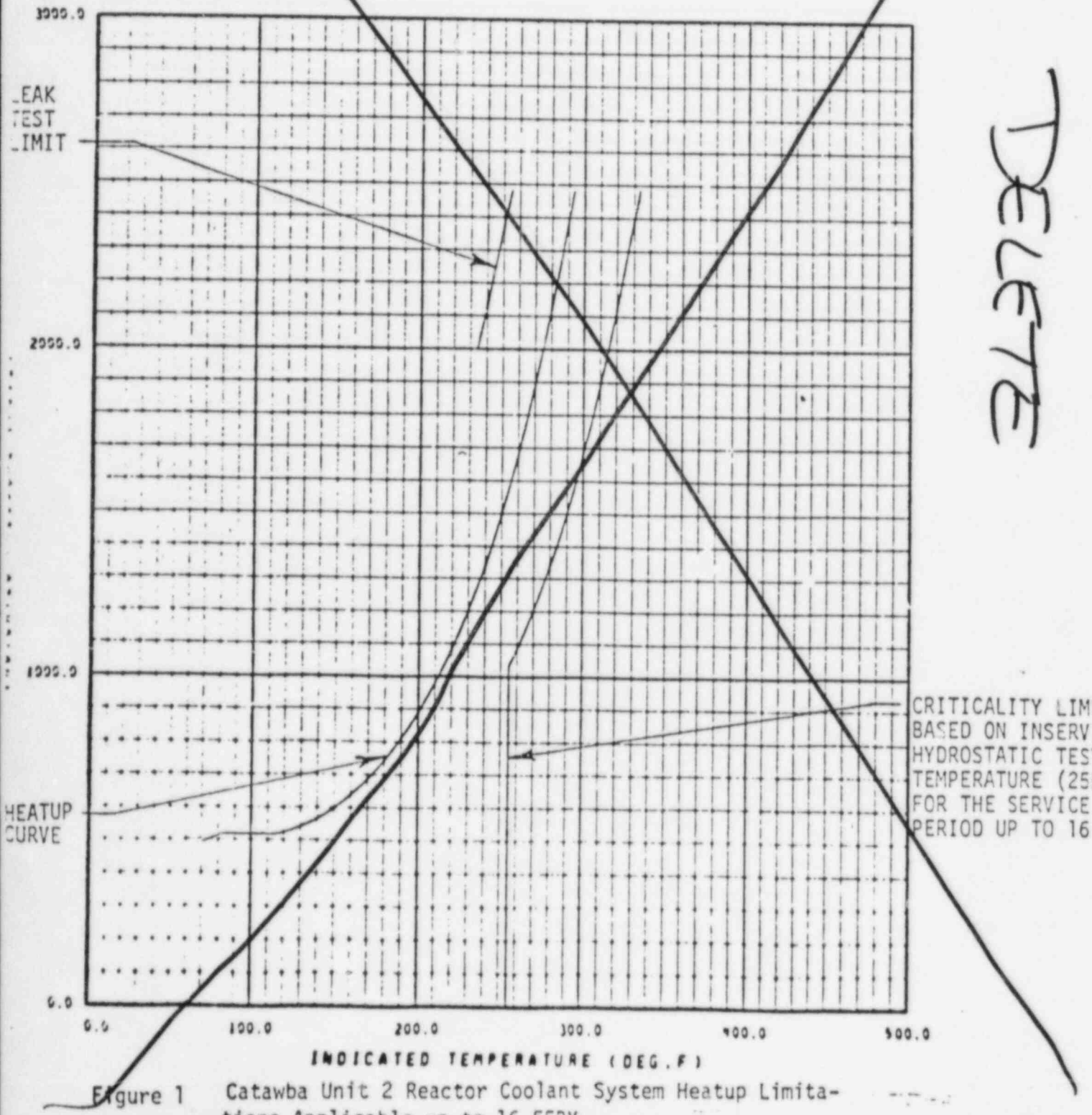
MATERIAL PROPERTY BASIS

COPPER CONTENT : CONSERVATIVELY ASSUMED TO BE 0.10 WT% (ACTUAL CONTENT = 0.07 WT%)

RT_{NDT} INITIAL : CONSERVATIVELY ASSUMED TO BE 40°F (ACTUAL RT_{NDT} = 33°F)

RT_{NDT} AFTER 16 EFPY : 1/4T, 110°F
3/4T, 87°F

CURVE APPLICABLE FOR HEATUP RATES UP TO 60°F/HR FOR THE SERVICE PERIOD UP TO 16 EFPY AND CONTAINS MARGINS OF 10°F AND 60 PSIG FOR POSSIBLE INSTRUMENT ERRORS



DELETE

Figure 1 Catawba Unit 2 Reactor Coolant System Heatup Limitations Applicable up to 16 EFPY

MATERIAL PROPERTY BASIS

COPPER CONTENT : CONSERVATIVELY ASSUMED TO BE 0.10 WT% (ACTUAL CONTENT = 0.07 WT%)

RT_{NDT} INITIAL : CONSERVATIVELY ASSUMED TO BE 40°F (ACTUAL RT_{NDT} = 33

RT_{NDT} AFTER 16 EFPY : 1/4T, 110°F
3/4T, 87°F

CURVE APPLICABLE FOR COOLDOWN RATES UP TO 100°F/HR FOR THE SERVICE PERIOD UP TO 16 EFPY AND CONTAINS MARGINS OF 10°F AND 60 PSIG FOR POSSIBLE INSTRUMENT ERRORS

DELETE

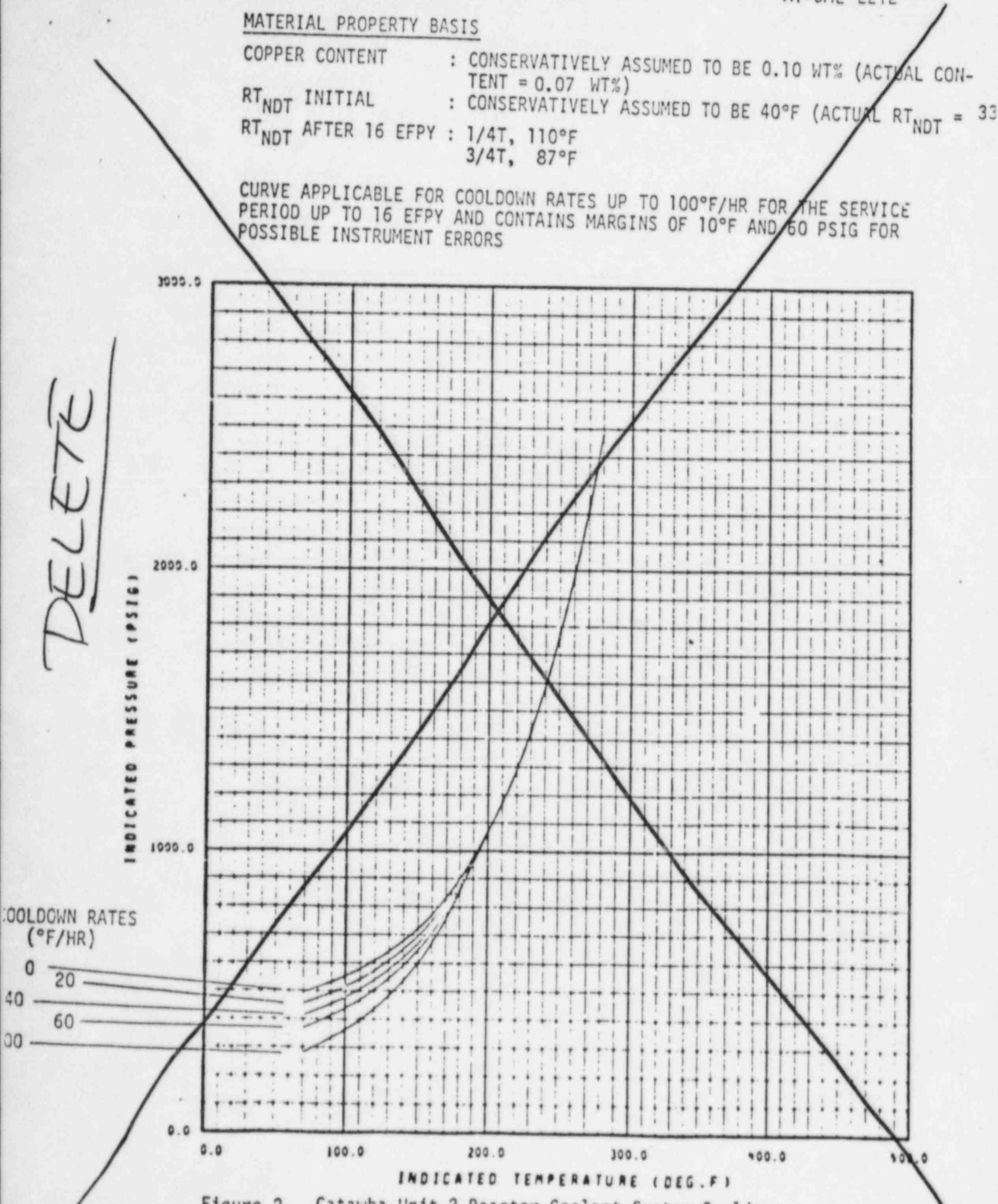


Figure 2 Catawba Unit 2 Reactor Coolant System Cooldown Limitations Applicable up to 16 EFPY

TABLE 3.6-1 (Continued)

SECONDARY CONTAINMENT BYPASS LEAKAGE PATHS

PENETRATION NUMBER	SERVICE	RELEASE LOCATION	TEST TYPE
M386	Containment Air Release	Auxiliary Building	Type C
M204	Containment Air Addition	Auxiliary Building	Type C
M316	Int. Fire Protection Header - Hose Racks	Auxiliary Building	Type C
M337	Demineralized Water	Auxiliary Building	Type C
M220	Instrument Air	Auxiliary Building	Type C
M219	Station Air	Auxiliary Building	Type C
M215	Breathing Air	Auxiliary Building	Type C
M329	Reactor Coolant Pump Motor Oil Fill	Auxiliary Building	Type C
M361	Int. Fire Protection Header - Sprinklers	Auxiliary Building	Type C
M119	Containment Purge Exhaust	Auxiliary Building	Type C
M331	Nitrogen Supply to Cold Leg Accumulators	Auxiliary Building	Type C
M322	Safety Injection Test Line	Auxiliary Building	Type C
M454	UHI Test Line	Auxiliary Building	Type C
M328*	Component Cooling to Reactor Vessel Support and RCP Coolers	Auxiliary Building	Type C

*Not applicable for Unit 1 until after the first refueling outage.

CONTAINMENT SYSTEMS

ANNULUS VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.1.8 Two independent Annulus Ventilation Systems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With one Annulus Ventilation System inoperable, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.8 Each Annulus Ventilation System shall be demonstrated OPERABLE:

a. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filters and ~~charcoal~~ carbon adsorbers and verifying that the system operates for at least 10 continuous hours with the pre-heaters operating;

b. At least once per 18 months or ~~(1)~~ after any structural maintenance on the HEPA filter or ~~charcoal~~ carbon adsorber housings ~~or (2) following painting, fire, or chemical release in any ventilation zone communicating with the system~~ by:

1) Verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% and uses the test procedure guidance in Regulatory Positions C.5.a, C.5.c, and C.5.d* of Regulatory Guide 1.52, Revision 2, March 1978, and the system flow rate is 9000 cfm ± 10%;

2) Verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 1%; and

3) Verifying a system flow rate of 9000 cfm ± 10% during system operation when tested in accordance with ANSI N510-1980.

Purging of residual refrigerant is not mandatory.

~~*The requirement for reducing refrigerant concentration to 0.01 ppm may be satisfied by operating the system for 10 hours with heaters on and operating~~

CONTAINMENT SYSTEMS

ICE CONDENSER DOORS

LIMITING CONDITION FOR OPERATION

3.6.5.3 The ice condenser inlet doors, intermediate deck doors, and top deck doors shall be closed and OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With one or more ice condenser doors open or otherwise inoperable, POWER OPERATION may continue for up to 14 days provided the ice bed temperature is monitored at least once per 4 hours and the maximum ice bed temperature is maintained less than or equal to 27°F; otherwise, restore the doors to their closed positions or OPERABLE status (as applicable) within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.5.3.1 Inlet Doors - Ice condenser inlet doors shall be:

a. Continuously monitored and determined closed by the Inlet Door Position Monitoring System, and

b. Demonstrated OPERABLE during shutdown at least once per 18 ~~8~~ months ~~during the first year after the ice bed is initially fully loaded and at least once per 6 months thereafter~~ by:

1) Verifying that the torque required to initially open each door is less than or equal to 675 inch pounds;

2) Verifying that opening of each door is not impaired by ice, frost or debris;

3) Testing a sample of at least 50% ~~28%~~ of the doors and verifying that the torque required to open each door is less than 195 inch-pounds when the door is 40 degrees open. This torque is defined as the "door opening torque" and is equal to the nominal door torque plus a frictional torque component. The doors selected for determination of the "door opening torque" shall be selected to ensure that all doors are tested at least once during ~~four~~ two test intervals;

3/4.7 PLANT SYSTEMS

3/4.7.1 TURBINE CYCLE

SAFETY VALVES

LIMITING CONDITION FOR OPERATION

3.7.1.1 All main steam line Code safety valves associated with each steam generator shall be OPERABLE with lift settings as specified in Table 3.7-2.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

a. With four reactor coolant loops and associated steam generators in operation and with one or more main steam line Code safety valves inoperable, operation in MODES 1, 2, and 3 may proceed provided, that within 4 hours, either the inoperable valve is restored to OPERABLE status or the Power Range Neutron Flux High Trip Setpoint is reduced per Table 3.7-1; otherwise, be in at least HOT STANDBY within the next 6 hours and in ~~COLD~~ HOT SHUTDOWN within the following ~~36~~ 16 hours.

b. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.1.1 No additional requirements other than those required by Specification 4.0.5.

SURVEILLANCE REQUIREMENTS (Continued)

c. At least once per 18 carbon months or ~~[illegible]~~ after any structural maintenance on the HEPA filter or ~~charcoal~~ adsorber housings, ~~or (2) following painting, fire, or chemical release in any ventilation zone communicating with the system~~ by:

1) Verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% and uses the test procedure guidance in Regulatory Position C.5.a, C.5.c, and C.5.d* of Regulatory Guide 1.52, Revisions 2, March 1978, and the sytem flow rate is 6000 cfm ± 10%;

2) Verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 1%; and

3) Verifying a system flow rate of 6000 cfm + 10% during system operation when tested in accordance with ANSI N510-1980.

d. After every 720 hours of ~~charcoal~~ carbon adsorber operation, by verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 1%;

e. At least once per 18 months by:

1) Verifying that the pressure drop across the combined HEPA filters, carbon ~~charcoal~~ adsorber banks, and moisture separators is less than 8 inches Water Gauge while operating the system at a flow rate of 6000 cfm ± 10%;

2) Verifying that on a High Radition-Air Intake, or Smoke Density-High test signal, the system automatically isolates the affected intake from outside air with recirculating flow through the HEPA filters and ~~charcoal~~ carbon adsorber banks;

3) Verifying that the system maintains the control room at a positive pressure relative to adjacent areas of greater than or equal to 1/8 inch Water Gauge at less than or equal to pressurization flow of 4000 cfm to ~~adjacent areas~~ the control room during system operation;

4) Verifying that the heaters dissipate 25 ± 2.5 kW, ~~when tested in accordance with ANSI N510-1980,~~ and

Purging of residual refrigerant is not mandatory.

*~~The requirement for reducing refrigerant concentration to 0.01 ppm may be satisfied by operating the system for 10 hours with heaters on and operating~~

SURVEILLANCE REQUIREMENTS (Continued)

3) Verifying a system flow rate of ~~30,000~~ 69,000 cfm ± 10% during system operation when tested in accordance with ANSI N510-1980.

c. After every 720 hours of ~~charcoal~~ carbon adsorber operation, by verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 1%;

d. At least once per 18 months by:

1) Verifying that the pressure drop across the combined HEPA filters, ~~charcoal~~ carbon adsorber banks, and moisture separators of less than 8 inches Water Gauge while operating the system at a flow rate of 30,000 cfm ± 10%, per fan

2) Verifying that the system starts on a Safety Injection test signal, and directs its exhaust flow through the HEPA filters and ~~charcoal~~ carbon adsorbers,

3) Verifying that the system maintains the ECCS pump room at a negative pressure relative to adjacent areas,

4) Verifying that the filter cooling bypass valves can be manually opened, and

5) Verifying that the heaters dissipate 40 ± 4 kW. ~~when tested in accordance with ANSI N510-1980.~~

e. After each complete or partial replacement of a HEPA filter bank, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% in accordance with ANSI N510-1980 for a DOP test aerosol while operating the system at a flow rate of 30,000 cfm ± 10%; ~~and~~ per fan

f. After each complete or partial replacement of a ~~charcoal~~ carbon adsorber bank, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% in accordance with ANSI N510-1980 for a halogenated hydrocarbon refrigerant test gas while operating the system at a flow rate of 30,000 cfm ± 10%; and per fan

g. Verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 1%.

After any structural maintenance on the filter housing or, following painting, fire or chemical release in any ventilation zone communicating with the system by

After any structural maintenance on the filter housing or,

INSERT NEW SSS SPEC.

3/4.7.13 STANDBY SHUTDOWN SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.13 The Standby Shutdown System (SSS) shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

a. With the Standby Shutdown System inoperable, restore the inoperable equipment to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in at least HOT SHUTDOWN within the following 6 hours.

b. With the total leakage from UNIDENTIFIED LEAKAGE, IDENTIFIED LEAKAGE and reactor coolant pump seal leakage greater than 26 gpm, declare the Standby Makeup Pump inoperable and take ACTION a., above.

c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.13.1 The Standby Shutdown System diesel generator shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying:

1) The fuel level in the fuel storage tank is greater than or equal to 67 inches, and

2) The diesel starts from ambient conditions and operates for at least 30 minutes at greater than or equal to 700 kW.

b. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tank, obtained in accordance with ASTM-D270-1975, is within the acceptable limits specified in Table 1 of ASTM-D975-1977 when checked for viscosity and water and sediment; and

c. At least once per 18 months, during shutdown, by subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for the class of service.

4.7.13.2 The Standby Shutdown System diesel starting 24-volt battery bank and charger shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying that:

1) The electrolyte level of each battery is above the plates; and

2) The overall battery voltage is greater than or equal to 24 volts.

INSERT NEW SSS SPEC.

SURVEILLANCE REQUIREMENTS (Continued)

b. At least once per 92 days by verifying that the specific gravity is appropriate for continued service of the battery, and

c. At least once per 18 months by verifying that:

1) The batteries, cell plates, and battery racks show no visual indication of physical damage or abnormal deterioration, and

2) The battery-to-battery and terminal connections are clean, tight, and free of corrosion.

4.7.13.3 The Standby Makeup Pump water supply shall be demonstrated OPERABLE by:

a. Verifying at least once per 7 days:

1) That the requirements of Specification 3.9.10 are met and the boron concentration in the storage pool is greater than or equal to 2000 ppm, or

2) That a contained borated water volume of at least 112,320 gallons with minimum boron concentration of 2,000 ppm is available and capable of being aligned to the Standby Makeup Pump.

b. Verifying at least once per 92 days that the Standby Makeup Pump develops a flow of greater than or equal to 26 gpm at a pressure greater than or equal to 2488 psig.

4.7.13.4 The Standby Shutdown System 250/125-Volt Battery Bank and its associated charger shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying:

1) That the electrolyte level of each battery is above the plates, and

2) The total battery terminal voltage is greater than or equal to 258/129 volts on float charge.

b. At least once per 92 days by verifying that the specific gravity is appropriate for continued service of the battery, and

c. At least once per 18 months by verifying that:

1) The batteries, cell plates, and battery racks show no visual indications of physical damage or abnormal deterioration, and

2) The battery-to-battery and terminal connections are clean, tight, free of corrosion and coated with anti-corrosion material.

INSERT NEW SSS SPEC.

SURVEILLANCE REQUIREMENTS (Continued)

4.7.13.5 The Steam Turbine Driven Auxiliary Feedwater Pump and associated components shall be demonstrated OPERABLE at least once per 18 months by verifying that the system functions as designed from the Standby Shutdown System.

4.7.13.6 Each Standby Shutdown System instrumentation device shall be demonstrated OPERABLE by performance of a CHANNEL CHECK at least once per 31 days and a CHANNEL CALIBRATION at least once per 18 months.

PLANT SYSTEMS

3/4.7.13 STANDBY SHUTDOWN SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.13 The Standby Shutdown System (SSS) shall be OPERABLE.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

a. With less than the minimum SSS equipment in Table 3.7-4 OPERABLE, restore the inoperable equipment to OPERABLE within 7 days, or provide equivalent capability to achieve HOT STANDBY and restore the inoperable equipment to OPERABLE within 60 days, or be in HOT STANDBY within the next 12 hours and HOT SHUTDOWN within the following 24 hours.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.13.1 The provisions of Specification 4.0.4 are not applicable.

4.7.13.2 The Standby Shutdown System diesel generator shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying:

1) The fuel level in the fuel storage tank is greater than or equal to 67 inches, and

2) The diesel starts from ambient conditions and operates for at least 30 minutes at greater than or equal to 700 kW.

b. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tank, obtained in accordance with ASTM-D270-1975, is within the acceptable limits specified in Table 1 of ASTM-D975-1977 when checked for viscosity and water and sediment; and

c. At least once per 18 months by subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for the class of service.

4.7.13.3 The Standby Shutdown System diesel starting 24-volt battery bank and charger shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying that:

1) The electrolyte level of each battery is above the plates; and

2) The overall battery voltage is greater than or equal to 24 volts.

b. At least once per 92 days by verifying that the specific gravity is appropriate for continued service of the battery, and

c. At least once per 18 months by verifying that:

1) The batteries, cell plates, and battery racks show no visual indication of physical damage or abnormal deterioration, and

2) The battery-to-battery and terminal connections are clean, tight, and free of corrosion.

4.7.13.4 The Standby Makeup Pump water supply shall be demonstrated OPERABLE by:

a. Verifying at least once per 72 hours that IDENTIFIED LEAKAGE, UNIDENTIFIED LEAKAGE, and Reactor Coolant Pump Seal leakoff do not exceed a total of 26 gpm.

b. Verifying at least once per 7 days:

1) That the requirements of Specification 3.9.10 are met and the boron concentration in the storage pool is greater than or equal to 2000 ppm, or

2) That the refueling water storage tank is capable of being aligned to the Standby Makeup Pump.

c. Verifying at each COLD SHUTDOWN, but not more than once every 92 days, that the Standby Makeup Pump develops a flow of greater than or equal to 26 gpm at a pressure greater than or equal to 2485 psig.

4.7.13.5 The Standby Shutdown System 250/125-Volt Battery Bank and its associated charger shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying:

1) That the electrolyte level of each battery is above the plates, and

2) The total battery terminal voltage is greater than or equal to 258/129 volts on float charge.

b. At least once per 92 days by verifying that the average specific gravity is greater than or equal to 1.200.

c. At least once per 18 months by verifying that:

1) The batteries, cell plates, and battery racks show no visual indications of physical damage or abnormal deterioration, and

2) The battery-to-battery and terminal connections are clean, tight, free of corrosion and coated with anti-corrosion material.

4.7.13.6 The Steam Turbine Driven Auxiliary Feedwater Pump and associated components shall be demonstrated OPERABLE in accordance with portions of Specification 3/4.7.1.2 applicable to SSS.

4.7.13.7 The "C" solenoid shall be demonstrated OPERABLE and capable of being deenergized to open valve SA48ABC to provide steam supply to the turbine driven auxiliary feedwater pump at least once per 18 months.

4.7.13.8 Standby Shutdown System instrumentation shall be demonstrated OPERABLE by performance of surveillance requirements listed in Table 4.7-2.

TABLE 3.7-4
STANDBY SHUTDOWN SYSTEM
MINIMUM EQUIPMENT

INSTRUMENT	READOUT LOCATION	MINIMUM CHANNELS OPERABLE
Reactor Coolant Pressure	SSF Control Panel	1
Pressurizer Level	SSF Control Panel	1
Steam Generator Level	SSF Control Panel	1/S.G.
Incore Temperature	SSF Control Panel	1*
Standby Makeup Pump Flow	SSF Control Panel	1

* *

EQUIPMENT	LOCATION
Diesel Generator and associated switchgear	SSF
Diesel starting 24-Volt battery bank and charger	SSF
Standby makeup pump and water supply	Containment/Spent Fuel Pool
250/125 V battery bank, associated charger, and associated swithchgear	SSF
Steam Turbine Driven Auxiliary Feedwater Pump	Auxiliary Building
Solenoid "C" to valve SA 48 ABC	Interior Doghouse

*Capable of being connected at SSF Control Panel.

TABLE 4.7-2
STANDBY SHUTDOWN SYSTEM
INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION
Reactor Coolant Pressure	M	R
Pressurizer Level	M	R
Steam Generator Level	M	R
Incore Temperature	M	R
Standby Makeup Pump Flow	N/A	R

3/4.9 REFUELING OPERATIONS

3/4.9.1 BORON CONCENTRATION

LIMITING CONDITION FOR OPERATION

3.9.1 The boron concentration of all filled portions of the Reactor Coolant System and the refueling canal shall be maintained uniform and sufficient to ensure that the more restrictive of the following reactivity conditions is met either:

a. A K_{eff} of 0.95 or less, or

b. A boron concentration of greater than or equal to 2000 ppm.

APPLICABILITY: MODE 6.*

ACTION:

With the requirements of the above specification not satisfied, immediately suspend all operations involving CORE ALTERATIONS or positive reactivity changes and initiate and continue boration at greater than or equal to 30 gpm of a solution containing greater than or equal to 7000 ppm boron or its equivalent until K_{eff} is reduced to less than or equal to 0.95 or the boron concentration is restored to greater than or equal to 2000 ppm, whichever is the more restrictive.

SURVEILLANCE REQUIREMENTS

4.9.1.1 The more restrictive of the above two reactivity conditions shall be determined prior to:

a. Removing or unbolting the reactor vessel head, and

b. Withdrawal of any full-length control rod in excess of 3 feet from its fully inserted position within the reactor vessel.

4.9.1.2 The boron concentration of the Reactor Coolant System and the refueling canal shall be determined by chemical analysis at least once per 72 hours.

4.9.1.3 Valves NV-231, NV-237, NV-240, NV-241, and NV-244 shall be verified closed and secured in position by mechanical stops or by removal of air or electrical power at least once per 31 days.

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*The reactor shall be maintained in MODE 6 whenever fuel is in the reactor vessel with the vessel head closure bolts less than fully tensioned or with the head removed.

4.9.4.2 The Reactor Building Containment Purge System shall be demonstrated OPERABLE:

a. At least once per 31 days by initiating flow through the HEPA filters and ~~charcoal~~ carbon adsorbers and verifying that the system operates for at least 10 continuous hours with the heaters operating;

b. At least once per 18 months or ~~(1)~~ after any structural maintenance on the HEPA filter or ~~charcoal~~ carbon adsorber housings, ~~or (2) following painting, fire, or chemical release in any ventilation zone communicating with the system~~ by:

1) Verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% and uses the test procedures guidance in Regulatory Positions C.5.a, C.5.c, and C.5.d* of Regulatory Guide 1.52, Revision 2, March 1978, and the system flow rate is 25,000 cfm ± 10% (both exhaust fans operating);

2) Verifying within 31 days after removal, that a laboratory analysis of a presentative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 6%; and

3) Verifying a system flow rate of 25,000 cfm ± 10% (both exhaust fans operating) during system operation when tested in accordance with ANSI N510-1980.

c. After every 720 hours of ~~charcoal~~ carbon adsorber operation, by verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 6%;

d. At least once per 18 months by:

1) Verifying that the pressure drop across the combined HEPA filters, ~~charcoal~~ carbon adsorber banks, and prefilters is less than 8 inches Water Gauge while operating the system at a flow rate of 25,000 cfm ± 10% (both exhaust fans operating); and

Purging of residual refrigerant is not mandatory.

*~~The requirement for reducing refrigerant concentration to 0.01 ppm may be satisfied by operating the system for 10 hours with heaters on and operating.~~

SURVEILLANCE REQUIREMENTS (Continued)

2) Verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Positions C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 1%; and

3) Verifying a system flow rate of ~~30,500~~ 33,130 cfm ± 10% during system operation when tested in accordance with ANSI N510-1980.

c. After every 720 hours of ~~charcoal~~ carbon adsorber operation in any train by verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 1%.

d. At least once per 18 months for each train by:

1) Verifying that the pressure drop across the combined HEPA filters, ~~charcoal~~ carbon adsorber banks, and moisture separators is less than 8 inches Water Gauge while operating the system at a flow rate of 16,565 cfm ± 10% per fan

2) Verifying that the system maintains the spent fuel storage pool area at a negative pressure of greater than or equal to ¼ inch Water Gauge relative to the outside amosphere during system operation,

3) Verifying that the filter cooling bypass valves can be manually opened, and

4) Verifying that the heaters dissipate 80 ± 8 kW. ~~when tested in accordance with ANSI N510-1980.~~ any structural maintenance on the filter housing, or after

e. After each complete or partial replacement of a HEPA filter bank in any train, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% in accordance with ANSI N510-1980 for a DOP test aerosol while operating the system at a flow rate of 16,565 cfm ± 10%; ~~and~~ per fan

any structural maintenance on the filter housing, or after

f. After each complete or partial replacement of a ~~charcoal~~ carbon adsorber bank in any train, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% in accordance with ANSI N510-1980 for a halogenated hydrocarbon refrigerant test gas while operating the system at a flow rate of 16,565 cfm ± 10% per fan, and

3.0.5 This specification delineates the applicability of each specification to Unit 1 and Unit 2 operation.

APPLICABILITY

met without regard for allowable deviations and out-of-service provisions contained in the ACTION statements.

The intent of this provision is to ensure that facility operation is not initiated with either required equipment or systems inoperable or other specified limits being exceeded.

Exceptions to this provision have been provided for a limited number of specifications when STARTUP with inoperable equipment would not affect plant safety. These exceptions are stated in the ACTION statements of the appropriate specifications.

4.0.1 This specification provides that surveillance activities necessary to ensure the Limiting Conditions for Operation are met and will be performed during the OPERATIONAL MODES or other conditions for which the Limiting Conditions for Operation are applicable. Provisions for additional surveillance activities to be performed without regard to the applicable OPERATIONAL MODES or other conditions are provided in the individual Surveillance Requirements. Surveillance Requirements for Special Test Exceptions need only be performed when the Special Test Exception is being utilized as an exception to an individual specification.

4.0.2 The provisions of this specification provide allowable tolerances for performing surveillance activities beyond those specified in the nominal surveillance interval. These tolerances are necessary to provide operational flexibility because of scheduling and performance considerations. The phrase "at least" associated with a surveillance frequency does not negate this allowable tolerance value and permits the performance of more frequent surveillance activities.

The tolerance values, taken either individually or consecutively over three test intervals, are sufficiently restrictive to ensure that the reliability associated with the surveillance activity is not significantly degraded beyond that obtained from the nominal specified interval.

4.0.3 The provisions of this specification set forth the criteria for determination of compliance with the OPERABILITY requirements of the Limiting Conditions for Operation. Under this criteria, equipment, systems or components are assumed to be OPERABLE if the associated surveillance activities have been satisfactorily performed within the specified time interval. Nothing in this provision is to be construed as defining equipment, systems or components OPERABLE, when such items are found or known to be inoperable although still meeting the Surveillance Requirements. Items may be determined inoperable during use, during surveillance tests, or in accordance with this specification. Therefore, ACTION statements are entered when the Surveillance Requirements should have been performed rather than at the time it is discovered that the tests were not performed.

SAFETY VALVES (Continued)

relief capability and will prevent overpressurization. In addition, the Overpressure Protection System provides a diverse means of protection against overpressurization at low temperatures.

During operation, all pressurizer Code safety valves must be OPERABLE to prevent the Reactor Coolant System from being pressurized above its Safety Limit of 2735 psig. The combined relief capacity of all of these valves is greater than the maximum surge rate resulting from a complete loss-of-load assuming no Reactor trip until the first Reactor Trip System Trip Setpoint is reached (i.e., no credit is taken for a direct Reactor trip on the loss-of-load) and also assuming no operation of the power-operated relief valves or steam dump valves.

Demonstration of the safety valves' lift settings will occur only during shutdown and will be performed in accordance with the provisions of Section XI of the ASME Boiler and Pressure Code.

3/4.4.3 PRESSURIZER

The limit on the maximum water volume in the pressurizer assures that the parameter is maintained within the normal steady-state envelope of operation assumed in the SAR. The limit is consistent with the initial SAR assumptions. The 12-hour periodic surveillance is sufficient to ensure that the parameter is restored to within its limit following expected transient operation. The maximum water volume also ensures that a steam bubble is formed and thus the Reactor Coolant System is not a hydraulically solid system. The requirement that a minimum number of pressurizer heaters be OPERABLE enhances the capability of the plant to control Reactor Coolant System pressure and establish natural circulation.

3/4.4.4 RELIEF VALVES

The power-operated relief valves (PORVs) and steam bubble function to relieve Reactor Coolant System pressure during all design transients up to and including the design step load decrease with steam dump. Operation of the PORVs minimizes the undesirable opening of the spring-loaded pressurizer Code safety valves. Each PORV has a remotely operated block valve to provide a positive shutoff capability should a relief valve become inoperable.

3/4.4.5 STEAM GENERATORS

The Surveillance Requirements for inspection of the steam generator tubes ensure that the structural integrity of this portion of the Reactor Coolant System will be maintained. The program for inservice inspection of steam generator tubes is based on a modification of Regulatory Guide 1.83, Revision 1. Inservice inspection of steam generator tubing is essential in order to maintain surveillance of the conditions of the tubes in the event that there is evidence of mechanical damage or progressive degradation due to design, manu-

Testing of the PORV's includes the emergency N_2 supply from the Cold Leg Accumulators. This test demonstrates that the valves in the supply line operate satisfactorily and that the non-safety portion of the instrument air system IS not necessary for proper PORV operation.

3/4.7.13 STANDBY SHUTDOWN SYSTEM

The Standby Shutdown System (SSS) is designed to mitigate the consequences of certain postulated fire incidents by providing capability to maintain HOT STANDBY conditions and by controlling and monitoring vital systems from locations external to the main control room. This capability is consistent with the requirements of 10 CFR Part 50, Appendix R.

The Surveillance Requirements ensure that the SSS systems and components are capable of performing their intended functions. The required level in the SSS diesel generator fuel storage tank ensures sufficient fuel for 72 hours uninterrupted operation. It is assumed that, within 72 hours, either offsite power can be restored or additional fuel can be added to the storage tank.

Although the Standby Makeup Pump is not nuclear safety-related and was not designed according to ASME code requirements, it is tested quarterly to ensure its OPERABILITY. The Surveillance Requirement concerning the Standby Makeup Pump water supply ensures that an adequate water volume is available to supply the pump continuously for 72 hours.

The equivalent shutdown capability provided when the SSS is inoperable depends on the specific equipment involved and, therefore, should be sufficient to assure that the intended shutdown actions can be accomplished, or that fires can be reasonably precluded during that time for which SSS equipment would otherwise be required, consistent with the SSS design basis. Any temporary procedures or special fire watch patrols established to provide this equivalent capability shall be reviewed and approved prior to implementation in accordance with Section 6.0 of the Technical Specifications.

6.10.3 Records of Quality Assurance activities required by the Operational Quality Assurance Manual shall be retained for a period of time as recommended by ANSI N45.2.9-1974

RECORD RETENTION (Continued)

l. Records of secondary water sampling and water quality; and

m. Records of analyses required by the Radiological Environmental Monitoring Program that would permit evaluation of the accuracy of the analysis at a later date. This should include procedures effective at specified times and QA records showing that these procedures were followed.

6.11 RADIATION PROTECTION PROGRAM

6.11 Procedures for personnel radiation protection shall be prepared consistent with the requirements of 10 CFR Part 20 and shall be approved, maintained, and adhered to for all operations involving personnel radiation exposure.

6.12 HIGH RADIATION AREA

6.12.1 In lieu of the "control device" or "alarm signal" required by paragraph 20.203(c)(2) of 10 CFR Part 20, each high radiation area, as defined in 10 CFR Part 20, in which the intensity of radiation is equal to or less than 1000 mR/h at 45 cm (18 in.) from the radiation source or from any surface which the radiation penetrates shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Work Permit (RWP). Individuals qualified in radiation protection procedures (e.g., Health Physics Technician) or personnel continuously escorted by such individuals may be exempt from the RWP issuance requirement during the performance of their assigned duties in high radiation areas with exposure rates equal to or less than 1000 mR/h, provided they are otherwise following plant radiation protection procedures for entry into such high radiation areas. Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

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

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 levels in the area have been established and personnel have been made knowledgeable of them; or

c. An individual qualified in radiation protection procedures with a radiation dose rate monitoring device, who is responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the Station Health Physicist in the RWP.