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REACTOR COOLANT SYSTEM

SHUTDOWN

LIMITING CONDITION FOR OPERATION

- 3.4.1.3 a. At least two of the coolant loops listed below shall be OPERABLE:
1. Reactor Coolant Loop (A) and its associated steam generator and reactor coolant pump, #
 2. Reactor Coolant Loop (B) and its associated steam generator and reactor coolant pump, #
 3. Reactor Coolant Loop (C) and its associated steam generator and reactor coolant pump, #
 4. Residual Heat Removal Pump (A) and a heat exchanger, **
 5. Residual Heat Removal Pump (B) and a second heat exchanger. **
- b. At least one of the above coolant loops shall be in operation. ***

APPLICABILITY: Modes 4 AND 5.

** The normal or emergency power source may be inoperable in MODE 5.

*** All reactor coolant pumps and Residual Heat Removal pumps may be de-energized for up to 1 hour provided: 1) no operations are permitted that would cause dilution of the reactor coolant system boron concentration and 2) core outlet temperature is maintained at least 10°F below saturation temperature. For purposes of this specification, the addition of borated water to the RCS does not constitute dilution of the RCS boron concentration provided the boron concentration of the borated water being added is greater than the minimum required to satisfy the requirements of Specification 3.1.1.1 for Mode 4; or Specification 3.1.1.2 for Mode 5.

The first reactor coolant pump in a non-isolated loop shall not be started with one or more non-isolated RCS cold leg temperatures less than or equal to the enable temperature set forth in Specification 3.4.9.3, unless the secondary side water temperature of each steam generator in a non-isolated loop is less than 50°F above each of the non-isolated RCS cold leg temperatures.

MATERIAL PROPERTY BASIS

LIMITING MATERIAL:

LIMITING ART VALUES AT 22 EFY:

INTERMEDIATE & LOWER SHELL PLATE

1/4T, 233°F

3/4T, 196°F

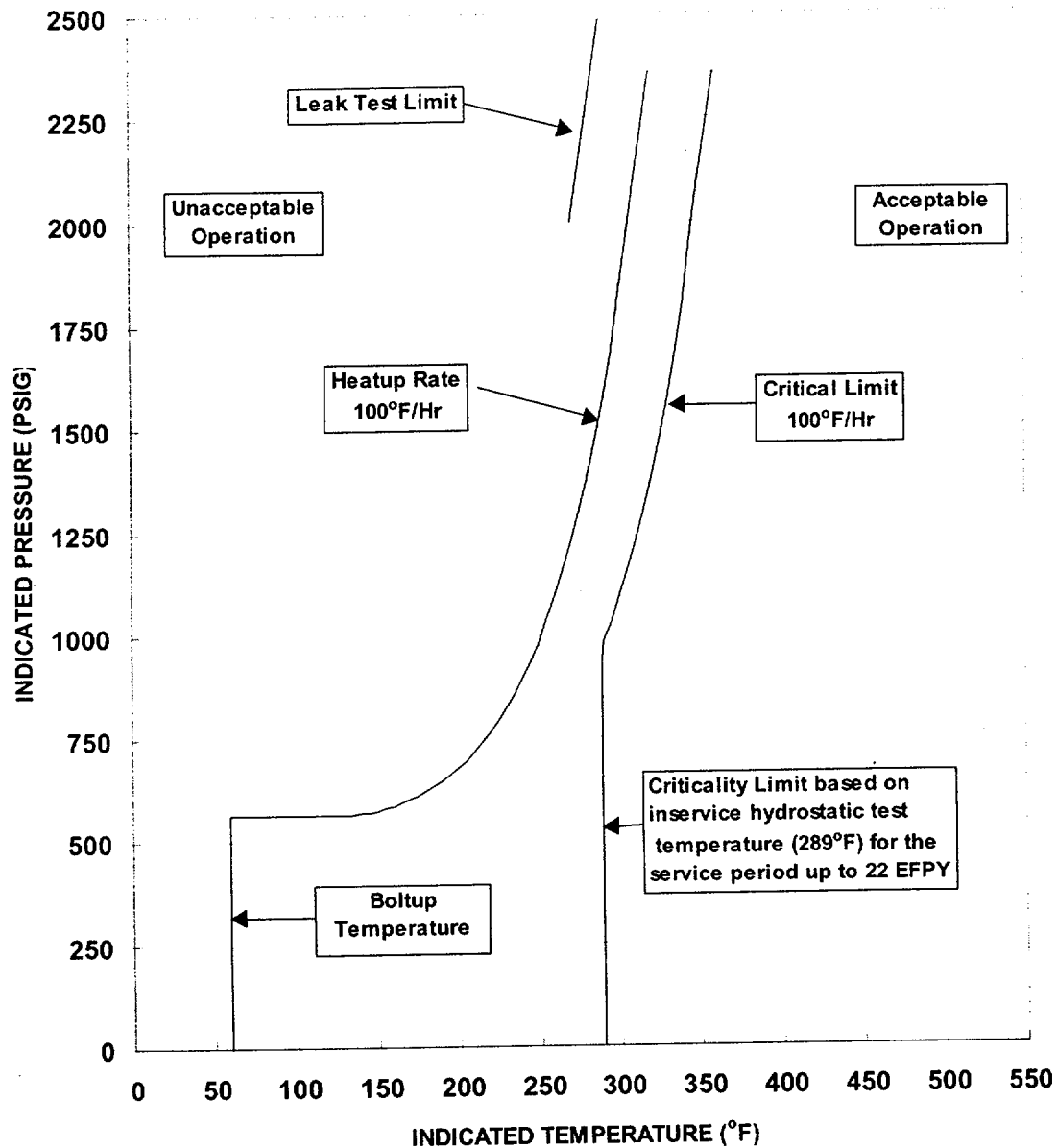


FIGURE 3.4-2
Beaver Valley Unit 1 Reactor Coolant System Heatup
Limitations Applicable for the First 22 EFY

MATERIAL PROPERTY BASIS

LIMITING MATERIAL:

LIMITING ART VALUES AT 22 EFPY:

INTERMEDIATE & LOWER SHELL PLATE

1/4T, 233°F

3/4T, 196°F

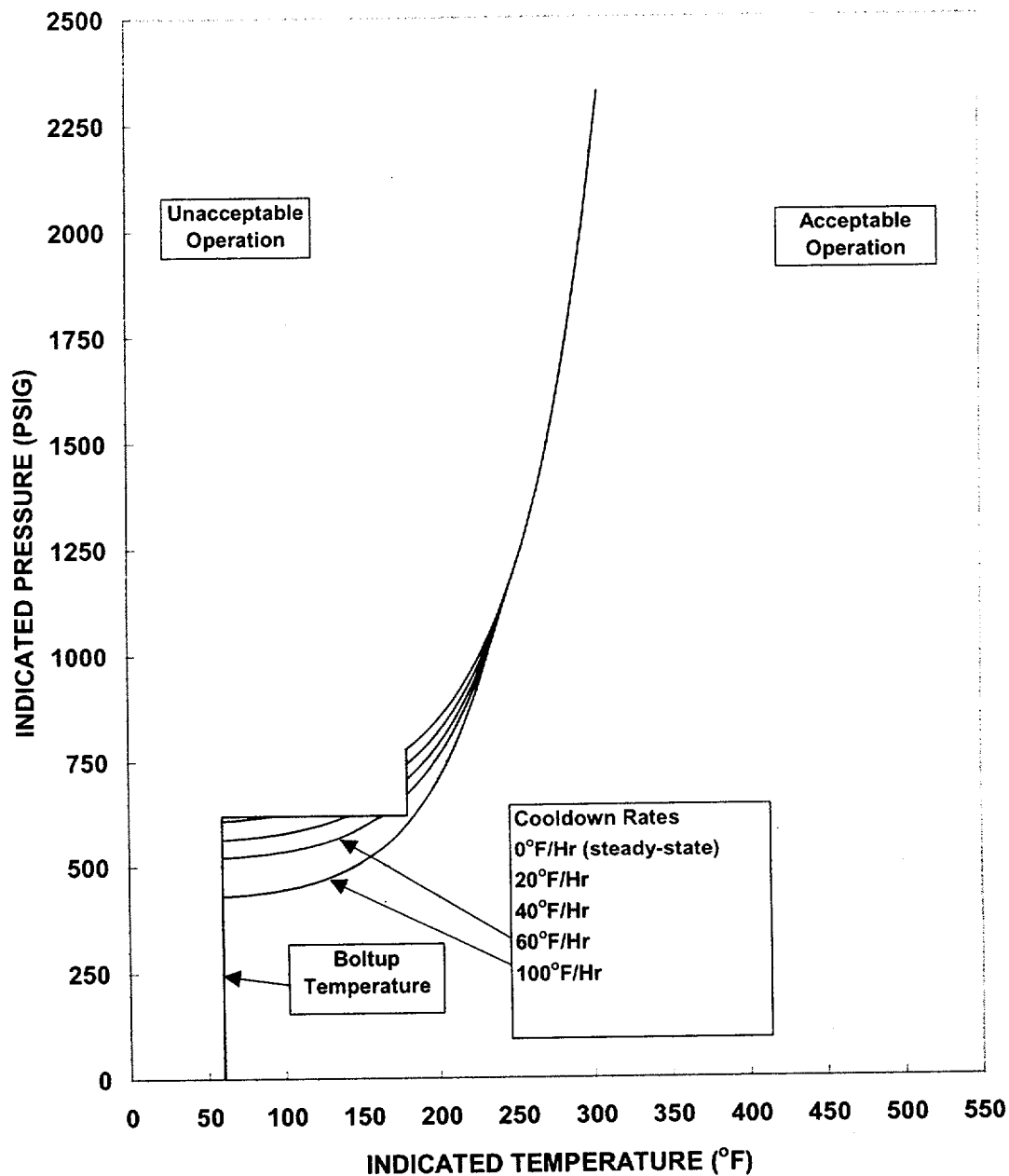


FIGURE 3.4-3
Beaver Valley Unit 1 Reactor Coolant System Cooldown
Limitations Applicable for the First 22 EFPY

OVERPRESSURE PROTECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

3.4.9.3 An overpressure protection system shall be OPERABLE with a maximum of one charging pump⁽¹⁾ capable of injecting into the RCS and the accumulators isolated⁽²⁾ and either a or b below:

- a. Two power operated relief valves (PORVs) with a nominal maximum lift setting less than or equal to 403 psig, or
- b. The RCS depressurized and an RCS vent of greater than or equal to 2.07 square inches.

APPLICABILITY: Mode 4 when any RCS cold leg temperature is less than or equal to an enable temperature of 343°F,
Mode 5,
Mode 6 when the reactor vessel head is on.

ACTION:

- a. With two or more charging pumps capable of injecting into the RCS, immediately initiate action to verify a maximum of one charging pump is capable of injecting into the RCS or depressurize and vent the RCS through a 2.07 square inch or larger vent within 12 hours.
- b. With an accumulator not isolated when the accumulator pressure is greater than or equal to the maximum RCS pressure for the existing RCS cold leg temperature allowed by the heatup and cooldown curves, isolate the affected accumulator within 1 hour or increase the RCS cold leg temperature above the enable temperature within the next 12 hours or depressurize the affected accumulator to less than the maximum RCS pressure for the existing cold leg temperature allowed by the heatup and cooldown curves within the next 12 hours.
- c. With one PORV inoperable in MODE 4 (when any RCS cold leg temperature is less than or equal to the enable temperature), restore the inoperable PORV to OPERABLE status within 7 days or depressurize and vent the RCS through a 2.07 square inch or larger vent within the next 12 hours.

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- (1) Two charging pumps may be capable of injecting into the RCS for pump swap operation for less than or equal to 1 hour.
 - (2) Accumulator isolation with power removed from the discharge isolation valves is only required when the accumulator pressure is greater than or equal to the maximum RCS pressure for the existing RCS cold leg temperature allowed by the heatup and cooldown curves.