

MANUAL HARD COPY DISTRIBUTION

DOCUMENT TRANSMITTAL 2002-29863

USER INFORMATION:

~~CLAIM*LAUREL B~~ EMPL#:23244 CA#: 0386

~~Address: NUCSA2~~

Phone#: 254-3658

TRANSMITTAL INFORMATION:

~~TO: CLAIM*LAUREL B~~ 06/18/2002

LOCATION: USNRC

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

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

ITSB1 - IMPROVED TECHNICAL SPECIFICATIONS MANUAL
BASES UNIT 1

REMOVE MANUAL TABLE OF CONTENTS DATE: 03/21/2002

ADD MANUAL TABLE OF CONTENTS DATE: 06/17/2002

CATEGORY: DOCUMENTS TYPE: ITSB1

ID: ITSB1

REMOVE: REV:31

ADD: REV: 32

REMOVE: REV:32

ADD: REV: 33

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

TSB

**APPROVED AMENDMENT TO THE
UNIT 1 TECHNICAL SPECIFICATIONS BASES MANUAL
REVISION 32
EFFECTIVE DATE 05/06/202**

Replace the following pages of the Technical Specifications Bases Manual with the enclosed pages. The revised pages are identified by Revision Number and contain vertical lines indicating the area of change.

REMOVE PAGES	REV. #	INSERT PAGES	REV. #
TS / B LOES	31	TS / B LOES	32
TS / B 3.3-68	2	TS / B 3.3-68	3
B 3.4-29	0	TS / B 3.4-29	1

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

<u>Section</u>	<u>Title</u>	<u>Revision</u>
B 2.0	SAFETY LIMITS BASES	
	Page B 2.0-1	0
	Page TS/B 2.0-2	1
	Pages TS/B 2.0-3 through TSB 2.0-5	1
		corrected
	Page TS/B 2.0-6	1
	Pages B 2.0-7 through B 2.0-9	0
B 3.0	LCO AND SR APPLICABILITY BASES	
	Pages B 3.0-1 through B 3.0-15	0
B 3.1	REACTIVITY CONTROL BASES	
	Pages B 3.1-1 through B 3.1-51	0
B 3.2	POWER DISTRIBUTION LIMITS BASES	
	Page B 3.2-1	0
	Page TS/B 3.2-2	1
	Page B 3.2-3	0
	Pages TS/B 3.2-4 through TS/B 3.2-6	1
	Page B 3.2-7 and B 3.2-8	0
	Page TS/B 3.2-9	1
	Page B 3.2-10	0
	Page TS/B 3.2-11	1
	Page B 3.2-12	0
	Page TS/B 3.2-13	1
	Pages B 3.2-14 and B 3.2-15	0
	Page TS/B 3.2-16	1
	Pages B 3.2-17 and 3.2-18	0
	Page 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 3.3-31	2
	Pages TS / B 3.3-32 and TS / B 3.3-33	3
	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	3
	Page TS / B 3.3-67	2
	Page TS / B 3.3-68	3
	Pages TS / B 3.3-69 through TS / B 3.3-75	2
	Pages 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 3.3-106	0

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

<u>Section</u>	<u>Title</u>	<u>Revision</u>
	Page TS / B 3.3-107	1
	Pages B 3.3-108 through B 3.3-111	0
	Pages TS/B 3.3-112 and TS/B 3.3-112a	1
	Pages B 3.3-113 and B 3.3-114	0
	Pages TS / B 3.3-115 and TS / B 3.3-116	1
	Pages B 3.3-117 through B 3.3-122	0
	Pages B 3.3-123 through B 3.3-124	1
	Page TS / B 3.3-124a	0
	Pages B 3.3-125 through B 3.3-130	0
	Page TS / B 3.3-131	1
	Page B 3.3-132 through B 3.3-137	0
	Page TS / B 3.3-138	1
	Pages B 3.3-139 through B 3.3-162	0
	Page TS / B 3.3-163	1
	Pages B 3.3-164 through B 3.3-177	0
	Pages B 3.3-178 and B 3.3-179	1
	Page B 3.3-179a	0
	Pages TS / B 3.3-180 through TS / B 3.3-191	1
	Pages B 3.3-192 through B 3.3-219	0
B 3.4	REACTOR COOLANT SYSTEM BASES	
	Pages B 3.4-1 and B 3.4-2	0
	Page TS/B 3.4-3 and TS/B 3.4-4	1
	Pages B 3.4-5 through B 3.4-14	0
	Pages TS / B 3.4-15	1
	Pages TS / B 3.4-16 and TS / B 3.4-17	2
	Pages 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 3.4-30 through B 3.4-48	0
	Page TS / B 3.4-49	1
	Page B 3.4-50	0
	Page TS / B 3.4-51	1
	Pages B 3.4-52 and B 3.4-53	0
	Pages TS / B 3.4-54 and TS / B 3.4-55	1
	Page B 3.4-56	0
	Page TS / B 3.4-57	1
B 3.5	ECCS AND RCIC BASES	
	Pages B 3.5-1 and B 3.5-2	0
	Page TS / B 3.5-3	1
	Pages B 3.5-4 through B 3.5-15	0
	Pages TS / B 3.5-16 through TS / B 3.5-18	1
	Pages B 3.5-19 through B 3.5-24	0
	Page TS / B 3.5-25	1

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

<u>Section</u>	<u>Title</u>	<u>Revision</u>
	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	2
	Pages TS / B 3.6-15a and TS / B 3.6-15b	0
	Page B 3.6-16	0
	Page TS / B 3.6-17	1
	Page TS / B 3.6-17a	0
	Pages TS / B 3.6-18 and TS / B 3.6-19	0
	Page TS / B 3.6-20	1
	Page TS / B 3.6-21	2
	Page TS / B 3.6-22	1
	Page TS / B 3.6-22a	0
	Page TS / B 3.6-23	1
	Pages TS / B 3.6-24 through TS / B 3.6-26	0
	Page TS / B 3.6-27	1
	Page TS / B 3.6-28	4
	Page TS / B 3.6-29	1
	Page B 3.6-30	1
	Page TS / B 3.6-31	3
	Pages B 3.6-32 through B 3.6-35	0
	Page TS / B 3.6-36	1
	Page B 3.6-37	0
	Page B 3.6-38	1
	Page B 3.6-39	0
	Page TS / B 3.6-40	2
	Pages B 3.6-41 through B 3.6-43	0
	Pages TS / B 3.6-44 through TS / B 3.6-51	1
	Page TS / B 3.6-52	2
	Pages B 3.6-53 through B 3.6-83	0
	Pages TS / B 3.6-84 through TS / B 3.6-88	1
	Page TS / B 3.6-88a	1
	Pages TS / B 3.6-89 through TS / B 3.6-100	1
	Pages B 3.6-101 through B 3.6-107	0
B 3.7	PLANT SYSTEMS BASES	
	Pages TS / B 3.7-1 through TS / B 3.7-6	1
	Page TS / B 3.7-6a	1
	Pages B 3.7-7 through B 3.7-11	0
	Pages TS / B 3.7-12 through TS / B 3.7-23	1

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

<u>Section</u>	<u>Title</u>	<u>Revision</u>
	Pages B 3.7-24 through B 3.7-26	0
	Pages TS B 3.7-27 through TS / B 3.7-30	1
	Pages B 3.7-31 through B 3.7-33	0
B 3.8	ELECTRICAL POWER SYSTEMS BASES	
	Pages TS / B 3.8-1 through TS / B 3.8-4	2
	Page TS / B 3.8-5	3
	Pages TS / B 3.8-6 through TS/B 3.8-17	2
	Page TS / B 3.8-18	3
	Pages TS / B 3.8-19 through TS / B 3.8-21	2
	Pages TS / B 3.8-22 and TS / B 3.8-23	3
	Pages TS / B 3.8-24 through TS / B 3.8-37	2
	Pages B 3.8-38 through B 3.8-53	0
	Pages TS / B 3.8-54 through TS / B 3.8-61	1
	Page TS / B 3.8-62	2
	Page TS / B 3.8-63	2
	Page TS / B 3.8-64	1
	Page TS / B 3.8-65	2
	Pages TS/B 3.8-66 through B 3.8-90	0
B 3.9	REFUELING OPERATIONS BASES	
	Pages TS / B 3.9-1 and TS / B 3.9-1a	1
	Pages TS / B 3.9-2 through TS / B 3.9-4	1
	Pages B 3.9-5 through B 3.9-30	0
B 3.10	SPECIAL OPERATIONS BASES	
	Pages TS / B 3.10-1	1
	Pages B 3.10-2 through B 3.10-38	0

BASES

LCO

5. Primary Containment High Radiation (continued)

and to provide release assessment for use by operators in determining the need to invoke site emergency plans. Two independent channels, which output to one control room recorder per channel with a range of 10° to $1 \times 10^{8\text{z}}$ R/hr, monitor radiation. The recorders are the primary method of indication used by the operator during an accident, therefore the PAM Specification deals specifically with this portion of the instrument channel.

6. Primary Containment Isolation Valve (PCIV) Position

PCIV position is provided for verification of containment integrity. In the case of PCIV position, the important information is the isolation status of the containment penetration. The LCO requires a channel of valve position indication in the control room to be OPERABLE for an active PCIV in a containment penetration flow path, i.e., two total channels of PCIV position indication for a penetration flow path with two active valves. For containment penetrations with only one active PCIV having control room indication, Note (b) requires a single channel of valve position indication to be OPERABLE. This is sufficient to redundantly verify the isolation status of each isolable penetration via indicated status of the active valve, as applicable, and prior knowledge of passive valve or system boundary status. If a penetration flow path is isolated, position indication for the PCIV(s) in the associated penetration flow path is not needed to determine status. Therefore, the position indication for valves in an isolated penetration flow path is not required to be OPERABLE. These valves which require position indication are specified in Table B 3.6.1.3-1. Furthermore, the loss of position indication does not necessarily result in the PCIV being inoperable.

The PCIV position PAM instrumentation consists of position switches unique to PCIVs, associated wiring and control room indicating lamps (not necessarily unique to a PCIV) for active PCIVs (check valves and manual valves are not required to have position indication). Therefore, the PAM Specification deals specifically with these instrument channels.

(continued)

BASES (continued)

TABLE B 3.4.5-1

REACTOR COOLANT SYSTEM PRESSURE ISOLATION VALVES

1st Isolation Valve(s) Number(s)	2nd Isolation Valve(s) Number(s)	Service
HV-152F006A HV-152F037A	HV-152F005A	Core Spray Injection
HV-152F006B HV-152F037B	HV-152F005B	Core Spray Injection
HV-151F050A HV-151F122A	HV-151F015A	LPCI Injection
HV-151F050B HV-151F122B	HV-151F015B	LPCI Injection
HV-151F022	HV-151F023	Head Spray
HV-151F009	HV-151F008	Shutdown Cooling

TSB

**APPROVED AMENDMENT TO THE
UNIT 1 TECHNICAL SPECIFICATIONS BASES MANUAL
REVISION 33
Effective Date 05/31/2002**

Replace the following pages of the Technical Specifications Bases Manual with the enclosed pages. The revised pages are identified by Revision Number and contain vertical lines indicating the area of change.

REMOVE PAGES	REV. #	INSERT PAGES	REV. #
TSB / LOES	32	TSB / LOES	33
TS / B 3.7-27 through TS / B 3.7-29	1	TS / B 3.7-27 through TS / B 3.7-29	2

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

<u>Section</u>	<u>Title</u>	<u>Revision</u>
B 2.0	SAFETY LIMITS BASES	
	Page B 2.0-1	0
	Page TS/B 2.0-2	1
	Pages TS/B 2.0-3 through TSB 2.0-5	1
		corrected
	Page TS/B 2.0-6	1
	Pages B 2.0-7 through B 2.0-9	0
B 3.0	LCO AND SR APPLICABILITY BASES	
	Pages B 3.0-1 through B 3.0-15	0
B 3.1	REACTIVITY CONTROL BASES	
	Pages B 3.1-1 through B 3.1-51	0
B 3.2	POWER DISTRIBUTION LIMITS BASES	
	Page B 3.2-1	0
	Page TS/B 3.2-2	1
	Page B 3.2-3	0
	Pages TS/B 3.2-4 through TS/B 3.2-6	1
	Page B 3.2-7 and B 3.2-8	0
	Page TS/B 3.2-9	1
	Page B 3.2-10	0
	Page TS/B 3.2-11	1
	Page B 3.2-12	0
	Page TS/B 3.2-13	1
	Pages B 3.2-14 and B 3.2-15	0
	Page TS/B 3.2-16	1
	Pages B 3.2-17 and 3.2-18	0
	Page 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 3.3-31	2
	Pages TS / B 3.3-32 and TS / B 3.3-33	3
	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	3
	Page TS / B 3.3-67	2
	Page TS / B 3.3-68	3
	Pages TS / B 3.3-69 through TS / B 3.3-75	2
	Pages 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 3.3-106	0

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

<u>Section</u>	<u>Title</u>	<u>Revision</u>
	Page TS / B 3.3-107	1
	Pages B 3.3-108 through B 3.3-111	0
	Pages TS/B 3.3-112 and TS/B 3.3-112a	1
	Pages B 3.3-113 and B 3.3-114	0
	Pages TS / B 3.3-115 and TS / B 3.3-116	1
	Pages B 3.3-117 through B 3.3-122	0
	Pages B 3.3-123 through B 3.3-124	1
	Page TS / B 3.3-124a	0
	Pages B 3.3-125 through B 3.3-130	0
	Page TS / B 3.3-131	1
	Page B 3.3-132 through B 3.3-137	0
	Page TS / B 3.3-138	1
	Pages B 3.3-139 through B 3.3-162	0
	Page TS / B 3.3-163	1
	Pages B 3.3-164 through B 3.3-177	0
	Pages B 3.3-178 and B 3.3-179	1
	Page B 3.3-179a	0
	Pages TS / B 3.3-180 through TS / B 3.3-191	1
	Pages B 3.3-192 through B 3.3-219	0
B 3.4	REACTOR COOLANT SYSTEM BASES	
	Pages B 3.4-1 and B 3.4-2	0
	Page TS/B 3.4-3 and TS/B 3.4-4	1
	Pages B 3.4-5 through B 3.4-14	0
	Pages TS / B 3.4-15	1
	Pages TS / B 3.4-16 and TS / B 3.4-17	2
	Pages 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 3.4-30 through B 3.4-48	0
	Page TS / B 3.4-49	1
	Page B 3.4-50	0
	Page TS / B 3.4-51	1
	Pages B 3.4-52 and B 3.4-53	0
	Pages TS / B 3.4-54 and TS / B 3.4-55	1
	Page B 3.4-56	0
	Page TS / B 3.4-57	1
	Page B 3.4-58 through B 3.4-61	0
B 3.5	ECCS AND RCIC BASES	
	Pages B 3.5-1 and B 3.5-2	0
	Page TS / B 3.5-3	1
	Pages B 3.5-4 through B 3.5-15	0
	Pages TS / B 3.5-16 through TS / B 3.5-18	1
	Pages B 3.5-19 through B 3.5-24	0

SUSQUEHANNA STEAM ELECTRIC STATION

LIST OF EFFECTIVE SECTIONS (TECHNICAL SPECIFICATIONS BASES)

<u>Section</u>	<u>Title</u>	<u>Revision</u>
	Page TS / B 3.5-25	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	2
	Pages TS / B 3.6-15a and TS / B 3.6-15b	0
	Page B 3.6-16	0
	Page TS / B 3.6-17	1
	Page TS / B 3.6-17a	0
	Pages TS / B 3.6-18 and TS / B 3.6-19	0
	Page TS / B 3.6-20	1
	Page TS / B 3.6-21	2
	Page TS / B 3.6-22	1
	Page TS / B 3.6-22a	0
	Page TS / B 3.6-23	1
	Pages TS / B 3.6-24 through TS / B 3.6-26	0
	Page TS / B 3.6-27	1
	Page TS / B 3.6-28	4
	Page TS / B 3.6-29	1
	Page B 3.6-30	1
	Page TS / B 3.6-31	3
	Pages B 3.6-32 through B 3.6-35	0
	Page TS / B 3.6-36	1
	Page B 3.6-37	0
	Page B 3.6-38	1
	Page B 3.6-39	0
	Page TS / B 3.6-40	2
	Pages B 3.6-41 through B 3.6-43	0
	Pages TS / B 3.6-44 through TS / B 3.6-51	1
	Page TS / B 3.6-52	2
	Pages B 3.6-53 through B 3.6-83	0
	Pages TS / B 3.6-84 through TS / B 3.6-88	1
	Page TS / B 3.6-88a	1
	Pages TS / B 3.6-89 through TS / B 3.6-100	1
	Pages B 3.6-101 through B 3.6-107	0
B 3.7	PLANT SYSTEMS BASES	
	Pages TS / B 3.7-1 through TS / B 3.7-6	1
	Page TS / B 3.7-6a	1
	Pages B 3.7-7 through B 3.7-11	0

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

<u>Section</u>	<u>Title</u>	<u>Revision</u>
	Pages TS / B 3.7-12 through TS / B 3.7-23	1
	Pages B 3.7-24 through B 3.7-26	0
	Pages TS / B 3.7-27 through TS / B 3.7-29	2
	Page TS / B 3.7-30	1
	Pages B 3.7-31 through B 3.7-33	0
B 3.8	ELECTRICAL POWER SYSTEMS BASES	
	Pages TS / B 3.8-1 through TS / B 3.8-4	2
	Page TS / B 3.8-5	3
	Pages TS / B 3.8-6 through TS/B 3.8-17	2
	Page TS / B 3.8-18	3
	Pages TS / B 3.8-19 through TS / B 3.8-21	2
	Pages TS / B 3.8-22 and TS / B 3.8-23	3
	Pages TS / B 3.8-24 through TS / B 3.8-37	2
	Pages B 3.8-38 through B 3.8-53	0
	Pages TS / B 3.8-54 through TS / B 3.8-61	1
	Page TS / B 3.8-62	2
	Page TS / B 3.8-63	2
	Page TS / B 3.8-64	1
	Page TS / B 3.8-65	2
	Pages TS/B 3.8-66 through B 3.8-90	0
B 3.9	REFUELING OPERATIONS BASES	
	Pages TS / B 3.9-1 and TS / B 3.9-1a	1
	Pages TS / B 3.9-2 through TS / B 3.9-4	1
	Pages B 3.9-5 through B 3.9-30	0
B 3.10	SPECIAL OPERATIONS BASES	
	Pages TS / B 3.10-1	1
	Pages B 3.10-2 through B 3.10-38	0

B 3.7 PLANT SYSTEMS

B 3.7.6 Main Turbine Bypass System

BASES

BACKGROUND

The Main Turbine Bypass System is designed to control steam pressure when reactor steam generation exceeds turbine requirements during unit startup, sudden load reduction, and cooldown. It allows excess steam flow from the reactor to the condenser without going through the turbine. The bypass capacity of the system is 25% of the Nuclear Steam Supply System rated steam flow. Sudden load reductions within the capacity of the steam bypass can be accommodated without reactor scram. The Main Turbine Bypass System consists of five valves connected to the main steam lines between the main steam isolation valves and the turbine stop valve bypass valve chest. Each of these five valves is operated by hydraulic cylinders. The bypass valves are controlled by the pressure regulation function of the Turbine Electro Hydraulic Control System, as discussed in the FSAR, Section 7.7.1.5 (Ref. 1). The bypass valves are normally closed, and the pressure regulator controls the turbine control valves that direct all steam flow to the turbine. If the speed governor or the load limiter restricts steam flow to the turbine, the pressure regulator controls the system pressure by opening the bypass valves. When the bypass valves open, the steam flows from the bypass chest, through connecting piping, to the pressure breakdown assemblies, where a series of orifices are used to further reduce the steam pressure before the steam enters the condenser.

**APPLICABLE
SAFETY ANALYSES**

The Main Turbine Bypass System fast opening feature is assumed to function during the turbine generator load rejection and feedwater controller failure transients, as discussed in the FSAR, Section 15.2.2 (Ref. 2). Opening the bypass valves during the pressurization event mitigates the increase in reactor vessel pressure, which affects the MCPR during the event. An inoperable Main Turbine Bypass System may result in an MCPR penalty.

The Main Turbine Bypass System satisfies Criterion 3 of the NRC Policy Statement. (Ref. 3)

(continued)

BASES (continued)

LCO

The Main Turbine Bypass System fast opening feature is required to be OPERABLE to limit peak pressure in the main steam lines and maintain reactor pressure within acceptable limits during events that cause rapid pressurization, so that the Safety Limit MCPR is not exceeded. With the Main Turbine Bypass System inoperable, modifications to the MCPR limits (LCO 3.2.2, "MINIMUM CRITICAL POWER RATIO (MCPR)") may be applied to allow this LCO to be met. The MCPR limit for the inoperable Main Turbine Bypass System is specified in the COLR. An OPERABLE Main Turbine Bypass System requires the bypass valves to open in response to increasing main steam line pressure. Licensing analysis credits an OPERABLE Main Turbine Bypass System as having the bypass valve fast opening feature in response to turbine control valve or turbine stop valve closure. This response is within the assumptions of the applicable analysis (Ref. 2).

APPLICABILITY

The Main Turbine Bypass System is required to be OPERABLE at $\geq 25\%$ RTP to ensure that the fuel cladding integrity Safety Limit is not violated during the turbine generator load rejection transient. As discussed in the Bases for LCO 3.2.2, sufficient margin to these limits exists at $< 25\%$ RTP. Therefore, these requirements are only necessary when operating at or above this power level.

ACTIONS

A.1

If the Main Turbine Bypass System is inoperable (one or more bypass valves inoperable), and the MCPR limits for an inoperable Main Turbine Bypass System, as specified in the COLR, are not applied, the assumptions of the design basis transient analysis may not be met. Under such circumstances, prompt action should be taken to restore the Main Turbine Bypass System to OPERABLE status or adjust the MCPR limits accordingly. The 2 hour Completion Time is reasonable, based on the time to complete the Required

(continued)

BASES

ACTIONS
(continued)

B.1

Action and the low probability of an event occurring during this period requiring the Main Turbine Bypass System.

If the Main Turbine Bypass System cannot be restored to OPERABLE status or the MCPR limits for an inoperable Main Turbine Bypass System are not applied, THERMAL POWER must be reduced to < 25% RTP. As discussed in the Applicability section, operation at < 25% RTP results in sufficient margin to the required limits, and the Main Turbine Bypass System is not required to protect fuel integrity during the turbine generator load rejection transient. The 4 hour Completion Time is reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

**SURVEILLANCE
REQUIREMENTS**

SR 3.7.6.1

Cycling each main turbine bypass valve through one complete cycle of full travel demonstrates that the valves are mechanically OPERABLE and will function when required. The 31 day Frequency is based on engineering judgment, is consistent with the procedural controls governing valve operation, and ensures correct valve positions. Operating experience has shown that these components usually pass the SR when performed at the 31 day Frequency. Therefore, the Frequency is acceptable from a reliability standpoint.

SR 3.7.6.2

The Main Turbine Bypass System is required to actuate automatically to perform its design function. This SR demonstrates that, with the required system initiation signals (simulate automatic actuation), the valves will actuate to their required position. The 24 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a unit outage and because of the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown the 24 month Frequency, which is based on the refueling cycle, is acceptable from a reliability standpoint.

(continued)

MANUAL HARD COPY DISTRIBUTION

DOCUMENT TRANSMITTAL 2002-30001

USER INFORMATION:

~~FLAIM*LAUREL B~~ EMPL#:23244 CA#: 0386

~~Address: NUCSA2~~

Phone#: 254-3658

TRANSMITTAL INFORMATION:

TO: ~~FLAIM*LAUREL B~~ 06/18/2002

LOCATION: USNRC

FROM: NUCLEAR RECORDS DOCUMENT CONTROL CENTER
NUCSA-2)

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

ITSB2 - IMPROVED TECHNICAL SPECIFICATIONS BASES
MANUALS UNIT 2

REMOVE MANUAL TABLE OF CONTENTS DATE: 03/21/2002

ADD MANUAL TABLE OF CONTENTS DATE: 06/17/2002

CATEGORY: DOCUMENTS TYPE: ITSB2

ID: ITSB2

REMOVE: REV:30

ADD: REV: 31

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.

TSB

**APPROVED AMENDMENT TO THE
UNIT 2 TECHNICAL SPECIFICATIONS BASES MANUAL
REVISION 31
EFFECTIVE DATE 05/06/2002**

Replace the following pages of the Technical Specifications Bases Manual with the enclosed pages. The revised pages are identified by Revision Number and contain vertical lines indicating the area of change.

REMOVE PAGES	REV. #	INSERT PAGES	REV. #
TSB / LOES	30	TS / B LOES	31
TS / B 3.3-68	2	TS / B 3.3-68	3
B 3.4-29	0	TS / B 3.4-29	1

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

<u>Section</u>	<u>Title</u>	<u>Revision</u>
B 2.0	SAFETY LIMITS BASES	
	Page B 2.0-1	1
	Pages TS / B 2.0-2 through TS / B 2.0-4	2
	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 3.0-15	0
B 3.1	REACTIVITY CONTROL BASES	
	Pages B 3.1-1 through B 3.1-51	0
B 3.2	POWER DISTRIBUTION LIMITS BASES	
	Pages B 3.2-1 through B 3.2-4	1
	Pages TS / B 3.2-5 and TS / B 3.2-6	2
	Pages B 3.2-7 and B 3.2-8	1
	Page TS / B 3.2-9	2
	Pages B 3.2-10 through 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
	Page TS / B 3.3-64 and TS / B 3.3-65	2
	Page TS / B 3.3-66	3
	Page TS / B 3.3-67	2
	Page TS / B 3.3-68	3
	Pages TS / B 3.3-69 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 3.3-100	0
	Pages TS / B 3.3-101 through TS / B 3.3-106	1
	Page TS / B 3.3-107	2
	Pages TS / B 3.3-108 through TS / B 3.3-115	1
	Pages TS / B 3.3-116	2
	Pages TS / B 3.3-117 through TS / B 3.3-123	1
	Page TS / B 3.3-124	2
	Page TS / B 3.3-124a	0

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

<u>Section</u>	<u>Title</u>	<u>Revision</u>
	Pages TS / B 3.3-125 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 3.3-162	0
	Page TS / B 3.3-163	1
	Pages B 3.3-164 through B 3.3-177	0
	Pages B 3.3-178 and B 3.3-179	1
	Page B 3.3-179a	0
	Pages TS / B 3.3-180 through TS / B 3.3-191	1
	Pages B 3.3-192 through B 3.3-220	0
B 3.4	REACTOR COOLANT SYSTEM BASES	
	Pages B 3.4-1 through B 3.4-9	1
	Pages B 3.4-10 through B 3.4-14	0
	Pages TS / B 3.4-15	1
	Pages TS / B 3.4-16 and TS / B 3.4-17	2
	Pages 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	1
	Page B 3.4-50	0
	Page TS / B 3.4-51	1
	Pages B 3.4-52 and B 3.4-53	0
	Pages TS / B 3.4-54 and TS / B 3.4-55	1
	Pages B 3.4-56 and B 3.4-57	0
	Page TS / B 3.4-58	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	1
	Pages TS / B 3.5-4 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

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

<u>Section</u>	<u>Title</u>	<u>Revision</u>
B 3.6	CONTAINMENT SYSTEMS BASES	
	Pages 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 through 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
	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	5
	Page TS / B 3.6-29	2
	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	3
	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 3.6-82	0
	Pages TS / B 3.6-83 through TS / B 3.6-87	1
	Page TS / B 3.6-87a	1
	Pages TS / B 3.6-88 through TS / B 3.6-99	1
	Pages B 3.6-100 through B 3.6-106	0
B 3.7	PLANT SYSTEMS BASES	
	Pages TS / B 3.7-1 through TS / B 3.7-6	1
	Page TS / B 3.7-6a	1
	Pages B 3.7-7 through B 3.7-11	0
	Pages TS / B 3.7-12 through TS / B 3.7-23	1

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

<u>Section</u>	<u>Title</u>	<u>Revision</u>
	Pages B 3.7-24 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 3.8-18	0
	Page TS / B 3.8-19	1
	Pages B 3.8-20 through B 3.8-22	0
	Page 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
	Page 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 3.10-39	0

BASES

LCO

5. Primary Containment High Radiation (continued)

and to provide release assessment for use by operators in determining the need to invoke site emergency plans. Two independent channels, which output to one control room recorder per channel with a range of 10° to 1×10^8 R/hr, monitor radiation. The recorders are the primary method of indication used by the operator during an accident, therefore the PAM Specification deals specifically with this portion of the instrument channel.

6. Primary Containment Isolation Valve (PCIV) Position

PCIV position is provided for verification of containment integrity. In the case of PCIV position, the important information is the isolation status of the containment penetration. The LCO requires a channel of valve position indication in the control room to be OPERABLE for an active PCIV in a containment penetration flow path, i.e., two total channels of PCIV position indication for a penetration flow path with two active valves. For containment penetrations with only one active PCIV having control room indication, Note (b) requires a single channel of valve position indication to be OPERABLE. This is sufficient to redundantly verify the isolation status of each isolable penetration via indicated status of the active valve, as applicable, and prior knowledge of passive valve or system boundary status. If a penetration flow path is isolated, position indication for the PCIV(s) in the associated penetration flow path is not needed to determine status. Therefore, the position indication for valves in an isolated penetration flow path is not required to be OPERABLE. Those valves which require position indication are specified in Table B 3.6.1.3-1. Furthermore, the loss of position indication does not necessarily result in the PCIV being inoperable.

The PCIV position PAM instrumentation consists of position switches unique to PCIVs, associated wiring and control room indicating lamps (not necessarily unique to a PCIV) for active PCIVs (check valves and manual valves are not required to have position indication). Therefore, the PAM Specification deals specifically with these instrument channels.

(continued)

BASES (continued)

TABLE B 3.4.5-1

REACTOR COOLANT SYSTEM PRESSURE ISOLATION VALVES

1st Isolation Valve(s) Number(s)	2nd Isolation Valve(s) Number(s)	Service
HV-252F006A HV-252F037A	HV-252F005A	Core Spray Injection
HV-252F006B HV-252F037B	HV-252F005B	Core Spray Injection
HV-251F050A HV-251F122A	HV-251F015A	LPCI Injection
HV-251F050B HV-251F122B	HV-251F015B	LPCI Injection
HV-251F022	HV-251F023	Head Spray
HV-251F009	HV-251F008	Shutdown Cooling