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### **3.0 LIMITING CONDITION FOR OPERATION (LCO) APPLICABILITY**

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3.0.1 Not Used

3.0.2 Not Used

3.0.3 Not Used

3.0.4 Not Used

3.0.5 Not Used

3.0.6 Not Used

3.0.7 Special Operations LCOs in Section 3.14 allow specified Technical Specifications requirements to be changed to permit performance of special tests and operations. Unless otherwise specified, all other Technical Specification requirements remain unchanged. Compliance with Special Operations LCOs is optional. When a Special Operations LCO is desired to be met but is not met, the ACTIONS of the Special Operations LCO shall be met. When a Special Operations LCO is not desired to be met, entry into a Mode or other specified condition in the Applicability shall only be made in accordance with the other applicable Specifications.

### **4.0 SURVEILLANCE REQUIREMENT (SR) APPLICABILITY**

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4.0.1 Not Used

4.0.2 Not Used

4.0.3 If it is discovered that a Surveillance was not performed within its specified Surveillance Frequency, then compliance with the requirement to declare the LCO not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified Surveillance Frequency, whichever is greater. This delay period is permitted to allow performance of the Surveillance. A risk evaluation shall be performed for any Surveillance delayed greater than 24 hours and the risk impact shall be managed.

If the Surveillance is not performed within the delay period, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered.

When the Surveillance is performed within the delay period and the Surveillance is not met, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered.

**BASES:**

**3.0 LIMITING CONDITION FOR OPERATION (LCO) APPLICABILITY**

**3.0.1 Not Used**

**3.0.2 Not Used**

**3.0.3 Not Used**

**3.0.4 Not Used**

**3.0.5 Not Used**

**3.0.6 Not Used**

**3.0.7** There are certain special tests and operations required to be performed at various times over the life of the unit. These special tests and operations are necessary to demonstrate select unit performance characteristics, to perform special maintenance activities, and to perform special evolutions. Special Operations LCOs in Section 3.14 allow specified Technical Specification requirements to be changed to permit performances of these special tests and operations, which otherwise could not be performed if required to comply with those Technical Specification requirements. Unless otherwise specified, all the other Technical Specification requirements remain unchanged. This ensures all appropriate requirements of the Mode or other specified condition, not directly associated with or required to be changed to perform the special test or operation, will remain in effect.

The Applicability of a Special Operations LCO represents a condition not necessarily in compliance with the normal requirements of the Technical Specifications. Compliance with Special Operations LCOs is optional. A special operation may be performed either under the provisions of the appropriate Special Operations LCO or under the other applicable Technical Specification requirements. If it is desired to perform the special operation under the provisions of the Special Operations LCO, the requirements of the Special Operations LCO shall be followed. When a Special Operations LCO requires another LCO to be met, only the requirements of the LCO statement are required to be met regardless of that LCO's Applicability (i.e., should the requirements of this other LCO not be met, the ACTIONS of the Special Operations LCO apply, not the ACTIONS of the other LCO). However, there are instances where the Special Operations LCO ACTIONS may direct the other LCOs' ACTIONS be met.

It is not required to meet the Surveillances of the other LCO, unless specified in the Special Operations LCO. If conditions exist such that the Applicability of any other LCO is met, all the other LCO's requirements (ACTIONS and Surveillance Requirements) are required to be met concurrent with the requirements of the Special Operations LCO.

## **BASES:**

### **4.0 SURVEILLANCE REQUIREMENT (SR) APPLICABILITY**

**4.0.1 Not Used**

**4.0.2 Not Used**

**4.0.3 TS 4.0.3 establishes the flexibility to defer declaring affected equipment inoperable or an affected variable outside the specified limits when a Surveillance has not been completed within the specified Surveillance Frequency. A delay period of up to 24 hours or up to the limit of the specified Surveillance Frequency, whichever is greater, applies from the point in time that it is discovered that the Surveillance has not been performed in accordance with the definition of "Surveillance Frequency" and not at the time that the specified Surveillance Frequency was not met.**

**This delay period provides adequate time to complete Surveillances that have been missed. This delay period permits the completion of a Surveillance before complying with required Actions or other remedial measures that might preclude completion of the Surveillance.**

**The basis for this delay period includes consideration of the unit conditions, adequate planning, availability of personnel, the time required to perform the Surveillance, the safety significance of the delay in completing the required Surveillance, and the recognition that the most probable result of any particular Surveillance being performed is the verification of conformance with the requirements.**

**When a Surveillance with a Surveillance Frequency based not on time intervals, but upon specified unit conditions, operating situations, or requirements of regulations (e.g., in accordance with 10 CFR 50, Appendix J, as modified by approved exemptions, etc.) is discovered to not have been performed when specified, TS 4.0.3 allows for the full delay period of up to the specified Surveillance Frequency to perform the Surveillance. However, since there is no time interval specified, the missed Surveillance should be performed at the first reasonable opportunity.**

**TS 4.0.3 provides a time limit for, and allowances for the performance of, Surveillances that become applicable as a consequence of reactor MODE changes imposed by required Actions.**

**Failure to comply with specified Frequencies for surveillance intervals is expected to be an infrequent occurrence. Use of the delay period established by TS 4.0.3 is a flexibility which is not intended to be used as an operational convenience to extend Surveillance intervals. While up to 24 hours or the limit of the specified Surveillance Frequency is provided to perform the missed Surveillance, it is expected that the missed Surveillance will be performed at the first reasonable opportunity. The determination of the first reasonable opportunity should include consideration of the impact on plant risk (from delaying the Surveillance**

**BASES:**

4.03 (cont'd) as well as any plant configuration changes required or shutting the plant down to perform the Surveillance) and impact on any (continued) analysis assumptions, in addition to unit conditions, planning, availability of personnel, and the time required to perform the Surveillance. This risk impact should be managed through the program in place to implement 10 CFR 50.65(a)(4) and its implementation guidance, NRC Regulatory Guide 1.182, 'Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants.' This Regulatory Guide addresses consideration of temporary and aggregate risk impacts, determination of risk management action thresholds, and risk management action up to and including plant shutdown. The missed Surveillance should be treated as an emergent condition as discussed in the Regulatory Guide. The risk evaluation should be commensurate with the importance of the component. Missed Surveillance for important components should be analyzed quantitatively. If the results of the risk evaluation determine the risk increase is significant, this evaluation should be used to determine the safest course of action. All missed Surveillances will be placed in the licensee's Corrective Action Program.

If a Surveillance is not completed within the allowed delay period, then the equipment is considered inoperable or the variable is considered outside the specified limits and the completion times or the required actions for the applicable LCO Actions begin immediately upon expiration of the delay period. If a Surveillance is failed within the delay period, then the equipment is inoperable, or the variable is outside the specified limits and the completion times of the required actions for the applicable LCO Actions begin immediately upon the failure of the Surveillance.

Completion of the Surveillance within the delay period allowed by this Specification, or within the completion time of the Actions, restores compliance with "Surveillance Frequency."

**LIMITING CONDITIONS FOR OPERATION**

**3.14 SPECIAL OPERATIONS**

**A. Inservice Hydrostatic and Leak Testing Operation**

**Specification**

The average reactor coolant temperature specified in the definition of "Cold Shutdown" and "Cold Condition" may be considered "NA", and operation considered not to be in "Hot Shutdown" or >212° F to allow performance of an inservice hydrostatic test or leak test provided that the following requirements are met:

- Table 3.2A      Reactor Low Water Instrumentation
- LCO 3.7.B.1    Standby Gas Treatment System (SGTS)
- LCO 3.7.C.1    Secondary Containment

**Applicability**

During performance of inservice hydrostatic testing and system leakage pressure tests of the reactor coolant system with average coolant temperature >212° F.

**Actions**

**NOTE:** Separate Condition entry is allowed for each requirement of the LCO.

- A. One or more of the above requirements not met:
  - 1. **NOTE:** Required Actions to be in Cold Shutdown/Cold Condition include reducing average reactor coolant temperature to  $\leq 212^{\circ}$  F.  
Immediately enter the applicable Condition of the affected LCO.

**SURVEILLANCE REQUIREMENTS**

**4.14 SPECIAL OPERATIONS**

**A. Inservice Hydrostatic and Leak Testing Operation**

Perform the applicable surveillance requirements for the required LCOs at the frequency specified by the applicable surveillance requirements.

**LIMITING CONDITIONS FOR OPERATION**  
(continued)

**SURVEILLANCE REQUIREMENTS**

**OR**

- 2.1 Immediately suspend activities that could increase the average reactor coolant temperature or pressure.

**AND**

- 2.2 Reduce average reactor coolant temperature to  $\leq 212^{\circ}$  F within 24 hours

## **BASES:**

### **3/4.14.A Inservice Hydrostatic and Leak Testing Operation**

#### Background

The purpose of this Special Operations LCO is to allow certain reactor coolant pressure tests to be performed in Cold Shutdown/Cold Condition when the metallurgical characteristics of the reactor pressure vessel (RPV) require the pressure testing at reactor coolant temperatures close to, or greater than 212°F (normally corresponding to Hot Shutdown).

Inservice hydrostatic testing and system leakage pressure tests required by Section XI of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code are performed prior to the reactor going critical after a refueling outage. Recirculation pump operation and a water solid RPV (except for an air bubble for pressure control) are used to achieve the necessary temperatures and pressures required for these tests. The minimum temperatures (at the required pressures) allowed for these tests are determined from the RPV pressure and temperature (P/T) limits required by LCO 3.6.A.2, "Primary System Boundary - Thermal and Pressurization Limitations." These limits are conservatively based on the fracture toughness of the reactor vessel, taking into account anticipated vessel neutron fluence.

With increased reactor vessel fluence over time, the minimum allowable vessel temperature increases at a given pressure. Periodic updates to the RPV P/T limit curves are performed as necessary, based upon the results of analyses of irradiated surveillance specimens removed from the vessel. In the future it is expected that hydrostatic and leak testing will eventually be required with minimum reactor coolant temperatures exceeding 212°F. Even with minimum temperature requirements below 212°F, the margin between the minimum test temperature and 212°F is not great enough for the operators to perform the test without a challenge to their ability to maintain temperature below 212°F due to lack of exact control over test temperatures.

#### Applicable Safety Analyses

Allowing the reactor to be considered in Cold Shutdown/Cold Condition during hydrostatic or leak testing, when the reactor coolant temperature is > 212°F, effectively provides an exception to Hot Shutdown requirements, including OPERABILITY of primary containment and the full complement of redundant Emergency Core Cooling Systems. Since the hydrostatic or leak tests are performed nearly water solid, at low decay heat values, and near Cold Shutdown/Cold Condition, the stored energy in the reactor core will be very low. Under these conditions, the potential for failed fuel and a subsequent increase in coolant activity above the LCO 3.6.B.1, "Coolant Chemistry," limits are minimized. In addition, the secondary containment will be OPERABLE, in accordance with this Special Operations LCO, and will be capable of handling any airborne radioactivity or steam leaks that could occur during the performance of hydrostatic or leak testing. The required pressure testing conditions provide adequate assurance that the consequences of a steam leak will be conservatively bounded by the consequences of the postulated main steam line break outside of primary containment described in Reference 2. Therefore, these requirements will conservatively limit radiation releases to the environment.

## **BASES:**

### **3/4.14.A (continued)**

#### **Applicable Safety Analyses (continued)**

In the event of a large primary system leak, the reactor vessel would rapidly depressurize, allowing the low-pressure core cooling systems to operate. The capability of the low-pressure coolant injection and core spray subsystems, as required in Cold Shutdown/Cold Condition by LCO 3.5.A.5, "Core Spray and LPCI Systems," are more than adequate to keep the core flooded under this low decay heat load condition. Small system leaks would be detected by leakage inspections before significant inventory loss occurred.

For the purposes of this test, the protection provided by normally required Cold Shutdown/Cold Condition applicable LCOs, in addition to the secondary containment requirements, required by this Special Operations LCO, will ensure acceptable consequences during normal hydrostatic test conditions and during postulated accident conditions.

As described in LCO 3.0.7, compliance with Special Operations LCOs is optional, and therefore, no criteria of 10 CFR 50.36(c)(2)(ii) apply. Special Operations LCOs provide flexibility to perform certain operations by appropriately modifying requirements of other LCOs.

#### **LCO**

As described in LCO 3.0.7, compliance with this Special Operations LCO is optional. Operation at reactor coolant temperatures > 212°F can be in accordance with the other Technical Specifications without meeting this Special Operations LCO or its ACTIONS. This option may be required due to P/T limits, however, which require testing at temperatures > 212°F, and performance of inservice leak and hydrostatic testing would also necessitate the inoperability of some subsystems normally required to be OPERABLE when the reactor coolant temperatures is > 212°F.

If it is desired to perform these tests while complying with this Special Operations LCO, then the Cold Shutdown/Cold Condition applicable LCOs and the additional LCOs specified by LCO 3.14.A must be met. The additional requirements for secondary containment, Standby Gas Treatment system, and reactor low water level instrumentation that initiates Reactor Building Isolation and Control system will provide sufficient protection for operations at reactor coolant temperatures >212°F for the purpose of performing either an inservice leak or hydrostatic test.

This LCO allows primary containment to be open for frequent unobstructed access to perform inspections, and for outage activities on various systems to continue consistent with the Cold Shutdown/Cold Condition applicable requirements that are in effect prior to and after this operation.

## **BASES:**

### **3/4.14.A (continued)**

#### Applicability

The Cold Shutdown/Cold Condition definition may only be modified for the performance of inservice leak or hydrostatic tests so that special operation LCO 3.14.A can be considered as in Cold Shutdown/Cold Condition, even though the reactor coolant temperature is  $> 212^{\circ}\text{F}$ . The additional operability requirements for secondary containment, Standby Gas Treatment system, and reactor low water level instrumentation that initiates Reactor Building Isolation and Control system when reactor coolant temperature is above  $212^{\circ}\text{F}$  provides conservatism in the response of the unit to any event that may occur. Operations in all other MODES are unaffected by this LCO.

#### Actions

A Note has been provided to modify the ACTIONS related to inservice leak and hydrostatic testing operation. A Note has been provided that allows separate Condition entry for each requirement of the LCO.

#### **A.1**

If an LCO specified in LCO 3.14.1 is not met, the ACTIONS applicable to the stated requirements are entered immediately and complied with. Required Action A.1 has been modified by a Note that clarifies the intent of another LCO's Required Action to be in Cold Shutdown/Cold Condition includes reducing the average reactor coolant temperature to  $< 212^{\circ}\text{F}$ .

#### **A.2.1 and A.2.2**

Required Action A.2.1 and Required Action A.2.2 are alternate Required Actions that can be taken instead of Required Action A.1 to restore compliance with the normal Technical Specification requirements, and thereby exit this Special Operation LCO's Applicability. Activities that could further increase reactor coolant temperature or pressure are suspended immediately, in accordance with Required Action A.2.1, and the reactor coolant temperature is reduced to establish normal Cold Shutdown/Cold Condition requirements. The allowed Completion Time of 24 hours for Required Action A.2.2 is based on engineering judgment and provides sufficient time to reduce the average reactor coolant temperature from the highest expected value to  $< 212^{\circ}\text{F}$  with normal cooldown procedures.

#### Surveillance Requirements (SR)

#### **SR 4.14.A**

The LCOs made applicable are required to have their Surveillances met to establish that this LCO is being met. A discussion of the applicable Surveillance Requirements is provided in their respective Bases.

- References:
1. NUREG 1433, Standard Technical Specifications for General Electric Plants, BWR/4, Revision 2
  2. Pilgrim Nuclear Power Station Updated Final Safety Analysis Report, Section 14.5.4 "Main Steam Line Break Accident"