

3. This license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations: 10 CFR Part 20, Section 30.34 of 10 CFR Part 30, Section 40.41 of 10 CFR Part 40, Sections 50.54 and 50.59 of 10 CFR Part 50, and Section 70.32 of 10 CFR Part 70; 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 below:

A. Maximum Power Level

The licensee is authorized to operate the facility at a steady state reactor core power level not in excess of 2339 megawatts thermal.

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 196 , are hereby incorporated in the license. Carolina Power & Light Company shall operate the facility in accordance with the Technical Specifications.

- (1) For Surveillance Requirements (SRs) that are new in Amendment 176 to Final Operating License DPR-23, the first performance is due at the end of the first surveillance interval that begins at implementation of Amendment 176. For SRs that existed prior to Amendment 176, including SRs with modified acceptance criteria and SRs whose frequency of performance is being extended, the first performance is due at the end of the first surveillance interval that begins on the date the Surveillance was last performed prior to implementation of Amendment 176.

C. Reports

CP&L shall make certain reports in accordance with the requirements of the Technical Specifications.

D. Records

CP&L shall keep facility operating records in accordance with the requirements of the Technical Specifications.

4. Additional Conditions

The Additional Conditions contained in Appendix B, as revised through Amendment No. 196, are hereby incorporated into this license. Carolina Power & Light Company shall operate the facility in accordance with the Additional Conditions.

5. This amended license is effective as of the date of issuance and shall expire at midnight July 31, 2010.

FOR THE ATOMIC ENERGY COMMISSION

Original Signed by
Peter A. Morris

Peter A. Morris, Director
Division of Reactor Licensing

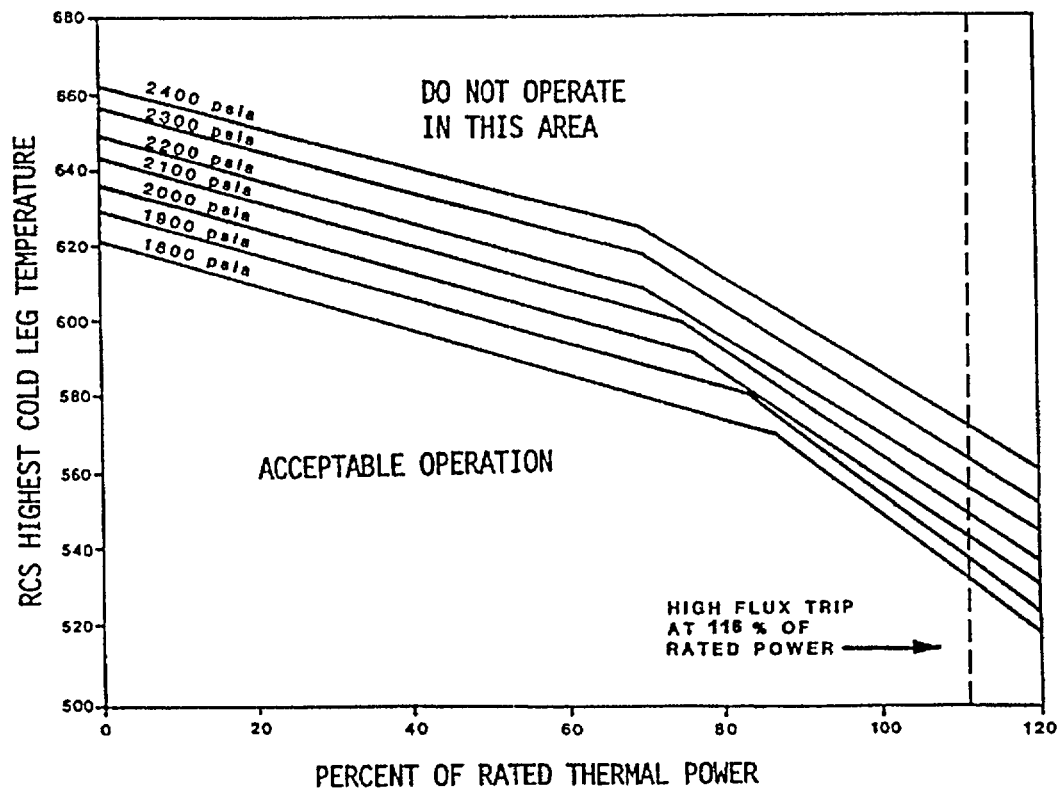
Attachment:
Appendix A - Technical Specifications

Date of Issuance: JUL 31 1970

1.1 Definitions

MODE (continued)	specified in Table 1.1-1 with fuel in the reactor vessel.
OPERABLE - OPERABILITY	A system, subsystem, train, component, or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified safety function(s) and when all necessary attendant instrumentation, controls, normal or emergency electrical power, cooling and seal water, lubrication, and other auxiliary equipment that are required for the system, subsystem, train, component, or device to perform its specified safety function(s) are also capable of performing their related support function(s).
PHYSICS TESTS	<p>PHYSICS TESTS shall be those tests performed to measure the fundamental nuclear characteristics of the reactor core and related instrumentation. These tests are:</p> <ol style="list-style-type: none"> Described in Chapter 14, Initial Test Program of the Updated Final Safety Analysis Report (UFSAR); Authorized under the provisions of 10 CFR 50.59; or Otherwise approved by the Nuclear Regulatory Commission.
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 2339 MWt.
SHUTDOWN MARGIN (SDM)	SDM shall be the instantaneous amount of reactivity by which the reactor is subcritical or would be subcritical from its present condition assuming:

(continued)



NOTE: BASED ON A MINIMUM RCS FLOW OF 97.3×10^6 lbm/hr

Figure 2.1.1-1 (page 1 of 1)
Reactor Core Safety Limits

Table 3.3.1-1 (page 6 of 7)
Reactor Protection System Instrumentation

Note 1: Overtemperature ΔT

The Overtemperature ΔT Function Allowable Value shall not exceed the following Nominal Trip Setpoint by more than 2.96% of ΔT span.

$$\Delta T_{\text{setpoint}} \leq \Delta T_o \left\{ K_1 - K_2 \frac{(1 + \tau_1 S)}{(1 + \tau_2 S)} (T - T') + K_3 (P - P') - f(\Delta I) \right\}$$

Where: ΔT_o is the indicated ΔT at RTP, °F.
 s is the Laplace transform operator, sec^{-1} .
 T is the measured RCS average temperature, °F.
 T' is the reference T_{avg} at RTP, $\leq 575.9^\circ\text{F}$.

P is the measured pressurizer pressure, psig
 P' is the nominal RCS operating pressure, ≤ 2235 psig

$K_1 \leq 1.1265$ $K_2 = 0.01228/^\circ\text{F}$ $K_3 = 0.00089/\text{psig}$
 $\tau_1 \geq 20.08 \text{ sec}$ $\tau_2 \leq 3.08 \text{ sec}$

$f(\Delta I) = \begin{matrix} 2.4\{(q_u - q_l) - 17\} & \text{when } q_u - q_l < -17\% \text{ RTP} \\ 0\% \text{ of RTP} & \text{when } -17\% \text{ RTP} \leq q_u - q_l \leq 12\% \text{ RTP} \\ 2.4\{(q_u - q_l) - 12\} & \text{when } q_u - q_l > 12\% \text{ RTP} \end{matrix}$

Where q_u and q_l are percent RTP in the upper and lower halves of the core, respectively, and $q_u + q_l$ is the total THERMAL POWER in percent RTP.

Table 3.3.1-1 (page 7 of 7)
Reactor Protection System Instrumentation

Note 2: Overpower ΔT

The Overpower ΔT Function Allowable Value shall not exceed the following Nominal Trip Setpoint by more than 3.17% of ΔT span.

$$\Delta T_{\text{setpoint}} \leq \Delta T_0 \left\{ K_4 - K_5 \left[\frac{\tau_3 S}{1 + \tau_3 S} \right] T - K_6 (T - T') - f(\Delta I) \right\}$$

Where: ΔT_0 is the indicated ΔT at RTP, °F.
 s is the Laplace transform operator, sec^{-1} .
 T is the measured RCS average temperature, °F.
 T' is the reference T_{avg} at RTP, $\leq 575.9^\circ\text{F}$.

$$K_4 \leq 1.06 \quad K_5 \geq 0.02/^\circ\text{F} \text{ for increasing } T_{\text{avg}} \quad K_6 \geq 0.00277/^\circ\text{F} \text{ when } T > T'$$

$$0/^\circ\text{F} \text{ for decreasing } T_{\text{avg}} \quad 0/^\circ\text{F} \text{ when } T \leq T'$$

$$\tau_3 \geq 9 \text{ sec}$$

$f(\Delta I)$ = as defined in Note 1 for Overtemperature ΔT

Table 3.3.2-1 (page 1 of 4)

Engineered Safety Feature Actuation System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	NOMINAL TRIP SETPOINT (1)
1. Safety Injection						
a. Manual Initiation	1,2,3,4	2	B	SR 3.3.2.6	NA	NA
b. Automatic Actuation Logic and Actuation Relays	1,2,3,4	2 trains	C	SR 3.3.2.2 SR 3.3.2.3 SR 3.3.2.5	NA	NA
c. Containment Pressure - High	1,2,3,4	3	E	SR 3.3.2.1 SR 3.3.2.4 SR 3.3.2.7	≤ 4.45 psig	4 psig
d. Pressurizer Pressure - Low	1,2,3 ^(a)	3	D	SR 3.3.2.1 SR 3.3.2.4 SR 3.3.2.7	≥ 1709.89 psig	1715 psig
e. Steam Line High Differential Pressure Between Steam Header and Steam Lines	1,2,3 ^(a)	3 per steam line	D	SR 3.3.2.1 SR 3.3.2.4 SR 3.3.2.7	≥ 83.76 psig ≤ 116.24 psig	100 psig
f. High Steam Flow in Two Steam Lines	1,2 ^(b) ,3 ^(b)	2 per steam line	D	SR 3.3.2.1 SR 3.3.2.4 SR 3.3.2.7	(c)	(d)
Coincident with T _{avg} - Low	1,2 ^(b) ,3 ^(b)	1 per loop	D	SR 3.3.2.1 SR 3.3.2.4 SR 3.3.2.7	≥ 541.50 °F	543°F
g. High Steam Flow in Two Steam Lines	1,2 ^(b) ,3 ^(b)	2 per steam line	D	SR 3.3.2.1 SR 3.3.2.4 SR 3.3.2.7	(c)	(d)
Coincident with Steam Line Pressure - Low	1,2 ^(b) ,3 ^(b)	1 per loop	D	SR 3.3.2.1 SR 3.3.2.4 SR 3.3.2.7	≥ 605.05 psig	614 psig

(continued)

- (1) A channel is OPERABLE with an actual Trip Setpoint value found outside its calibration tolerance band provided the Trip Setpoint value is conservative with respect to its associated Allowable Value and the channel is re-adjusted to within the established calibration tolerance band of the Nominal Trip Setpoint.
- (a) Above the Pressurizer Pressure interlock.
- (b) Above the T_{avg}-Low interlock.
- (c) Less than or equal to a function defined as ΔP corresponding to 41.58% full steam flow below 20% load, and ΔP increasing linearly from 41.58% full steam flow at 20% load to 110.5% full steam flow at 100% load, and ΔP corresponding to 110.5% full steam flow above 100% load.
- (d) A function defined as ΔP corresponding to 37.25% full steam flow between 0% and 20% load and then a ΔP increasing linearly from 37.25% steam flow at 20% load to 109% full steam flow at 100% load.

MATERIALS PROPERTIES BASE

Controlling Material : Lower Circumferential Weld
Copper Content : 0.20 wt.%
Nickel Content : 1.06 wt.%
RT_{NDT} Initial : -80°F
RT_{NDT} After 23.96 EFPY : 1/4 T. 207.83°F
3/4 T. 137.18°F

Curves applicable for heatup rates up to 60°F/Hr for the service period up to 23.96 EFPY.

Includes +10°F and -80 PSIG allowance for instrumentation error.

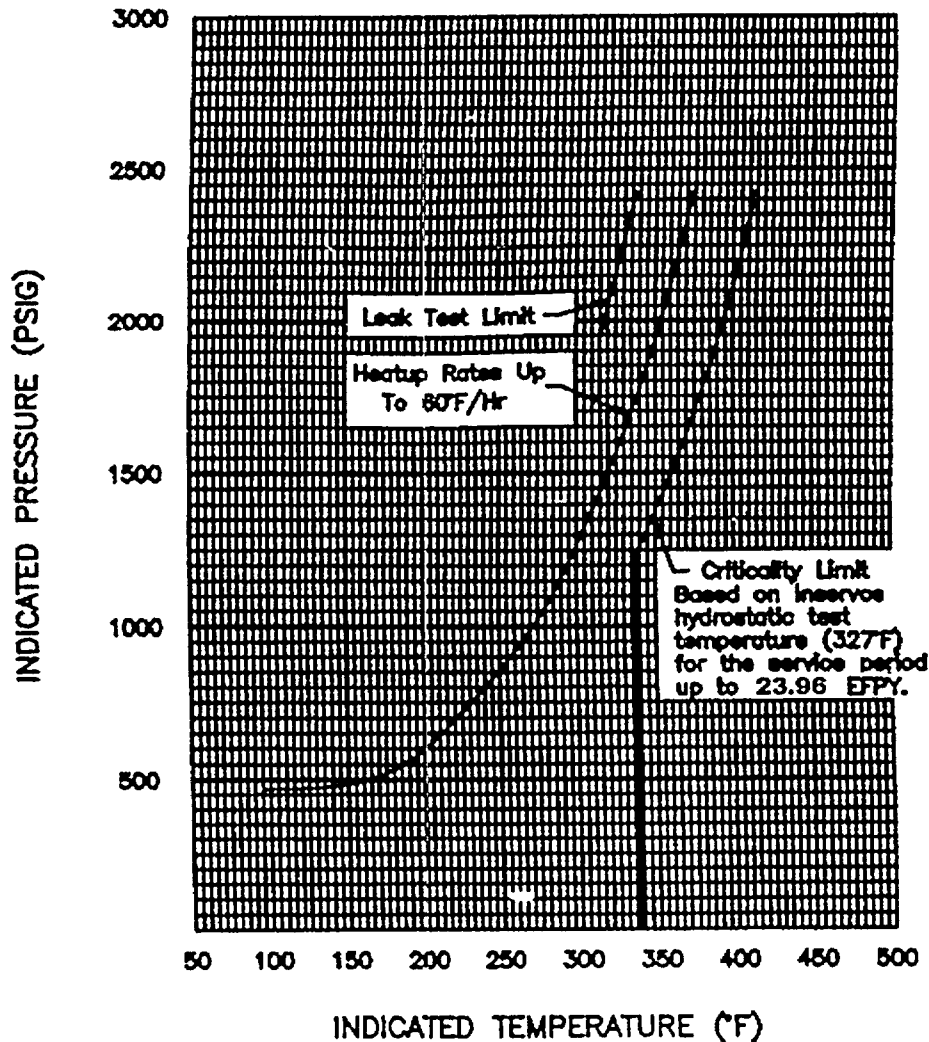


Figure 3.4.3-1
Reactor Coolant System Heatup Limits
Applicable Up to 23.96 EFPY

MATERIALS PROPERTIES BASE

Controlling Material	: Lower Circumferential Weld	Curves applicable for cooldown rates up to 100F/hr for the service period up to 23.96 EFPY. Includes +10F and -80 PSIG allowance for instrumentation error.
Copper Content	: 0.20 wt%	
Nickel Content	: 1.08 wt%	
RT NDT Initial	: -80F	
RT NDT After 23.96 EFPY	: 1/4 T. 207.83F 3/4 T. 137.15F	

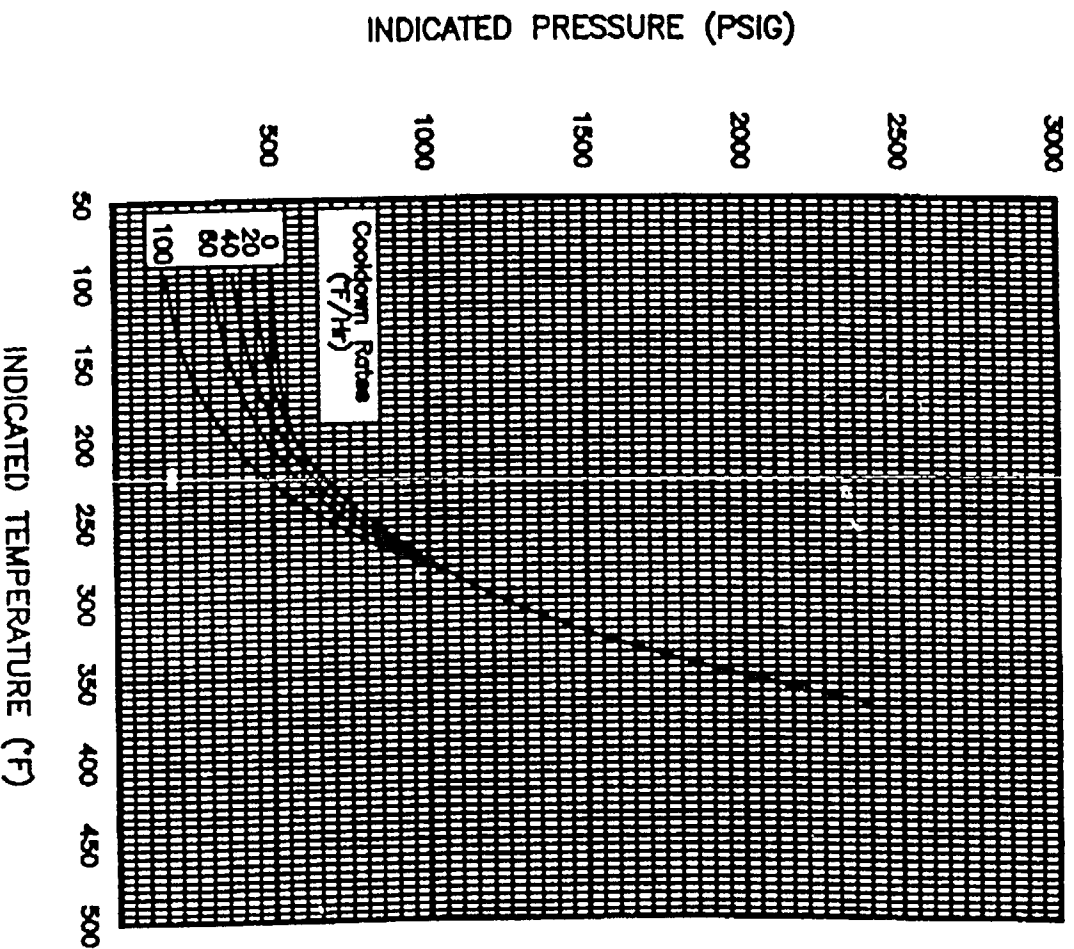


Figure 3.4.3-2
Reactor Coolant System Cooldown Limitations
Applicable Up to 23.96 EFPY

3.7 PLANT SYSTEMS

3.7.1 Main Steam Safety Valves (MSSVs)

LCO 3.7.1 The MSSVs shall be OPERABLE as specified in Table 3.7.1-1 and Table 3.7.1-2.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

----- NOTE -----
Separate Condition entry is allowed for each MSSV.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more steam generators with one MSSV inoperable and the Moderator Temperature Coefficient (MTC) zero or negative at all power levels.	A.1 Reduce THERMAL POWER to < 50 % RTP.	4 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. One or more bypass valves inoperable.	C.1 Close or isolate bypass valve.	8 hours
	AND C.2 Verify bypass valve is closed or isolated.	Once per 7 days
D Two valves in the same flow path inoperable.	D.1 Isolate affected flow path.	8 hours
E. Required Action and associated Completion Time not met.	E.1 Be in MODE 3.	6 hours
	AND E.2 Be in MODE 4.	12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.3.1 Verify the closure time of each MFRV and bypass valve is ≤ 20 seconds on an actual or simulated actuation signal.	In accordance with the Inservice Testing Program
SR 3.7.3.2 Verify the closure time of each MFIV is ≤ 50 seconds on an actual or simulated actuation signal.	In accordance with the Inservice Testing Program

APPENDIX B

ADDITIONAL CONDITIONS OPERATING LICENSE NO. DPR-23

Carolina Power & Light Company (the term licensee in Appendix B refers to Carolina Power & Light Company) shall comply with the following conditions on the schedules noted below:

<u>Amendment Number</u>	<u>Additional Conditions</u>	<u>Implementation Date</u>
176	The licensee is authorized to relocate certain requirements included in Appendix A and the former Appendix B to licensee-controlled documents. Implementation of this amendment shall include the relocation of these requirements to the appropriate documents, as described in the licensee's letters dated September 10, 1997, and October 13, 1997, evaluated in the NRC staff's Safety Evaluation enclosed with this amendment.	This amendment is effective immediately and shall be implemented within 90 days of the date of this amendment.
196	Operation of H. B. Robinson Steam Electric Plant, Unit No. 2, is limited to 504 effective full-power days. This additional condition shall remain in effect until approval of a license amendment that removes this limitation.	This amendment is effective immediately and shall be implemented within 30 days of the date of this amendment