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TSB2 - TECHNICAL SPECIFICATIONS BASES UNIT 2 MANUAL

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CATEGORY: DOCUMENTS TYPE: TSB2 ID: TEXT LOES REMOVE: REV:136

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## SUSQUEHANNA STEAM ELECTRIC STATION LIST OF EFFECTIVE SECTIONS (TECHNICAL SPECIFICATIONS BASES)

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B 3.1 B3.1.2 B3.1.3 B3.1.4 B3.1.5 B3.1.6 B3.1.6 B3.1.7 B3.1.8	REACTIVITY CONTROL SYSTEMSShutdown Margin (SDM)Reactivity Anomalies1Control Rod OPERABILITY3Control Rod Scram Times5Control Rod Scram Accumulators2Rod Pattern Control4Standby Liquid Control (SLC) System3Scram Discharge Volume (SDV) Vent and Drain Valves4
B 3.2 B3.2.1 B3.2.2 B3.2.3	POWER DISTRIBUTION LIMITS         Average Planar Linear Heat Generation Rate (APLHGR)         Minimum Critical Power Ratio (MCPR)         Linear Heat Generation Rate (LHGR)
B $3.3$ B $3.3.1.1$ B $3.3.1.2$ B $3.3.2.1$ B $3.3.2.2$ B $3.3.3.1$ B $3.3.3.2$ B $3.3.4.1$ B $3.3.4.2$ B $3.3.5.1$ B $3.3.5.2$ B $3.3.6.1$ B $3.3.6.2$ B $3.3.7.1$	INSTRUMENTATION         Reactor Protection System (RPS) Instrumentation       6         Source Range Monitor (SRM) Instrumentation       4         Control Rod Block Instrumentation       4         Feedwater – Main Turbine High Water Level Trip Instrumentation       3         Post Accident Monitoring (PAM) Instrumentation       9         Remote Shutdown System       2         End of Cycle Recirculation Pump Trip (EOC-RPT) Instrumentation       2         Anticipated Transient Without Scram Recirculation       1         Pump Trip (ATWS-RPT) Instrumentation       1         Emergency Core Cooling System (ECCS) Instrumentation       6         Reactor Core Isolation Cooling (RCIC) System Instrumentation       1         Primary Containment Isolation Instrumentation       5         Control Room Emergency Outside Air Supply (CREOAS)       3
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## SUSQUEHANNA STEAM ELECTRIC STATION LIST OF EFFECTIVE SECTIONS (TECHNICAL SPECIFICATIONS BASES)

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# SUSQUEHANNA STEAM ELECTRIC STATION LIST OF EFFECTIVE SECTIONS (TECHNICAL SPECIFICATIONS BASES)

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B3.7.2 B3.7.3	Emergency Service Water (ESW) System
B3.7.4 B3 7 5	(CREOAS) System
B3.7.6 B3.7.7	Main Turbine Bypass System
83.7.8	Main Turbine Pressure Regulation System
B 3.8 B3.8.1 B3.8.2 B3.8.3 B3.8.4 B3.8.5 B3.8.6	ELECTRICAL POWER SYSTEM         AC Sources – Operating         AC Sources – Shutdown         0         Diesel Fuel Oil, Lube Oil, and Starting Air         6         DC Sources – Operating         4         DC Sources – Shutdown         1         Battery Cell Parameters
B3.8.7 B3.8.8	Distribution Systems – Operating
B 3.9 B3.9.1 B3.9.2 B3.9.3 B3.9.4 B3.9.5 B3.9.6 B3.9.7 B3.9.8	REFUELING OPERATIONSRefueling Equipment Interlocks.1Refuel Position One-Rod-Out Interlock1Control Rod Position1Control Rod Position Indication0Control Rod OPERABILITY – Refueling1Reactor Pressure Vessel (RPV) Water Level2Residual Heat Removal (RHR) – High Water Level1Residual Heat Removal (RHR) – Low Water Level1
B 3.10 B3.10.1 B3.10.2 B3.10.3 B3.10.4 B3.10.5 B3.10.6 B3.10.7 B3.10.8	SPECIAL OPERATIONS         Inservice Leak and Hydrostatic Testing Operation.       1         Reactor Mode Switch Interlock Testing.       1         Single Control Rod Withdrawal – Hot Shutdown.       1         Single Control Rod Withdrawal – Cold Shutdown.       1         Single Control Rod Drive (CRD) Removal – Refueling.       1         Multiple Control Rod Withdrawal – Refueling.       1         Shuttown Rod Testing – Operating.       1         Shuttown Rod Testing – Operating.       1         Shuttown Rod Nargin (SDM) Test – Refueling.       3



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## SURVEILLANCE REQUIREMENTS

<u>SR 3.6.4.1.1</u> (continued)

The analysis should consider the actual conditions (equipment configuration, temperature, atmospheric pressure, wind conditions, measured secondary containment vacuum, etc.) to determine whether, if an accident requiring secondary containment to be OPERABLE were to occur, one train of SGT could establish the assumed secondary containment vacuum within the time assumed in the accident analysis. If so, the SR may be considered met for a period up to 4 hours. The 4 hour limit is based on the expected should duration of the situation when the Note would be applied.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

#### SR 3.6.4.1.2 and SR 3.6.4.1.3

Verifying that secondary containment equipment hatches, removable walls and one access door in each access opening required to be closed are closed ensures that the infiltration of outside air of such a magnitude as to prevent maintaining the desired negative pressure does not occur.

Verifying that all such openings are closed also provides adequate assurance that exfiltration from the secondary containment will not occur. In this application, the term "sealed" has no connotation of leak tightness.

An access opening typically contains one inner and one outer door. Maintaining secondary containment OPERABILITY requires verifying one door in each access opening to secondary containment zones is closed. In some cases (e.g., railroad bay), secondary containment access openings are shared such that a secondary containment barrier may have multiple inner or multiple outer doors. The intent is to maintain the secondary containment barrier intact, which is achieved by maintaining the inner or outer portion of the barrier closed at all times. However, brief, inadvertent, simultaneous opening of the inner and outer secondary containment doors for personnel entry and exit is allowed. Intentional or extended opening of both doors simultaneously, even for personnel entry and exit, is not permitted and will result in Secondary Containment being declared INOPERABLE. All secondary containment access doors are normally kept closed, except when the access opening is being used for entry and exit or when maintenance is being performed on an access opening.

(continued)

TS / B 3.6-87

### SURVEILLANCE REQUIREMENTS

### SR 3.6.4.1.2 and SR 3.6.4.1.3 (continued)

When the railroad bay door (No. 101) is closed; all Zone I and III hatches, removable walls, dampers, and one door in each access opening connected to the railroad access bay are closed; or, only Zone I removable walls and/or doors are open to the railroad access shaft; or, only Zone III hatches and/or dampers are open to the railroad access shaft. When the railroad bay door (No. 101) is open; all Zone I and III hatches, removable walls, dampers, and one door in each access opening connected to the railroad access bay are closed. The truck bay hatch is closed and the truck bay door (No. 102) is closed unless Zone II is isolated from Zones I and III.

The access openings between secondary containment zones which are not provided with two doors are administratively controlled to maintain secondary containment integrity during exit and entry. This Surveillance is modified by a Note that allows access openings with a single door (i.e., no airlock) within the secondary containment boundary (i.e., between required secondary containment zones) to be opened for entry and exit. Opening of an access door for entry and exit allows sufficient administrative control by individual personnel making the entries and exits to assure the secondary containment function is not degraded. When one of the zones is not a zone required for secondary containment OPERABILITY, the Note allowance would not apply.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

Rev. 15 Secondary Containment B 3.6.4.1

#### BASES

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SURVEILLANCE REQUIREMENTS (continued)

### SR 3.6.4.1.4 and SR 3.6.4.1.5

The SGT System exhausts the secondary containment atmosphere to the environment through appropriate treatment equipment. To ensure that all fission products are treated, SR 3.6.4.1.4 verifies that the SGT System will rapidly establish and maintain a pressure in the secondary containment that is less than the pressure external to the secondary containment boundary. This is confirmed by demonstrating that one SGT subsystem will draw down the secondary containment to  $\geq 0.25$  inches of vacuum water gauge in less than or equal to the maximum time allowed. This cannot be accomplished if the secondary containment boundary is not intact. SR 3.6.4.1.5 demonstrates that one SGT subsystem can maintain  $\geq 0.25$  inches of vacuum water gauge for at least 1 hour at less than or equal to the maximum flow rate permitted for the secondary containment configuration that is operable. The 1 hour test period allows secondary containment to be in thermal equilibrium at steady state conditions. As noted, both SR 3.6.4.1.4 and SR 3.6.4.1.5 acceptance limits are dependent upon the secondary containment configuration when testing is being performed. The acceptance criteria for the SRs based on secondary containment configuration is defined as follows:

SECONDARY CONTAINMENT TEST CONFIGURATION	MAXIMUM DRAWDOWN TIME(SEC) (SR 3.6.4.1.4 ACCEPTANCE CRITERIA)	MAXIMUM FLOW RATE (CFM) (SR 3.6.4.1.5 ACCEPTANCE CRITERIA)
Group 1		
Zones I, II and III (Unit 1 Railroad Bay aligned to Secondary Containment).	≤ 300 Seconds (Zones I, II, and III)	≤ 5400 CFM (From Zones I, II, and III)
Zones II and III (Unit 1 Railroad Bay aligned to Zone III).	≤ 300 Seconds (Zones II and III)	≤ 4000 CFM (From Zones II and III)
Group 2		
Zones I, II and III (Unit 1 Railroad Bay not aligned to Secondary Containment).	≤ 300 Seconds (Zones I, II, and III)	≤ 5300 CFM (From Zones I, II, and III)
Zones II and III (Unit 1 Railroad Bay not aligned to Secondary Containment).	≤ 300 Seconds (Zones II and III)	≤ 3900 CFM (From Zones II and III)

Only one of the above listed configurations needs to be tested to confirm secondary containment OPERABILITY.

**Revision 6** 

SURVEILLANCE REQUIREMENTS SR 3.6.4.1.4 and SR 3.6.4.1.5 (continued)

A Note also modifies the Frequency for each SR. This Note identifies that each configuration is to be tested every 60 months. Testing each configuration every 60 months assures that the most limiting configuration is tested every 60 months. The 60 month Frequency is acceptable because operating experience has shown that these components usually pass the Surveillance and all active components are tested more frequently. Therefore, these tests are used to ensure secondary containment boundary integrity.

The secondary containment testing configurations are discussed in further detail to ensure the appropriate configurations are tested. Three zone testing (Zones, I, II and III aligned to the recirculation plenum) should be performed with the Railroad Bay aligned to secondary containment and another test with the Railroad Bay not aligned to secondary containment. Each test should be performed with each division on a STAGGERED TEST BASIS.

Two zone testing (Zones II and III aligned to the recirculation plenum) should be performed with the Railroad Bay aligned to secondary containment and another test with the Railroad Bay not aligned to secondary containment. Each test should be performed with each division on a STAGGERED TEST BASIS. The normal operating fans of the non-tested HVAC zone (Zone I fans 1V202A&B, 1V205A&B and 1V206A&B) should not be in operation. Additionally, a controlled opening of adequate size should be maintained in Zone I Secondary Containment during testing to assure that atmospheric conditions are maintained in that zone.

The Unit 1 Railroad Bay can be aligned as a No Zone (isolated from secondary containment) or as part of secondary containment (Zone I or III). Due to the different leakage pathways that exist in the Railroad Bay, the Railroad Bay should be tested when aligned to secondary containment and also not aligned to secondary containment. It is preferred to align the Railroad Bay to Zone III when testing with the Railroad Bay aligned to secondary containment since Zone III is included in all possible secondary containment isolation alignments. Note that when performing the three zone testing (Zones I, II and III aligned to the recirculation plenum) aligning the Railroad Bay to either Zone I or III is acceptable since either zone is part of secondary containment. When performing the Zone II & III testing with the Railroad Bay aligned to secondary containment, the Unit 1 Railroad Bay must be aligned to Zone III.

(continued)

	<u>SR 3.6.4.1.4 and SR 3.6.4.1.5</u> (continued)			
REQUIREMENTS	The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.			
REFERENCES	1. FSAR, Section 6.2.3.			
	2. FSAR, Section 15.6.			
	3. FSAR, Section 15.7.4.			
	<ol> <li>Final Policy Statement on Technical Specifications Improvements, July 22, 1993 (58 FR 39132).</li> </ol>			



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