

MANUAL HARD COPY DISTRIBUTION
DOCUMENT TRANSMITTAL 2004-40690

USER INFORMATION:

Name: ~~GEN LACH*ROSE M~~ EMPL#:028401 CA#:0363
Address: ~~NUCSA2~~
Phone#: ~~214-31114~~

TRANSMITTAL INFORMATION:

TO: ~~GEN LACH*ROSE M~~ 10/11/2004
LOCATION: USNRC
FROM: NUCLEAR RECORDS DOCUMENT CONTROL CENTER (NUCSA-2)
THE FOLLOWING CHANGES HAVE OCCURRED TO THE HARDCOPY OR ELECTRONIC MANUAL ASSIGNED TO YOU:

TSB2 - TECHNICAL SPECIFICATIONS BASES UNIT 2 MANUAL

REMOVE MANUAL TABLE OF CONTENTS DATE: 10/07/2004

ADD MANUAL TABLE OF CONTENTS DATE: 10/08/2004

CATEGORY: DOCUMENTS TYPE: TSB2
ID: TEXT 3.6.4.3
REPLACE: REV:1

UPDATES FOR HARD COPY MANUALS WILL BE DISTRIBUTED WITHIN 5 DAYS IN ACCORDANCE WITH DEPARTMENT PROCEDURES. PLEASE MAKE ALL CHANGES AND ACKNOWLEDGE COMPLETE IN YOUR NIMS INBOX UPON RECEIPT OF HARD COPY. FOR ELECTRONIC MANUAL USERS, ELECTRONICALLY REVIEW THE APPROPRIATE DOCUMENTS AND ACKNOWLEDGE COMPLETE IN YOUR NIMS INBOX.

A001

MANUAL HARD COPY DISTRIBUTION
DOCUMENT TRANSMITTAL 2004-40302

USER INFORMATION:

Name: ~~GERLACH*ROSE M~~ EMPL#: 028401 CA#: 0363

Address: ~~NUCSA-2~~

Phone#: ~~252-31124~~

TRANSMITTAL INFORMATION:

TO: ~~GERLACH*ROSE M~~ 10/08/2004

LOCATION: USNRC

FROM: NUCLEAR RECORDS DOCUMENT CONTROL CENTER (NUCSA-2)

THE FOLLOWING CHANGES HAVE OCCURRED TO THE HARDCOPY OR ELECTRONIC MANUAL ASSIGNED TO YOU:

TSB2 - TECHNICAL SPECIFICATIONS BASES UNIT 2 MANUAL

~~REMOVE MANUAL TABLE OF CONTENTS DATE: 09/08/2004~~

~~D MANUAL TABLE OF CONTENTS DATE: 10/07/2004~~

CATEGORY: DOCUMENTS TYPE: TSB2

~~ID: TEXT 376102~~

~~REMOVE: REV:0~~

~~ADD: REV:1~~

CATEGORY: DOCUMENTS TYPE: TSB2

ID: TEXT LOES

REMOVE: REV:47

ADD: REV: 48

UPDATES FOR HARD COPY MANUALS WILL BE DISTRIBUTED WITHIN 5 DAYS IN ACCORDANCE WITH DEPARTMENT PROCEDURES. PLEASE MAKE ALL CHANGES AND ACKNOWLEDGE COMPLETE IN YOUR NIMS INBOX UPON RECEIPT OF HARD COPY. FOR ELECTRONIC MANUAL USERS, ELECTRONICALLY REVIEW THE APPROPRIATE DOCUMENTS AND ACKNOWLEDGE COMPLETE IN YOUR NIMS INBOX.

SSS MANUAL

Manual Name: TSB2

Manual Title: TECHNICAL SPECIFICATIONS BASES UNIT 2 MANUAL

Table Of Contents

Issue Date: 10/08/2004

<u>Procedure Name</u>	<u>Rev</u>	<u>Issue Date</u>	<u>Change ID</u>	<u>Change Number</u>
TEXT LOES	48	10/07/2004		
Title: LIST OF EFFECTIVE SECTIONS				
TEXT TOC	3	09/02/2004		
Title: TABLE OF CONTENTS				
TEXT 2.1.1	0	11/18/2002		
Title: SAFETY LIMITS (SLS) REACTOR CORE SLS				
TEXT 2.1.2	0	11/18/2002		
Title: SAFETY LIMITS (SLS) REACTOR COOLANT SYSTEM (RCS) PRESSURE SL				
TEXT 3.0	0	11/18/2002		
Title: LIMITING CONDITION FOR OPERATION -(LCO) APPLICABILITY				
TEXT 3.1.1	0	11/18/2002		
Title: REACTIVITY CONTROL SYSTEMS SHUTDOWN MARGIN (SDM)				
TEXT 3.1.2	0	11/18/2002		
Title: REACTIVITY CONTROL SYSTEMS REACTIVITY ANOMALIES				
TEXT 3.1.3	0	11/18/2002		
Title: REACTIVITY CONTROL SYSTEMS CONTROL ROD OPERABILITY				
TEXT 3.1.4	0	11/18/2002		
Title: REACTIVITY CONTROL SYSTEMS CONTROL ROD SCRAM TIMES				
TEXT 3.1.5	0	11/18/2002		
Title: REACTIVITY CONTROL SYSTEMS CONTROL ROD SCRAM ACCUMULATORS				
TEXT 3.1.6	0	11/18/2002		
Title: REACTIVITY CONTROL SYSTEMS ROD PATTERN CONTROL				

SSES MANUAL

Manual Name: TSB2

Manual Title: TECHNICAL SPECIFICATIONS BASES UNIT 2 MANUAL

TEXT 3.1.7	0	11/18/2002		
Title: REACTIVITY CONTROL SYSTEMS STANDBY LIQUID CONTROL (SLC) SYSTEM				
TEXT 3.1.8	0	11/18/2002		
Title: REACTIVITY CONTROL SYSTEMS SCRAM DISCHARGE VOLUME (SDV) VENT AND DRAIN VALVES				
TEXT 3.2.1	0	11/18/2002		
Title: POWER DISTRIBUTION LIMITS AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR)				
TEXT 3.2.2	0	11/18/2002		
Title: POWER DISTRIBUTION LIMITS MINIMUM CRITICAL POWER RATIO (MCPR)				
TEXT 3.2.3	0	11/18/2002		
Title: POWER DISTRIBUTION LIMITS LINEAR HEAT GENERATION RATE (LHGR)				
TEXT 3.2.4	0	11/18/2002		
Title: POWER DISTRIBUTION LIMITS AVERAGE POWER RANGE MONITOR (APRM) GAIN AND SETPOINTS				
TEXT 3.3.1.1	0	11/18/2002		
Title: INSTRUMENTATION REACTOR PROTECTION SYSTEM (RPS) INSTRUMENTATION				
TEXT 3.3.1.2	0	11/18/2002		
Title: INSTRUMENTATION SOURCE RANGE MONITOR (SRM) INSTRUMENTATION				
TEXT 3.3.2.1	0	11/18/2002		
Title: INSTRUMENTATION CONTROL ROD BLOCK INSTRUMENTATION				
TEXT 3.3.2.2	0	11/18/2002		
Title: INSTRUMENTATION FEEDWATER - MAIN TURBINE HIGH WATER LEVEL TRIP INSTRUMENTATION				
TEXT 3.3.3.1	0	11/18/2002		
Title: INSTRUMENTATION POST ACCIDENT MONITORING (PAM) INSTRUMENTATION				
			LDCN	3710
TEXT 3.3.3.2	0	11/18/2002		
Title: INSTRUMENTATION REMOTE SHUTDOWN SYSTEM				

SSES MANUAL

Manual Name: TSB2

Manual Title: TECHNICAL SPECIFICATIONS BASES UNIT 2 MANUAL

TEXT 3.6.4.1	0	11/18/2002	Title: CONTAINMENT SYSTEMS SECONDARY CONTAINMENT
TEXT 3.6.4.2	0	11/18/2002	Title: CONTAINMENT SYSTEMS SECONDARY CONTAINMENT ISOLATION VALVES (SCIVS)
TEXT 3.6.4.3	1	10/08/2004	Title: CONTAINMENT SYSTEMS STANDBY GAS TREATMENT (SGT) SYSTEM
TEXT 3.7.1	0	11/18/2002	Title: PLANT SYSTEMS RESIDUAL HEAT REMOVAL SERVICE WATER (RHRSW) SYSTEM AND THE ULTIMATE HEAT SINK (UHS)
TEXT 3.7.2	0	11/18/2002	Title: PLANT SYSTEMS EMERGENCY SERVICE WATER (ESW) SYSTEM
TEXT 3.7.3	0	11/18/2002	Title: PLANT SYSTEMS CONTROL ROOM EMERGENCY OUTSIDE AIR SUPPLY (CREOAS) SYSTEM
TEXT 3.7.4	0	11/18/2002	Title: PLANT SYSTEMS CONTROL ROOM FLOOR COOLING SYSTEM
TEXT 3.7.5	0	11/18/2002	Title: PLANT SYSTEMS MAIN CONDENSER OFFGAS
TEXT 3.7.6	0	11/18/2002	Title: PLANT SYSTEMS MAIN TURBINE BYPASS SYSTEM
TEXT 3.7.7	0	11/18/2002	Title: PLANT SYSTEMS SPENT FUEL STORAGE POOL WATER LEVEL
TEXT 3.8.1	1	10/17/2003	Title: ELECTRICAL POWER SYSTEMS AC SOURCES - OPERATING
TEXT 3.8.2	0	11/18/2002	Title: ELECTRICAL POWER SYSTEMS AC SOURCES - SHUTDOWN

SSES MANUAL

Manual Name: TSB2

Manual Title: TECHNICAL SPECIFICATIONS BASES UNIT 2 MANUAL

TEXT 3.8.3 0 11/18/2002
Title: ELECTRICAL POWER SYSTEMS DIESEL FUEL OIL, LUBE OIL, AND STARTING AIR

TEXT 3.8.4 0 11/18/2002
Title: ELECTRICAL POWER SYSTEMS DC SOURCES - OPERATING

TEXT 3.8.5 0 11/18/2002
Title: ELECTRICAL POWER SYSTEMS DC SOURCES - SHUTDOWN

TEXT 3.8.6 0 11/18/2002
Title: ELECTRICAL POWER SYSTEMS BATTERY CELL PARAMETERS

TEXT 3.8.7 0 11/18/2002
Title: ELECTRICAL POWER SYSTEMS DISTRIBUTION SYSTEMS - OPERATING

TEXT 3.8.8 0 11/18/2002
Title: ELECTRICAL POWER SYSTEMS DISTRIBUTION SYSTEMS - SHUTDOWN

TEXT 3.9.1 0 11/18/2002
Title: REFUELING OPERATIONS REFUELING EQUIPMENT INTERLOCKS

TEXT 3.9.2 0 11/18/2002
Title: REFUELING OPERATIONS REFUEL POSITION ONE-ROD-OUT INTERLOCK

TEXT 3.9.3 0 11/18/2002
Title: REFUELING OPERATIONS CONTROL ROD POSITION

TEXT 3.9.4 0 11/18/2002
Title: REFUELING OPERATIONS CONTROL ROD POSITION INDICATION

TEXT 3.9.5 0 11/18/2002
Title: REFUELING OPERATIONS CONTROL ROD OPERABILITY - REFUELING

TEXT 3.9.7 0 11/18/2002
Title: REFUELING OPERATIONS RESIDUAL HEAT REMOVAL (RHR) - HIGH WATER LEVEL

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

<u>Section</u>	<u>Title</u>	<u>Revision</u>
TOC	Table of Contents	3
B 2.0	SAFETY LIMITS BASES	
	Page TS / B 2.0-1	1
	Pages TS / B 2.0-2 and TS / B 2.0-3	2
	Page TS / B 2.0-4	3
	Page TS / B 2.0-5	1
	Pages B 2.0-6 through B 2.0-8	0
B 3.0	LCO AND SR APPLICABILITY BASES	
	Pages B 3.0-1 through B 3.0-7	0
	Pages TS / B 3.0-8 and TS / B 3.0-9	1
	Pages B 3.0-10 through B 3.0-12	0
	Pages TS / B 3.0-13 through TS / B 3.0-15	1
B 3.1	REACTIVITY CONTROL BASES	
	Pages B 3.1-1 through B 3.1-5	0
	Pages TS / B 3.1-6 and TS / B 3.1-7	1
	Pages B 3.1-8 through B 3.1-27	0
	Page TS / B 3.1-28	1
	Pages B 3.1-29 through B 3.1-36	0
	Page TS / B 3.1-37	1
	Pages B 3.1-38 through B 3.1-51	0
B 3.2	POWER DISTRIBUTION LIMITS BASES	
	Pages TS / B 3.2-1 through TS / B 3.2-4	1
	Pages TS / B 3.2-5 and TS / B 3.2-6	2
	Page TS / B 3.2-7	1
	Pages TS / B 3.2-8 and TS / B 3.2-9	2
	Pages TS / B 3.2-10 through TS / B 3.2-19	1
B 3.3	INSTRUMENTATION	
	Pages TS / B 3.3-1 through TS / B 3.3-10	1
	Page TS / B 3.3-11	2
	Pages TS / B 3.3-12 through TS / B 3.3-27	1
	Pages TS / B 3.3-28 through TS / B 3.3-30	2
	Page TS / B 3.3-31	1
	Pages TS / B 3.3-32 and TS / B 3.3-33	2
	Pages TS / B 3.3-34 through TS / B 3.3-54	1
	Pages B 3.3-55 through B 3.3-63	0
	Pages TS / B 3.3-64 and TS / B 3.3-65	2
	Page TS / B 3.3-66	4
	Page TS / B 3.3-67	3

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

<u>Section</u>	<u>Title</u>	<u>Revision</u>
	Page TS / B 3.3-68	4
	Pages TS / B 3.3-69 and TS / B 3.3-70	3
	Pages TS / B 3.3-71 through TS / B 3.3-75	2
	Page TS / B 3.3-75a	4
	Pages TS / B 3.3-75b through TS / B 3.3-75c	3
	Pages B 3.3-76 through B 3.3-91	0
	Pages TS / B 3.3-92 through TS / B 3.3-103	1
	Page TS / B 3.3-104	2
	Pages TS / B 3.3-105 and TS / B 3.3-106	1
	Page TS / B 3.3-107	2
	Page TS / B 3.3-108	1
	Page TS / B 3.3-109	2
	Pages TS / B 3.3-110 through TS / B 3.3-115	1
	Pages TS / B 3.3-116 through TS / B 3.3-118	2
	Pages TS / B 3.3-119 through TS / B 3.3-120	1
	Pages TS / B 3.3-121 and TS / B 3.3-122	2
	Page TS / B 3.3-123	1
	Page TS / B 3.3-124	2
	Page TS / B 3.3-124a	0
	Pages TS / B 3.3-125 and TS / B 3.3-126	1
	Page TS / B 3.3-127	2
	Pages TS / B 3.3-128 through TS / B 3.3-131	1
	Page TS / B 3.3-132	2
	Pages TS / B 3.3-133 and TS / B 3.3-134	1
	Pages B 3.3-135 through B 3.3-137	0
	Page TS / B 3.3-138	1
	Pages B 3.3-139 through B 3.3-149	0
	Pages TS / B 3.3-150 through TS / B 3.3-162	1
	Page TS / B 3.3-163	2
	Pages TS / B 3.3-164 through TS / B 3.3-177	1
	Pages TS / B 3.3-178 and TS / B 3.3-179	2
	Page TS / B 3.3-179a	1
	Pages TS / B 3.3-180 through TS / B 3.3-191	1
	Pages B 3.3-192 through B 3.3-205	0
	Page TS / B 3.3-206	1
	Pages B 3.3-207 through B 3.3-220	0
B 3.4	REACTOR COOLANT SYSTEM BASES	
	Pages TS / B 3.4-1 and TS / B 3.4-2	1
	Pages TS / B 3.4-3 through TS / B 3.4-6	2
	Page TS / B 3.4-7	1
	Pages TS / B 3.4-8 and TS / B 3.4-9	2
	Pages B 3.4-10 through B 3.4-14	0

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

<u>Section</u>	<u>Title</u>	<u>Revision</u>
	Page TS / B 3.4-15	1
	Pages TS / B 3.4-16 and TS / B 3.4-17	2
	Page TS / B 3.4-18	1
	Pages B 3.4-19 through B 3.4-28	0
	Page TS / B 3.4-29	1
	Pages B 3.3-30 through B 3.3-48	0
	Page TS / B 3.4-49	2
	Page TS / B 3.4-50	1
	Page TS / B 3.4-51	2
	Pages TS / B 3.4-52 and TS / B 3.4-53	1
	Pages TS / B 3.4-54 and TS / B 3.4-55	2
	Pages TS / B 3.4-56 through TS / B 3.4-60	1
B 3.5	ECCS AND RCIC BASES	
	Pages TS / B 3.5-1 and TS / B 3.5-2	1
	Page TS / B 3.5-3	2
	Pages TS / B 3.5-4 through TS / B 3.5-10	1
	Page TS / B 3.5-11	2
	Pages TS / B 3.5-12 through TS / B 3.5-14	1
	Pages TS / B 3.5-15 through TS / B.3.5-17	2
	Page TS / B 3.18	1
	Pages B 3.5-19 through B 3.5-24	0
	Page TS / B 3.5-25	1
	Pages B 3.5-26 through B 3.5-31	0
B 3.6	CONTAINMENT SYSTEMS BASES	
	Page TS / B 3.6-1	2
	Page TS / B 3.6-1a	3
	Pages TS / B 3.6-2 through TS / B 3.6-5	2
	Page TS / B 3.6-6	3
	Pages TS / B 3.6-6a and TS / B 3.6-6b	2
	Page TS / B 3.6-6c	0
	Pages B 3.6-7 through B 3.6-14	0
	Page TS / B 3.6-15	3
	Pages TS / B 3.6-15a and TS / B 3.6-15b	0
	Page TS / B 3.6-16	1
	Page TS / B 3.6-17	2
	Page TS / B 3.6-17a	0
	Pages TS / B 3.6-18 and TS / B 3.6-19	1
	Page TS / B 3.6-20	2
	Page TS / B 3.6-21	3
	Pages TS / B 3.6-21a and TS / B 3.6-21b	0
	Pages TS / B 3.6-22 and TS / B 3.6-23	2

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

<u>Section</u>	<u>Title</u>	<u>Revision</u>
	Pages TS / B 3.6-24 through TS / B 3.6-26	1
	Page TS / B 3.6-27	3
	Page TS / B 3.6-28	6
	Page TS / B 3.6-29	3
	Page TS / B 3.6-29a	0
	Page TS / B 3.6-30	2
	Page TS / B 3.6-31	3
	Pages TS / B 3.6-32 through TS / B 3.6-34	1
	Pages TS / B 3.6-35 through TS / B 3.6-37	2
	Page TS / B 3.6-38	1
	Page TS / B 3.6-39	4
	Pages B 3.6-40 through B 3.6-42	0
	Pages TS / B 3.6-43 through TS / B 3.6-50	1
	Page TS / B 3.6-51	2
	Pages B 3.6-52 through B 3.6-62	0
	Page TS / B 3.6-63	1
	Pages B 3.6-64 through B 3.6-82	0
	Page TS / B 3.6-83	2
	Pages TS / B 3.6-84 through TS / B 3.6-87	1
	Page TS / B 3.6-87a	1
	Page TS / B 3.6-88	2
	Pages TS / B 3.6-89 through TS / B 3.6-99	1
	Page B 3.6-100	0
	Pages TS / B 3.6-101 through TS / B 3.6-106	1
B 3.7	PLANT SYSTEMS BASES	
	Pages TS / B 3.7-1 through TS / B 3.7-6	2
	Page TS / B 3.7-6a	2
	Pages TS / B 3.7-6b and TS / B 3.7-6c	0
	Pages TS / B 3.7-7 and TS / B 3.7-8	1
	Pages B 3.7-9 through B 3.7-11	0
	Pages TS / B 3.7-12 and TS / B 3.7-13	1
	Pages TS / B 3.7-14 through TS / B 3.7-18	2
	Page TS / B 3.7-18a	0
	Pages TS / B 3.7-19 through TS / B 3.7-26	1
	Pages B 3.7-24 through B 3.7-26	0
	Pages TS / 3.7-27 through TS / B 3.7-29	1
	Pages B 3.7-30 through B 3.7-33	0
B 3.8	ELECTRICAL POWER SYSTEMS BASES	
	Pages B 3.8-1 through B 3.8-4	0
	Page TS / B 3.8-5	1
	Pages B 3.8-6 through B 3.8-8	0

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

<u>Section</u>	<u>Title</u>	<u>Revision</u>
	Pages TS / B 3.8-9 through TS / B 3.8-11	1
	Pages B 3.8-12 through B 3.8-18	0
	Page TS / B 3.8-19	1
	Pages B 3.8-20 through B 3.8-22	0
	Page TS / B 3.8-23	1
	Page B 3.8-24	0
	Pages TS / B 3.8-25 and TS / B 3.8-26	1
	Pages B 3.8-27 through B 3.8-37	0
	Page TS / B 3.8-38	1
	Pages TS / B 3.8-39 through TS / B 3.8-55	0
	Pages TS / B 3.8-56 through TS / B 3.8-64	1
	Page TS / B 3.8-65	2
	Page TS / B 3.8-66	2
	Pages TS / B 3.8-67 through TS / B 3.8-68	1
	Page TS / B 3.8-69	2
	Pages B 3.8-70 through B 3.8-99	0
B 3.9	REFUELING OPERATIONS BASES	
	Pages TS / B 3.9-1 and TS / B 3.9-2	1
	Page TS / B 3.9-2a	1
	Pages TS / B 3.9-3 and TS / B 3.9-4	1
	Pages B 3.9-5 through B 3.9-30	0
B 3.10	SPECIAL OPERATIONS BASES	
	Page TS / B 3.10-1	1
	Pages B 3.10-2 through B 3.10-32	0
	Page TS / B 3.10-33	1
	Pages B 3.10-34 through B 3.10-38	0
	Page TS / B 3.10-39	1

TSB2 text LOES
9/7/04

B 3.6 CONTAINMENT SYSTEMS

B 3.6.4.3 Standby Gas Treatment (SGT) System

BASES

BACKGROUND The SGT System is required by 10 CFR 50, Appendix A, GDC 41, "Containment Atmosphere Cleanup" (Ref. 1). The safety function of the SGT System is to ensure that radioactive materials that leak from the primary containment into the secondary containment following a Design Basis Accident (DBA) are filtered and adsorbed prior to exhausting to the environment.

The SGT System consists of two redundant subsystems, each with its own set of dampers, filter train, a recirculation fan, and associated dampers and controls.

Each filter train consists of (components listed in order of the direction of the air flow):

- a. A demister;
- b. An electric heater;
- c. A prefilter;
- d. A high efficiency particulate air (HEPA) filter;
- e. A charcoal adsorber;
- f. A second HEPA filter; and
- g. A centrifugal fan.

The sizing of the SGT System equipment and components is based on handling an incoming air mixture at a maximum of 125°F. The internal pressure of the secondary containment is maintained at a negative pressure of 0.25 inches water gauge when the system is in operation. Maintenance of a negative pressure precludes direct outleakage.

The demister is provided to remove entrained water in the air, while the electric heater reduces the relative humidity of the airstream to less than 70% (Ref. 2). The prefilter removes large particulate matter, while the HEPA filter

(continued)

BASES

BACKGROUND (continued) removes fine particulate matter and protects the charcoal from fouling. The charcoal adsorber removes gaseous elemental iodine and organic iodides, and the final HEPA filter collects any carbon fines exhausted from the charcoal adsorber.

The SGT System automatically starts and operates in response to actuation signals indicative of conditions or an accident that could require operation of the system. Following initiation in each division, the associated filter train fan starts. Upon verification that both subsystems are operating, the redundant subsystem may be shut down.

The SGT System also contains a cooling function to remove heat generated by fission product decay on the HEPA filters and charcoal adsorbers during shutdown of an SGT subsystem. The cooling function consists of two separate and independent filter cooling modes per SGT subsystem. The two cooling modes are:

- 1) Outside air damper and the filter cooling bypass damper open, allowing outside air to flow through the shutdown SGT subsystem's filter train and exit via the opposite SGT subsystem's exhaust fan.
- 2) Outside air damper opens and the SGT exhaust fan of the shutdown SGT subsystem starts. This configuration draws outside air through the shutdown SGT subsystem's filter train and exits via the associated SGT subsystem's exhaust fan.

APPLICABLE SAFETY ANALYSES The design basis for the SGT System is to mitigate the consequences of a loss of coolant accident and fuel handling accidents (Ref. 2). For all events analyzed, the SGT System is shown to be automatically initiated to reduce, via filtration and adsorption, the radioactive material released to the environment.

The SGT System satisfies Criterion 3 of the NRC Policy Statement (Ref. 3).

LCO Following a DBA, a minimum of one SGT subsystem is required to maintain the secondary containment at a negative pressure with respect to the environment and to process gaseous releases. Meeting the LCO requirements for two OPERABLE subsystems ensures operation of at least

(continued)

BASES

LCO
(continued)

one SGT subsystem in the event of a single active failure. A SGT subsystem is considered OPERABLE when it has an OPERABLE set of dampers, filter train, recirculation fan and associated dampers, and associated controls. This includes the components required for at least one of the two SGTS filter cooling modes.

APPLICABILITY

In MODES 1, 2, and 3, a DBA could lead to a fission product release to primary containment that leaks to secondary containment. Therefore, SGT System OPERABILITY is required during these MODES.

In MODES 4 and 5, the probability and consequences of these events are reduced due to the pressure and temperature limitations in these MODES. Therefore, maintaining the SGT System in OPERABLE status is not required in MODE 4 or 5, except for other situations under which significant releases of radioactive material can be postulated, such as during operations with a potential for draining the reactor vessel (OPDRVs), during CORE ALTERATIONS, or during movement of irradiated fuel assemblies in the secondary containment.

ACTIONS

A.1

With one SGT subsystem inoperable, the inoperable subsystem must be restored to OPERABLE status in 7 days. In this Condition, the remaining OPERABLE SGT subsystem is adequate to perform the required radioactivity release control function. However, the overall system reliability is reduced because a single failure in the OPERABLE subsystem could result in the radioactivity release control function not being adequately performed. The 7 day Completion Time is based on consideration of such factors as the availability of the OPERABLE redundant SGT System and the low probability of a DBA occurring during this period.

B.1 and B.2

If the SGT subsystem cannot be restored to OPERABLE status within the required Completion Time in MODE 1, 2, or 3, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on

(continued)

BASES

ACTIONS

B.1 and B.2 (continued)

operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

C.1, C.2.1, C.2.2, and C.2.3

During movement of irradiated fuel assemblies, in the secondary containment, during CORE ALTERATIONS, or during OPDRVs, when Required Action A.1 cannot be completed within the required Completion Time, the OPERABLE SGT filter train should immediately be placed in operation. This action ensures that the remaining filter train is OPERABLE, that no failures that could prevent automatic actuation have occurred, and that any other failure would be readily detected.

An alternative to Required Action C.1 is to immediately suspend activities that represent a potential for releasing radioactive material to the secondary containment, thus placing the plant in a condition that minimizes risk. If applicable, CORE ALTERATIONS and movement of irradiated fuel assemblies must immediately be suspended. Suspension of these activities must not preclude completion of movement of a component to a safe position. Also, if applicable, actions must immediately be initiated to suspend OPDRVs in order to minimize the probability of a vessel draindown and subsequent potential for fission product release. Actions must continue until OPDRVs are suspended.

The Required Actions of Condition C have been modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in MODE 4 or 5, LCO 3.0.3 would not specify any action. If moving irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, in either case, inability to suspend movement of irradiated fuel assemblies would not be a sufficient reason to require a reactor shutdown.

D.1

If both SGT subsystems are inoperable in MODE 1, 2, or 3, the SGT system may not be capable of supporting the required radioactivity release control function. The 4 hour Completion Time provides a period of time to correct

(continued)

BASES

ACTIONS

D.1 (continued)

the problem that is commensurate with the importance of maintaining the SGT System contribution to secondary containment during MODES 1, 2, and 3. This time period also ensures that the probability of an accident (requiring SGT OPERABILITY) occurring during periods where SGT is inoperable is minimal.

E.1 and E.2

If at least one SGT subsystem cannot be restored to OPERABLE status within the required Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

F.1, F.2, and F.3

When two SGT subsystems are inoperable, if applicable, CORE ALTERATIONS and movement of irradiated fuel assemblies in secondary containment must immediately be suspended. Suspension of these activities shall not preclude completion of movement of a component to a safe position. Also, if applicable, actions must immediately be initiated to suspend OPDRVs in order to minimize the probability of a vessel draindown and subsequent potential for fission product release. Actions must continue until OPDRVs are suspended.

Required Action F.1 has been modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in MODE 4 or 5, LCO 3.0.3 would not specify any action. If moving irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, in either case, inability to suspend movement of irradiated fuel assemblies would not be a sufficient reason to require a reactor shutdown.

(continued)

BASES (continued)

SURVEILLANCE SR 3.6.4.3.1
REQUIREMENTS

Operating each SGT filter train for ≥ 10 continuous hours ensures that both filter train are OPERABLE and that all associated controls are functioning properly. It also ensures that blockage, fan or motor failure, or excessive vibration can be detected for corrective action. Operation with the heaters on (automatic heater cycling to maintain temperature) for ≥ 10 continuous hours every 31 days eliminates moisture on the adsorbers and HEPA filters. The 31 day Frequency is consistent with the requirements of Reference 4.

SR 3.6.4.3.2

This SR verifies that the required SGT filter testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The VFTP includes testing HEPA filter performance, charcoal adsorber efficiency, minimum system flow rate, and the physical properties of the activated charcoal (general use and following specific operations). Specific test frequencies and additional information are discussed in detail in the VFTP.

SR 3.6.4.3.3

This SR verifies that each SGT subsystem starts on receipt of an actual or simulated initiation signal. While this Surveillance can be performed with the reactor at power, operating experience has shown that these components usually pass the Surveillance when performed at the 24 month Frequency. The LOGIC SYSTEM FUNCTIONAL TEST in SR 3.3.6.2.5 overlaps this SR to provide complete testing of the safety function. Therefore, the Frequency was found to be acceptable from a reliability standpoint.

SR 3.6.4.3.4

This SR verifies that both cooling modes for each SGT subsystem are available. Although both cooling modes are tested, only one cooling mode for each SGT subsystem is required for an SGT subsystem to be considered OPERABLE. While this Surveillance can be performed with the reactor at power, operating experience has shown that these components usually pass the Surveillance when performed at the 24 month Frequency, which is based on the refueling cycle. Therefore, the Frequency was found to be acceptable from a reliability standpoint.

(continued)

BASES (continued)

- REFERENCES**
1. 10 CFR 50, Appendix A, GDC 41.
 2. FSAR, Section 6.5.1
 3. Final Policy Statement on Technical Specifications Improvements, July 22, 1993 (58 FR 39132).
 4. Regulatory Guide 1.52, Rev. 2.
-