

ENCLOSURE 3

VOGTLE ELECTRIC GENERATING PLANT
REVISION TO TECHNICAL SPECIFICATION 3.4.1.3

INSTRUCTIONS FOR INCORPORATION

The proposed amendment to Section 3.4.1.3 of the Vogtle Electric Generating Plant Technical Specifications would be incorporated as follows:

Remove Page

3/4 4-3 and 3/4 4-4*
B 3/4 4-1 and B 3/4 4-2*
B 3/4 4-15* and B 3/4 4-16

Insert Page

3/4 4-3 and 3/4 4-4*
B 3/4 4-1 and B 3/4 4-2*
B 3/4 4-15* and B 3/4 4-16

*Overleaf page containing no change

REACTOR COOLANT SYSTEM

HOT SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.4.1.3 At least two of the loops/trains listed below shall be OPERABLE and at least one of these loops/trains shall be in operation:*

- a. Reactor Coolant Loop 1 and its associated steam generator and reactor coolant pump,**
- b. Reactor Coolant Loop 2 and its associated steam generator and reactor coolant pump,**
- c. Reactor Coolant Loop 3 and its associated steam generator and reactor coolant pump,**
- d. Reactor Coolant Loop 4 and its associated steam generator and reactor coolant pump,**
- e. RHR train A, and
- f. RHR train B.

APPLICABILITY: MODE 4.

ACTION:

- a. With less than the above required loops/trains OPERABLE, immediately initiate corrective action to return the required loops/trains to OPERABLE status as soon as possible; if the remaining OPERABLE loop/train is an RHR train, be in COLD SHUTDOWN within 24 hours.
- b. With no loop/train in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required loop/train to operation.

*All reactor coolant pumps and RHR pumps may be deenergized 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.

**A reactor coolant pump shall not be started unless the secondary water temperature of each steam generator is less than 50°F above each of the Reactor Coolant System cold leg temperatures. *With no reactor coolant pumps running, this value is reduced to 25°F at a RCS saturation of 350°F and varies linearly to 50°F at a RCS temperature of 400°F.*

3/4.4 REACTOR COOLANT SYSTEM

BASES

3/4.4.1 REACTOR COOLANT LOOPS AND COOLANT CIRCULATION

The plant is designed to operate with all reactor coolant loops in operation and maintain DNBR above 1.30 during all normal operations and anticipated transients. In MODES 1 and 2 with one reactor coolant loop not in operation this specification requires that the plant be in at least HOT STANDBY within 6 hours.

In MODE 3, two reactor coolant loops provide sufficient heat removal capability for removing core decay heat even in the event of a bank withdrawal accident; however, a single reactor coolant loop provides sufficient heat removal capacity if a bank withdrawal accident can be prevented, i.e., by opening the Reactor Trip System breakers.

In MODE 4, and in MODE 5 with reactor coolant loops filled, a single reactor coolant loop or RHR train provides sufficient heat removal capability for removing decay heat; but single failure considerations require that at least two trains/loops (either RHR or RCS) be OPERABLE.

In MODE 5 with reactor coolant loops not filled, a single RHR train provides sufficient heat removal capability for removing decay heat; but single failure considerations, and the unavailability of the steam generators as a heat removing component, require that at least two RHR trains be OPERABLE. The locking closed of the required valves, except valves 1208-U4-176 and 1208-U4-177 for short periods of time to maintain chemistry control, in Mode 5 (with the loops not filled) precludes the possibility of uncontrolled boron dilution of the filled portion of the Reactor Coolant System. These actions prevent flow to the RCS of unborated water in excess of that analyzed. These limitations are consistent with the initial conditions assumed for the boron dilution accident in the safety analysis.

The operation of one reactor coolant pump (RCP) or one RHR pump provides adequate flow to ensure mixing, prevent stratification and produce gradual reactivity changes during boron concentration reductions in the Reactor Coolant System. The reactivity change rate associated with boron reduction will, therefore, be within the capability of operator recognition and control.

The restrictions on starting an RCP with one or more RCS cold legs less than or equal to 350°F are provided to prevent RCS pressure transients, caused by energy additions from the Secondary Coolant System, which could exceed the limits of Appendix G to 10 CFR Part 50. The RCS will be protected against overpressure transients and will not exceed the limits of Appendix G by restricting starting of the RCPs to when the secondary water temperature of each steam generator is less than 50°F above each of the RCS cold leg temperatures. *In MODE 4 the starting of a RCP, when no other RCP is operating, is restricted to a range of temperatures that are consistent with analysis assumptions used to demonstrate that the RHR design pressure is not exceeded when RHR relief valves are used for RCS overpressure protection.*

REACTOR COOLANT SYSTEM

Additional temperature limitations are placed on the starting of a Reactor Coolant Pump in Specification 3.4.1.3. These limitations assure that the RHR system remains within the ASME design limits when the RHR relief valves are used to prevent RCS overpressurization.

BASES

PRESSURE/TEMPERATURE LIMITS (Continued)

Although the pressurizer operates in temperature ranges above those for which there is reason for concern of nonductile failure, operating limits are provided to assure compatibility of operation with the fatigue analysis performed in accordance with the ASME Code requirements.

COLD OVERPRESSURE PROTECTION SYSTEMS

The OPERABILITY of two PORVs, two RHR suction relief valves or an RCS vent capable of relieving at least 670 gpm water flow at 470 psig ensures that the RCS will be protected from pressure transients which could exceed the limits of Appendix G to 10 CFR Part 50 when one or more of the RCS cold legs are less than or equal to 350°F. Either PORV or either RHR suction relief valve has adequate relieving capability to protect the RCS from overpressurization when the transient is limited to either: (1) the start of an idle RCP with the secondary water temperature of the steam generator less than or equal to 50°F above the RCS cold leg temperatures, or (2) the start of all three charging pumps and subsequent injection into a water-solid RCS.

The Maximum Allowed PORV Setpoint for the Cold Overpressure Protection System (COPS) is derived by analysis which models the performance of the COPS assuming various mass input and heat input transients. Operation with a PORV Setpoint less than or equal to the maximum Setpoint ensures that the nominal 16 EFY Appendix G reactor vessel NDT limits criteria will not be violated with consideration for a maximum pressure overshoot beyond the PORV setpoint which can occur as a result of time delays in signal processing and valve opening, instrument uncertainties, and single failure. To ensure that mass and heat input transients more severe than those assumed cannot occur, Technical Specifications require lockout of all safety injection pumps while in MODES 4, 5, and 6 with the reactor vessel head installed and disallow start of an RCP if secondary temperature is more than 50°F above primary temperature. ←

The Maximum Allowed PORV Setpoint for the COPS will be updated based on the results of examinations of reactor vessel material irradiation surveillance specimens performed as required by 10 CFR Part 50, Appendix H, and in accordance with the schedule in Table 16.3-3 of the VEGP FSAR.

3/4.4.10 STRUCTURAL INTEGRITY

The inservice inspection and testing programs for ASME Code Class 1, 2, and 3 components ensure that the structural integrity and operational readiness of these components will be maintained at an acceptable level throughout the life of the plant. These programs are 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 Commission pursuant to 10 CFR 50.55a(g)(6)(i).

REACTOR COOLANT SYSTEM

HOT SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.4.1.3 At least two of the loops/trains listed below shall be OPERABLE and at least one of these loops/trains shall be in operation:*

- a. Reactor Coolant Loop 1 and its associated steam generator and reactor coolant pump,**
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- c. Reactor Coolant Loop 3 and its associated steam generator and reactor coolant pump,**
- d. Reactor Coolant Loop 4 and its associated steam generator and reactor coolant pump,**
- e. RHX train A, and
- f. RHR train B.

APPLICABILITY: MODE 4.

ACTION:

- a. With less than the above required loops/trains OPERABLE, immediately initiate corrective action to return the required loops/trains to OPERABLE status as soon as possible; if the remaining OPERABLE loop/train is an RHR train, be in COLD SHUTDOWN within 24 hours.
- b. With no loop/train in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required loop/train to operation.

*All reactor coolant pumps and RHR pumps may be deenergized 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.

**A reactor coolant pump shall not be started unless the secondary water temperature of each steam generator is less than 50°F above each of the Reactor Coolant System cold leg temperatures. With no reactor coolant pump running, this value is reduced to 25°F at an RCS temperature of 350°F and varies linearly to 50°F at an RCS temperature of 200°F.

REACTOR COOLANT SYSTEM

BASES

PPRESSURE/TEMPERATURE LIMITS (Continued)

Although the pressurizer operates in temperature ranges above those for which there is reason for concern of nonductile failure, operating limits are provided to assure compatibility of operation with the fatigue analysis performed in accordance with the ASME Code requirements.

COLD OVERPRESSURE PROTECTION SYSTEMS

The OPERABILITY of two PORVs, two RHR suction relief valves or an RCS vent capable of relieving at least 670 gpm water flow at 470 psig ensures that the RCS will be protected from pressure transients which could exceed the limits of Appendix G to 10 CFR Part 50 when one or more of the RCS cold legs are less than or equal to 350°F. Either PORV or either RHR suction relief valve has adequate relieving capability to protect the RCS from overpressurization when the transient is limited to either: (1) the start of an idle RCP with the secondary water temperature of the steam generator less than or equal to 50°F above the RCS cold leg temperatures, or (2) the start of all three charging pumps and subsequent injection into a water-solid RCS.

The Maximum Allowed PORV Setpoint for the Cold Overpressure Protection System (COPS) is derived by analysis which models the performance of the COPS assuming various mass input and heat input transients. Operation with a PORV Setpoint less than or equal to the maximum Setpoint ensures that the nominal 16 EFPY Appendix G reactor vessel NDT limits criteria will not be violated with consideration for a maximum pressure overshoot beyond the PORV setpoint which can occur as a result of time delays in signal processing and valve opening, instrument uncertainties, and single failure. To ensure that mass and heat input transients more severe than those assumed cannot occur, Technical Specifications require lockout of all safety injection pumps while in MODES 4, 5, and 6 with the reactor vessel head installed to disallow start of an RCP if secondary temperature is more than 50°F above primary temperature. Additional temperature limitations are placed on the starting of a reactor coolant pump in Specification 3.4.1.3. These limitations assure that the RHR system remains within its ASME design limits when the RHR relief valves are used to prevent RCS overpressurization.

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The restrictions on starting on RCP with one or more RCS cold legs less than or equal to 350°F are provided to prevent RCS pressure transients, caused by energy additions from the Secondary Coolant System, which could exceed the limits of Appendix G to 10 CFR Part 50. The RCS will be protected against overpressure transients and will not exceed the limits of Appendix G by restricting starting of the RCPs to when the secondary water temperature of each steam generator is less than 50°F above each of the RCS cold leg temperatures. In MODE 4 the starting of an RCP, when no other RCP is operating, is restricted to a range of temperatures that are consistent with analysis assumptions used to demonstrate that the RHR design pressure is not exceeded when RHR relief valves are used for RCS overpressure protection.