LIST OF AFFECTED PAGES

Page	Section	Description of Change(s)
xx(a)	INDEX	Add Figure 3.4.6.1.c to the List Of Figures
xxiv	INDEX	Delete reference to Table B3/4.4.6-1
1-10	DEFINITIONS	Add note referring to Special Test Exception 3/4.10.7
3/4 4-18	P/T Limits	Added reference to new Figure 3.4.6.1C in two places
3/4 4-21a	P/T Limits	Added new Figure 3.4.6.1C to new page 3/4 4-21a
3/4 10-7	Special Test Exceptions	Added Special Test Exception 3/4.10.7, Inservice Leak And Hydrostatic Testing Operation
B 3/4 4-4	Bases, P/T Limits	Deleted reference to Table B 3/4.4.6.1. Added reference to Figure 3.4.6.1C in two places.
B 3/4 4-5	Bases, P/T Limits	Added reference to Figure 3.4.6.1C.
B 3/4 4-6	Bases, P/T Limits	Deleted Table B 3/4.4.6-1
B 3/4 10-1	Bases, Special Test Exceptions	Added a Bases section, 3/4.10.7, for the new Technical Specification 3/4.10.7

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INDEX

LIST OF FIGURES

deleted by letter GO2-93-180 dated July 9, 1993

Modified by letter GO2-93-180 dated July 9, 1993

Insert

LIST OF TABLES (Continued)

TABLE 1.2

OPERATIONAL CONDITIONS

CONDITION	MODE SWITCH POSITION	AVERAGE REACTOR COOLANT TEMPERATURE
1. POWER OPERATION	Run	Any temperature
2. STARTUP	Startup/Hot Standby	Any temperature
3. HOT SHUTDOWN	Shutdown# ***	> 200°F ****
4. COLD SHUTDOWN	Shutdown# ## ***	≤ 200°F ****
5. REFUELING*	Shutdown or Refuel** #	≤ 140°F

#The reactor mode switch may be placed in the Run or Startup/Hot Standby position to test the switch interlock functions provided that the control rods are verified to remain fully inserted by a second licensed operator or other technically qualified member of the unit technical staff.

##The reactor mode switch may be placed in the Refuel position while a single control rod drive is being removed from the reactor pressure vessel per Specification 3.9.10.1.

*Fuel in the reactor vessel with the vessel head closure bolts less than fully tensioned or with the head removed.

**See Special Test Exceptions 3.10.1 and 3.10.3.

***The reactor mode switch may be placed in the Refuel position while a single control rod is being recoupled provided that the one-rod-out interlock is OPERABLE.

**** See Special Test Exception 3.10.7.

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REACTOR COOLANT SYSTEM

3/4.4.6 PRESSURE/TEMPERATURE LIMITS

REACTOR COOLANT SYSTEM

Modified by letter G02-93-180 dated July 9, 1993

LIMITING CONDITION FOR OPERATION

3.4.6.1 The reactor coolant system temperature and pressure shall be limited in accordance with the limit lines shown on Figure 3.4.6.1 (or 3.4.6.1.C *) (1) curve A (or A') for hydrostatic or leak testing; (2) curve B (or B') for heatup by non-nuclear means, cooldown following a nuclear shutdown and low power PHYSICS TESTS; and (3) curve C for operations with a critical core other than low power PHYSICS TESTS, with:

a. A maximum heatup of 100°F in any 1-hour period,

b. A maximum cooldown of 100°F in any 1-hour period,

c. A maximum temperature change of less than or equal to 20°F in any 1-hour period during inservice hydrostatic and leak testing operations above the heatup and cooldown limit curves, and

d. The reactor vessel flange and head flange temperature greater than or equal to 80°F when reactor vessel head bolting studs are under tension.

APPLICABILITY: At all times.

ACTION:

With any of the above limits exceeded, restore the temperature and/or pressure to within the limits within 30 minutes; perform an engineering evaluation to determine the effects of the out-of-limit condition on the structural integrity of the reactor coolant system; determine that the reactor coolant system remains acceptable for continued operations or be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the following 24 hours.

modified by letter G02-93-180 dated July 9 1993

SURVEILLANCE REQUIREMENTS

4.4.6.1.1 During system heatup, cooldown, and inservice leak and hydrostatic testing operations, the reactor coolant system temperature and pressure shall be determined to be within the above required heatup and cooldown limits and to the right of the limit lines of Figure 3.4.6.1 (or 3.4.6.1.C) curves ~~A, B or C,~~ A, A', B, B' or C as applicable, at least once per 30 minutes.

* Figure 3.4.1.6.C A' and B' curves are effective for less than or equal to 8 EFPY of operation

[illegible]

[illegible]

[illegible]

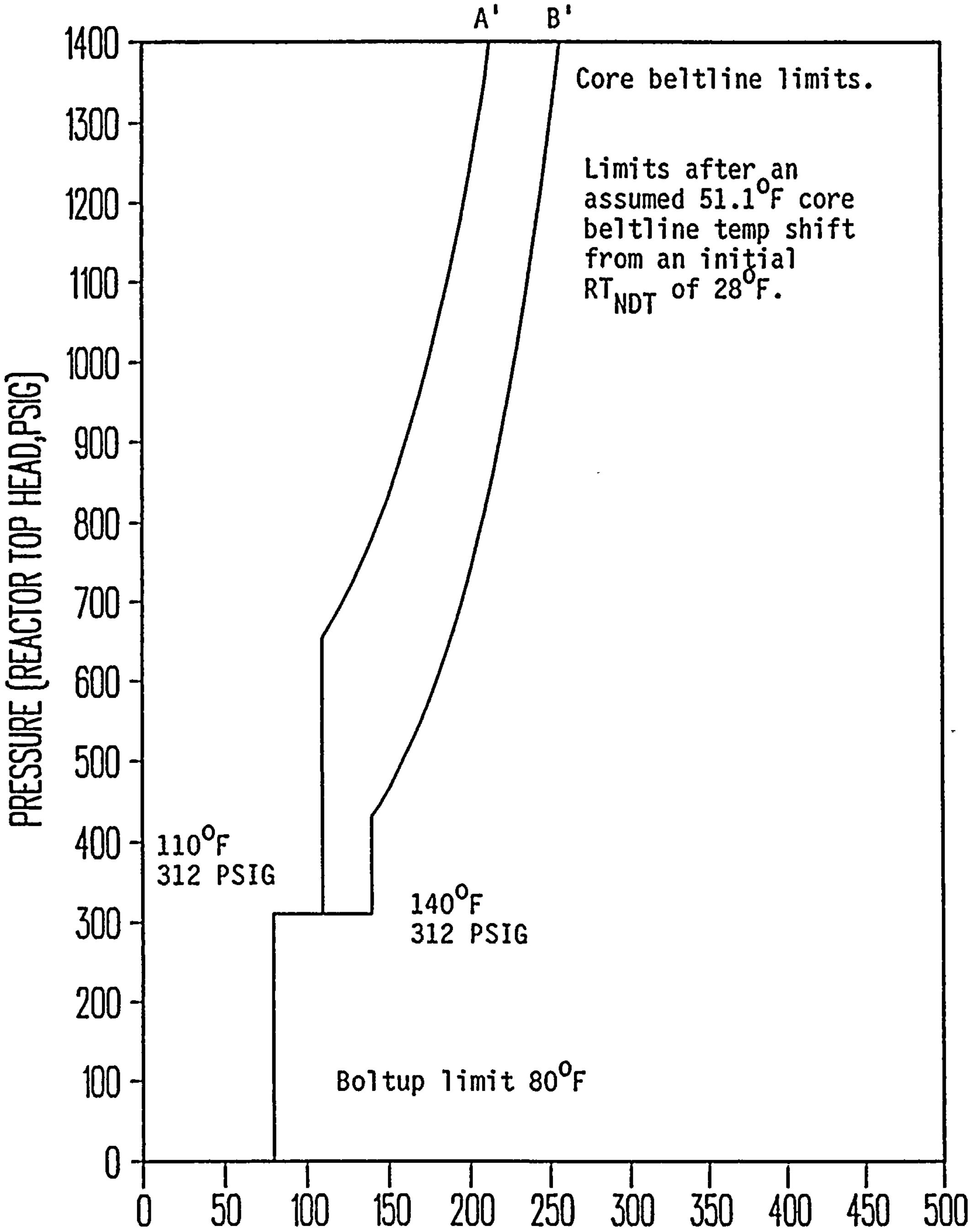
[illegible]

[illegible]

[illegible]

WNP-2 PRESSURE/TEMPERATURE LIMITS FOR 8 EFPY

TESTING AND NONNUCLEAR HEATING CURVES A'& B'



MINIMUM REACTOR METAL TEMPERATURE

TEMPERATURE F

Add: Figure 3.4.6.1C

SPECIAL TEST EXCEPTIONS

3/4.10.7 INSERVICE LEAK AND HYDROSTATIC TESTING

LIMITING CONDITION FOR OPERATION

3.10.7 When conducting Reactor Vessel inservice leak or hydrostatic testing, the average reactor coolant temperature specified in Table 1.2 for OPERATIONAL CONDITION 4 may be increased above 200°F, and operation considered not to be in OPERATIONAL CONDITION 3, and the requirements of LCO 3.4.9.2, "Reactor Coolant System - Cold Shutdown," may be suspended, to allow performance of an inservice leak or hydrostatic test provided the maximum reactor coolant temperature does not exceed 212°F and the following OPERATIONAL CONDITION 3 LCO's are met:

a. LCO 3.1.3.8, "Control Rod Drive Housing Support";

b. LCO 3.3.2, "Isolation Actuation Instrumentation," Items 2a, 2c, and 2d of Table 3.3.2-1;

c. LCO 3.6.5.1, "Secondary Containment Integrity";

d. LCO 3.6.5.2, "Secondary Containment Automatic Isolation Valves";

e. LCO 3.6.5.3, "Standby Gas Treatment"; and

f. LCO 3.8.4.3, "Motor-Operated Valves Thermal Overload Protection."

APPLICABILITY: OPERATIONAL CONDITION 4 with average reactor coolant temperature >200°F and ≤212°F

ACTION:

With the requirements of the above specification not satisfied, immediately enter the applicable condition of the affected specification or immediately suspend activities that could increase the average reactor coolant temperature or pressure and reduce the average reactor coolant temperature to ≤ 200°F within 24 hours.

SURVEILLANCE REQUIREMENTS

4.10.7 Verify applicable OPERATIONAL CONDITION 3 surveillances for specifications listed in 3.10.7 are met.

3/4.4.6 PRESSURE/TEMPERATURE LIMITS

All components in the reactor coolant system are designed to withstand the effects of cyclic loads due to system temperature and pressure changes. These cyclic loads are introduced by normal load transients, reactor trips, and startup and shutdown operations. The various categories of load cycles used for design purposes are provided in Section 4.9 of the FSAR. During startup and shutdown, the rates of temperature and pressure changes are limited so that the maximum specified heatup and cooldown rates are consistent with the design assumptions and satisfy the stress limits for cyclic operation.

During heatup, the thermal gradients in the reactor vessel wall produce thermal stresses which vary from compressive at the inner wall to tensile at the outer wall. These thermal induced compressive stresses tend to alleviate the tensile stresses induced by the internal pressure. Therefore, a pressure-temperature curve based on steady-state conditions, i.e., no thermal stresses, represents a lower bound of all similar curves for finite heatup rates when the inner wall of the vessel is treated as the governing location.

The heatup analysis also covers the determination of pressure-temperature limitations for the case in which the outer wall of the vessel becomes the controlling location. The thermal gradients established during heatup produce tensile stresses which are already present. The thermal induced stresses at the outer wall of the vessel are tensile and are dependent on both the rate of heatup and the time along the heatup ramp; therefore, a lower bound curve similar to that described for the heatup of the inner wall cannot be defined. Subsequently, for the cases in which the outer wall of the vessel becomes the stress controlling location, each heatup rate of interest must be analyzed on an individual basis.

The reactor vessel materials have been tested to determine their initial RT_{NDT}. ~~The results of these tests are shown in Table B 3/4.4.6-1.~~ Reactor operation and resultant fast neutron irradiation, E greater than 1 MeV, will cause an increase in the RT_{NDT}. Therefore, an adjusted reference temperature, based upon the fluence, nickel content, and copper content of the material in question, can be predicted using Bases Figure B 3/4.4.6-1 and the recommendations of Regulatory Guide 1.99, Revision 2, "Radiation Embrittlement of Reactor Vessel Materials." The pressure/ temperature limit curve, Figure 3.4.6.1 *and 3.4.6.1C* includes predicted adjustments for this shift in RT_{NDT} for the end of life fluence and is effective for 10 EFPY.

The actual shift in RT_{NDT} of the vessel material will be established periodically during operation by removing and evaluating, in accordance with ASTM E185-73 and 10 CFR Part 50, Appendix H, irradiated reactor vessel material specimens installed near the inside wall of the reactor vessel in the core area. The irradiated specimens can be used with confidence in predicting reactor vessel material transition temperature shift. The operating limit curves of Figure 3.4.6.1 *and 3.4.6.1C* shall be adjusted, as required, on the basis of the specimen data and recommendations of Regulatory Guide 1.99, Revision 2.

Modified by letter GO2-93-180 dated July 9, 1993.

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PRESSURE/TEMPERATURE LIMITS (Continued)

The pressure-temperature limit lines shown in Figure 3.4.6.1 and 3.4.6.1C for reactor criticality and for inservice leak and hydrostatic testing have been provided to assure compliance with the minimum temperature requirements of Appendix G to 10 CFR Part 50 for reactor criticality and for inservice leak and hydrostatic testing.

3/4.4.7 MAIN STEAM LINE ISOLATION VALVES

Double isolation valves are provided on each of the main steam lines to minimize the potential leakage paths from the containment in case of a line break. Only one valve in each line is required to maintain the integrity of the containment, however, single failure considerations require that two valves be OPERABLE. The surveillance requirements are based on the operating history of this type valve. The maximum closure time has been selected to contain fission products and to ensure the core is not uncovered following line breaks. The minimum closure time is consistent with the assumptions in the safety analyses to prevent pressure surges.

3/4.4.8 STRUCTURAL INTEGRITY

The inspection programs for ASME Code Class 1, 2 and 3 components ensure that the structural integrity of these components will be maintained at an acceptable level throughout the life of the plant.

Access to permit inservice inspections of components of the reactor coolant system is in accordance with Section XI of the ASME Boiler and Pressure Vessel Code 1974 Edition and Addenda through Summer 1975.

The inservice inspection program for ASME Code Class 1, 2 and 3 components will be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable addenda as required by 10 CFR 50.55a(g) except where specific written relief has been granted by the NRC pursuant to 10 CFR 50.55a(g)(6)(i).

3/4.4.9 RESIDUAL HEAT REMOVAL

A single shutdown cooling mode loop provides sufficient heat removal capability for removing core decay heat and mixing to assure accurate temperature indication, however, single failure considerations require that two loops be OPERABLE or that alternate methods capable of decay heat removal be demonstrated and that an alternate method of coolant mixing be in operation.

BASES TABLE B 3/4.4.6-1

REACTOR VESSEL TOUGHNESS

COMPONENT	MATERIAL TYPE	CU %	Ni %	HIGHEST STARTING RT_{NDT} °F	50 FT-LB/35 MIL TEMP°F LONG	50 FT-LB/35 MIL TEMP°F TRANS	MAXIMUM ΔRT_{NDT}* °F	MIN. UPPER SHELF FT-LB LONG	MIN. UPPER SHELF FT-LB TRANS
BELTLINE									
Ring 1 Plate	SA-533, GRB, CL1	0.15	0.6	-10	+28		41	>100	
Ring 2 Plate	SA-533, GRB, CL1	0.15	0.5	-30	-8		33	>100	
Girthweld	E8018NM	0.03	1.01	N.A.	-50		36		
Girthweld	RAC01NMM	0.08	0.8	N.A.	-44		15		
NON-BELTLINE									
Ring 3 Plate	SA-533, GRB, CL1								
Ring 4 Plate	SA-533, GRB, CL1								
Vessel Flange	SA-508, CL2								
Top Head Flange	SA-508, CL2								
Top Head Dollar Plate	SA-533, GRB, CL1								
Top Head Side Plates	SA-533, GRB, CL1								
Bottom Head Dollar Plates	SA-533, GRB, CL1								
Bottom Head Radial Plates	SA-533, GRB, CL1								
Nozzles	SA-508, CL2								
Flange Bolt Studs	SA-540, B23								

*Regulatory Guide 1.99, Revision 2, calculated ΔRT_{NDT}

Delete This Table

3/4.10 SPECIAL TEST EXCEPTIONS

BASES

3/4.10.1 PRIMARY CONTAINMENT INTEGRITY

The requirement for PRIMARY CONTAINMENT INTEGRITY is not applicable during the period when open vessel tests are being performed during the low power PHYSICS TESTS.

3/4.10.2 ROD SEQUENCE CONTROL SYSTEM

In order to perform the tests required in the technical specifications it is necessary to bypass the sequence restraints on control rod movement. The additional surveillance requirments ensure that the specifications on heat generation rates and shutdown margin requirements are not exceeded during the period when these tests are being performed and that individual rod worths do not exceed the values assumed in the safety analysis.

3/4.10.3 SHUTDOWN MARGIN DEMONSTRATIONS

Performance of shutdown margin demonstrations with the vessel head removed requires additional restrictions in order to ensure that criticality does not occur. These additional restrictions are specified in this LCO.

3/4.10.4 RECIRCULATION LOOPS

This special test exception permits reactor criticality under no flow conditions and is required to perform certain startup and PHYSICS TESTS while at low THERMAL POWER levels.

3/4.10.5 OXYGEN CONCENTRATION

Relief from the oxygen concentration specifications is necessary in order to provide access to the primary containment during the initial startup and testing phase of operation. Without this access the startup and test program could be restricted and delayed.

3/4.10.6 TRAINING STARTUPS

This special test exception permits training startups to be performed with the reactor vessel depressurized at low THERMAL POWER and temperature while controlling RCS temperature with one RHR subsystem aligned in the shutdown cooling mode in order to minimize contaminated water discharge to the radioactive waste disposal system.

3/4.10.7 See Insert next page

Insert to page B 3/4 10-1:

3/4.10.7 INSERVICE LEAK AND HYDROSTATIC TESTING OPERATION

This special test exception allows reactor vessel inservice leak and hydrostatic testing to be performed in OPERATIONAL CONDITION 4 with the maximum reactor coolant temperature not exceeding 212°F. The additionally imposed OPERATIONAL CONDITION 3 requirement for secondary containment operability provides conservatism in the response of the unit to an operational event. This allows flexibility since temperatures of the reactor vessel metal will be $\geq$ 180°F during the testing and a higher reactor coolant temperature will be necessary to sustain the vessel metal temperature. The flexibility is provided so that there is margin to allow temperature drift due to decay and mechanical heat.

[illegible]