

**ATTACHMENT 1**

**SURRY POWER STATION**  
**PROPOSED TECHNICAL SPECIFICATION CHANGE**  
**REMOVAL OF REACTOR COOLANT SYSTEM**  
**100 PSI OVERPRESSURE LEAKAGE TEST**

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#### 4.3 ASME CODE CLASS 1, 2, AND 3 SYSTEM PRESSURE TESTS

##### Applicability

Applies to requirement for ASME Code Class 1, 2, and 3 System Pressure Tests. In this context, closed is defined as the state of system integrity which permits pressurization and subsequent normal operation after the system has been opened.

##### Objective

To specify requirements for ASME Code Class 1, 2, and 3 System Pressure Tests following normal operation, modification, or repair. The pressure-temperature limits for Reactor Coolant System tests will be in accordance with Figure 3.1-1.

##### Specification

- A. Inservice inspection, which includes system pressure testing, of ASME Code Class 1, 2, and 3 components shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(g), except where specific written relief has been granted by the NRC pursuant to 10 CFR 50, Section 50.55a(g)(6)(i).

BASIS

System pressure testing is performed in order to insure integrity of the system. For normal opening the integrity of the system, in terms of strength, is unchanged. The testing is based on 10 CFR 50.55a and performed pursuant to Section XI of the ASME Code for inservice inspection of Class 1, 2, and 3 components.

**ATTACHMENT 2**  
**SURRY POWER STATION**  
**DISCUSSION OF CHANGE AND**  
**SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION**

## DISCUSSION OF CHANGE

### Basis for the Proposed Change

The requirement for a RCS leak test at 100 psi over nominal operating pressure is unnecessary.

### Discussion of Proposed Changes

Surry Technical Specification 4.3B requires that the RCS be leak tested at a test pressure of nominal pressure + 100 psi following closure. The proposed change will eliminate this requirement and verify leak tight integrity by visual examination at operating pressure in accordance with the ASME Code. The change is proposed to reduce the possibility of needlessly challenging the pressurizer safety valves (PSV). These valves, which are set at 2485 psig +/- 1%, on occasion experience increased seat leakage as RCS pressure approaches the set point region.

A review of the basis for the original 100 psi overpressure test requirement was conducted. The original Surry PSAR dated March 20, 1967, did not address this requirement. The initial FSAR for Surry, dated December 1, 1969 contains the same wording found in the current UFSAR Section 4.4.1.5, which states: "For normal opening, the integrity of the system in terms of strength is unchanged. Prior to normal operation, even though it was not required, the system was pressurized to 2335 psig (operating pressure + 100 psi) to ensure leak tightness during normal operation." No amplifying technical description of this UFSAR requirement could be found. A review of ASME Section XI, 1970 Edition, Winter 1970 Addenda determined that the Code did not specify this requirement. The Code at that time only required a hydrostatic pressure test following a welded repair or at the end of interval testing.

The ASLB hearing notes dated March 21, 1972, were reviewed to determine if any basis for the overpressure test was described there. The hearings addressed several concerns associated with welding in the RCS and sensitized stainless steel. These items were in reference to several instances where original construction practices were questioned or challenged. It appears that periodic pressure testing of the RCS was used in conjunction with a leak before break argument to disposition this concern

before the ASLB. The actual test pressure was not discussed, however, and no specific mention of this testing as a requirement is found in the hearing findings. As the original basis for this Technical Specification could not be found, and Section XI guidance was nonexistent at the time, it is postulated that this testing requirement was conservatively established as a result of the original construction concerns on welds.

The current Code requirements for Class 1 (RCS) hydrostatic tests at Surry are determined by Articles IWA-5000 and IWB-5000 (System Pressure Tests) of ASME XI 80W80. Article IWA-5000 refers to IWB-5000 for test conditions. Specifically, IWB-5221 requires that system leakage tests be conducted at not less than nominal operating pressure, and hydrostatic tests at temperatures above 100°F be conducted at pressures as required in Table IWB-5220-1. At 500°F, the Surry test pressure would be 2279.7 psia, approximately 55 psi lower than the current Technical Specification. The current Code requirements for system leak test are after each refueling outage prior to startup and after any nonwelded repair or replacement. In addition, the Code requires higher hydrostatic test pressure once per 10 year interval or following a weld repair or welded component replacement.

In light of eighteen years experience in which this pressure testing requirement has been applied and the evolution of ASME Code requirements, the 100 psi over nominal pressure test is not required to ensure system integrity and in fact poses a potential undue risk of challenging the PSVs in terms of spurious openings. Therefore, the current Technical Specification requirement for the test pressure of 100 psi over nominal operating pressure is unnecessary and should be deleted. The proposed change would reduce the possibility of challenges to the pressurizer safety valves while still requiring continuance of applicable ASME Section XI testing.

## **SIGNIFICANT HAZARDS CONSIDERATION**

Virginia Electric and Power Company has reviewed the proposed changes against the criteria of 10 CFR 50.92 and has concluded that the changes as proposed do not pose a significant hazards consideration. Specifically, operation of the Surry Power Station in accordance with the proposed changes will not:

1. Involve a significant increase in the probability of occurrence or consequences of any accident previously evaluated. Removing the 100 psi overpressure test requirement and replacing it with a requirement to perform a system leakage test at normal temperature and pressure does, in accordance with the ASME Code, not impact plant design or operations. Using the pressure required by the ASME Code at which the Reactor Coolant System leakage test is performed will reduce the possibility of a challenge to the pressurizer safety valves and therefore reduces the probability of a previously analyzed accident. Therefore, the probability of occurrence or consequences of any accident have not increased.
2. Create the possibility of a new or different type of accident from any accident previously evaluated. Plant design and operations have not been changed. The reduced pressure system leakage test will be performed in accordance with the ASME Code requirements. The testing does not affect system design or operation. Therefore no new or different kind of accident is created.
3. Involve a significant reduction in a margin of safety. No physical plant modifications or changes in plant operations are being made. System leakage tests will be performed in accordance with the ASME Code requirements and will have no impact on the margin of safety.