

TABLE 3.7-4a (Continued)

SAFETY RELATED HYDRAULIC SNUBBERS\*

<u>SNUBBER NO.</u>	<u>SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION</u>				<u>ACCESSIBLE OR INACCESSIBLE</u>	<u>HIGH RADIATION ZONE</u>	<u>ESPECIALLY DIFFICULT TO REMOVE</u>
RC-HSS-3	RC	RCP	Cub. C	722'	I	Yes	Yes
RC-HSS-4	"	"	"	722'	"	"	"
PS-245-VS-1	"	"	"	725'	"	"	"
VS-359-1	"	"	"	719'	"	"	"
SI-HSS-420	SI	"	"	731'	"	"	"
SI-HSS-421	"	"	"	731'	"	"	"
RC-HSS-101	RC	RCP	Cub. A.	739'	I	Yes	Yes
RC-HSS-102	"	"	"	739'	"	"	"
SI-HSS-102A	SI	"	"	745'	"	"	"
SI-HSS-102B	"	"	"	745'	"	"	"
SI-HSS-414	"	"	"	741'	"	"	"
RC-HSS-103	RC	RCP	Cub. B	739'	"	"	"
RC-HSS-104	"	"	"	739'	"	"	"
SI-HSS-418	SI	"	"	741'	"	"	"
RC-HSS-23	RC	REA.	CONT. BLDG.	749'	A	No	No
RC-HSS-105	RC	RCP	Cub. C	739'	I	Yes	Yes
RC-HSS-106	RC	"	"	739'	"	"	"
RC-HSS-130	"	"	"	739'	I	"	"
RC-HSS-131	"	"	"	739'	"	"	"
SI-HSS-114A	SI	"	"	745'	"	"	"
SI-HSS-114B	"	"	"	745'	"	"	"
SI-HSS-422	"	"	"	741'	"	"	"
SI-HSS-423	"	"	"	739'	"	"	"
RC-HSS-41A	"	"	"	784'	"	"	"

\* Snubbers may be added to safety related systems without prior License Amendment to Table 3.7-4 provided that safety evaluations, documentation and reporting are provided in accordance with 10 CFR 50.59 and that a revision to Table 3.7-4 is included with a subsequent License Amendment request.

BEAVER VALLEY - UNIT 1  
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Proposed wording

TABLE 3.7-4a (Continued)

## SAFETY RELATED HYDRAULIC SNUBBERS\*

SNUBBER NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION		ACCESSIBLE OR INACCESSIBLE	HIGH RADIATION ZONE	ESPECIALLY DIFFICULT TO REMOVE
WFPD-HSS-207	FW	REA. CONT. BLDG.	772'	A	No
WFPD-HSS-208	"	"	772'	"	"
WFPD-HSS-208A	"	"	771'	"	"
SHP-HSS-207	MS	"	796'	I	Yes
SHP-HSS-208	"	"	796'	"	"
WFPD-HSS-221	FW	"	772'	A	No
WFPD-HSS-212	"	"	772'	"	"
WFPD-HSS-212A	"	"	771'	"	"
SHP-HSS-213	MS	"	798'	I	Yes
SHP-HSS-214	"	"	798'	"	"
SHP-HSS-209	"	"	798'	"	"
SHP-HSS-210	"	"	798'	"	"
SHP-HSS-211	"	"	798'	"	"
SHP-HSS-212	"	"	798'	"	"
SHP-HSS-214A	"	"	805'	"	"
WFPD-HSS-209	FW	"	780'	A	No
WFPD-HSS-210	"	"	780'	"	"
RC-HSS-119	"	"	734'	"	"
SI-PSSP-337	SI	"	728'	"	No
SI-HSS-409	"	"	729'	"	"
SI-HSS-410	"	"	731'	"	"
SI-HSS-411	"	"	731'	"	"
RS-HSS-201	RS	"	731'	"	Yes

\* Snubbers may be added to safety related systems without prior License Amendment to Table 3.7-4 provided that safety evaluations, documentation and reporting are provided in accordance with 10 CFR 50.59 and that a revision to Table 3.7-4 is included with a subsequent License Amendment request.

TABLE 3.7-4b

SAFETY RELATED MECHANICAL SNUBBERS\*

<u>SNUBBER NO.</u>	<u>SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION</u>	<u>ACCESSIBLE OR INACCESSIBLE</u>	<u>HIGH RADIATION ZONE**</u>	<u>ESPECIALLY DIFFICULT TO REMOVE</u>
RC-PSSP-115	RC Pressurizer Cub. 768'	A	Yes	No
RC-PSSP-116	" " 768'	"	"	"
RC-PSSP-24A	" " 770'	"	"	Yes
RC-PSSP-24B	" " 769'	"	"	"
RC-PSSP-25A	" " 779'	"	"	"
RC-PSSP-25B	" " 778'	"	"	"
RC-HSS-042A-A	" " 784'	"	"	"
RC-HSS-042A-B	" " 784'	"	"	"
RC-PSSP-122A	" " 784'	"	"	"
RC-PSSP-122B	" " 784'	"	"	"
RC-PSSP-301	" " 784'	I	"	"
CC-PSSP-300A	CC P.A. Bldg. 726'	A	No	No
CC-PSSP-300B	" " 726'	"	"	"
CC-HSS-406A	CC Pipe Annulus 710'	I	Yes	Yes
CC-HSS-406B	" " " 710'	"	"	"
WR-HSS-307	RW P.A. Bldg. 732'	A	No	No
WGCB-PSSP-101	SGBD Rea. Cont. Bldg. 727'	"	Yes	"
WGCB-H-47A	" " " 731'	"	"	"
RC-PSSP-128	RC PRT Cub. 735'	"	"	"
RC-PSSP-129	" " 733'	"	"	"
WGCB-PSSP-46E	SGBD RCP Cub. A 740'	"	"	"
WGCB-PSSP-46F	" " 740'	"	"	"
WGCB-PSSP-46G	" " 740'	"	"	"
WGCB-PSSP-46H	" " 740'	"	"	"

\* Snubbers may be added to safety related systems without prior License Amendment to Table 3.7-4b provided that a revision to Table 3.7-4b is included with the next License Amendment request.

\*\*Modifications to this column due to changes in high radiation areas may be made without prior License Amendment provided that a revision to Table 3.7-4b is included with the next License Amendment request.

TABLE 3.7-4b, Continued

SAFETY RELATED MECHANICAL SNUBBERS\*

<u>SNUBBER NO.</u>	<u>SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION</u>	<u>ACCESSIBLE OR INACCESSIBLE</u>	<u>HIGH RADIATION ZONE**</u>	<u>ESPECIALLY DIFFICULT TO REMOVE</u>	
CC-HS-021B	CC RCP Cub. A	744'	A	Yes	No
CC-HS-021A	" "	745'	"	"	"
CC-HS-001A	CC RCP Cub. B	740'	"	"	"
CC-HS-001b	" "	739'	"	"	"
WGCB-PSSP-200A	SGBD "	740'	"	"	"
WGCB-PSSP-200B	" "	740'	"	"	"
WGCB-PSSP-200C	" "	740'	"	"	"
WGCB-PSSP-200D	" "	740'	"	"	"
WGCB-PSSP-55G	SGBD RCP Cub. C	722'	"	"	"
WGCB-PSSP-55H	" "	722'	"	"	"
WGCB-PSSP-55E	" "	728'	"	"	"
WGCB-PSSP-55F	" "	728'	"	"	"
RC-PSSP-20	RC PRT Cub.	734'	"	"	"

\* Snubbers may be added to safety related systems without prior License Amendment to Table 3.7-4b provided that a revision to Table 3.7-4b is included with the next License Amendment request.

\*\*Modifications to this column due to changes in high radiation areas may be made without prior License Amendment provided that a revision to Table 3.7-4b is included with the next License Amendment request.

## ATTACHMENT B

Proposed Change Request No. 78 revises the Beaver Valley Power Station, Unit No. 1 Technical Specifications Appendix A, Tables 3.7-4a and 3.7-4b, Safety Related Hydraulic and Mechanical Snubbers.

The addition of mechanical snubbers by DCP's 253, 305 and 408 and the removal of hydraulic snubbers by DCP-305 requires modifications be made to Table 3.7-4a and 3.7-4b. The attached list summarizes the snubber changes involved in the proposed Tech. Spec. change.

The purpose of DCP-253 was to perform a re-analysis of piping and hangers originally designed using algebraic summation in the computer calculation of seismic loads by using an acceptable method of calculation in accordance with the NRC Show Cause Order of March 14, 1979. The DCP-253 snubbers involved in the proposed Tech. Spec. change are located on the pressurizer-to-PORV piping.

The purpose of DCP-305 was to 1) inspect and modify certain safety related piping systems as required by I & E Bulletin 79-14 and 2) analyze and make the final modifications to the piping supports between the pressurizer and PRT, which was started under DCP-253. The DCP-305 snubber modifications result from either the 79-14 requirements or the pressurizer piping analysis.

The purpose of DCP-408 was to provide automatic isolation of the Steam Generator Blowdown and Auxiliary Steam lines in the event of a High Energy Line Break (HEL $\bar{B}$ ) outside of containment. These modifications were required to satisfy environmental qualification requirements of I & E Bulletin 79-01B. The snubbers were installed on the blowdown lines inside containment primarily in the area of the newly installed blowdown isolation valves.

The pipe support modifications enhance the safety of the plant and thus decrease the possibility of an accident since the supports are now installed in accordance with more conservative analytical procedures which meet the original design intent of the FSAR.

The changes provide a more conservative design resulting in the increased reliability of the piping system to perform under normal operating or accident conditions. In addition, modifications to the pressurizer-to-PRT piping supports has enabled the station to re-establish the water loop seals on the pressurizer safety valves which reduces the probability of leakage of reactor coolant and radioactive gases past the safety valve seats.

The pipe support modifications, which include the snubbers, were made because of the additional loads placed on the piping by addition of the isolation valves and the effect of pipe whip caused by a HEL $\bar{B}$ . The modifications were made in accordance with applicable design requirements and therefore maintain the previous reliability of the piping system.

The Basis to Technical Specification 3/4.7.12, Snubbers, states in part that "snubbers are required OPERABLE to ensure that the structural integrity of the reactor coolant system and all other safety-related systems is maintained during and following a seismic or other similar event initiating dynamic loads." As noted above, the snubber modifications involved in this Tech. Spec. change have been designed and installed to maintain or increase the structural integrity of the affected piping systems. The addition of new snubbers to Tables 3.7-4a and 3.7-4b ensures that these snubbers are periodically visually inspected and functionally tested in accordance with Section 4.7.12. Consequently the margin of safety as defined in the basis to Section 3/4.7.12 is not reduced.

The opening of the PORV's or pressurizer safety valves is required to mitigate the consequences of several accidents described in Section 14 of the Updated FSAR, including the following:

Section 14.1.7 - Loss of External Electrical Load and/or Turbine Trip, Section 14.2.4 - Steam Generator Tube Rupture, Section 14.2.5.2 Major Rupture of a Main Feedwater Pipe, Section 14.2.7 - Single Reactor Coolant Pump Locked Rotor.

In each case the DCP-253 and DCP-305 snubber modifications will increase the reliability of the pressurizer-to-PRT piping system to withstand the loads caused by valve opening. These modifications will also increase the reliability of the piping to prevent a seismic event as described in Section 14.1.14, Accidents Due to External Environmental Causes.

The probability of occurrence of an accident which could be caused by opening of the pressurizer safety valves, Section 14.1.15-Accidental Depressurization of the RCS, and of an accident which could be caused by rupture of piping between the pressurizer and the PORV's/safety valves, Section 14.3.1-Loss of Reactor Coolant from Small Ruptured Pipes or From Cracks in Large Pipes Which Actuates Emergency Core Cooling System, will not be increased by the snubber modifications.

The DCP-408 snubber modifications will not increase the probability of occurrence of a HELB as described in Appendix D of the FSAR, Report of the Effects of a Piping System Break Outside Containment, nor will they increase the consequences of such a pipe break.

The following Sections of the Updated FSAR were reviewed and it was determined that the probability of occurrence of a malfunction of equipment important to safety is not increased by this change: 4.2.2-Components Description (RCS), 9.4-Component Cooling Water System, 10.3.2-Auxiliary Steam, and 10.3.8-Secondary Vent and Drain System.

Since the snubber modifications are designed and installed to improve or maintain the integrity of the affected piping systems, no accidents or malfunction of equipment not previously evaluated in the FSAR can be foreseen which would be created by these modifications.

The OSC and ORC have reviewed this proposed change and based on the above safety evaluation, it is concluded there is reasonable assurance that the public health and safety will not be endangered by operation in the proposed manner.

Technical Specification  
Snubber Changes

Snubber Mark No.	Hydraulic or Mechanical	DCP No.	Add or Remove Snubber	Outage When Work Completed
CC-HS-001A	Mechanical	305	Add	2R
CC-HS-001B	Mechanical	305	Add	2R
CC-HS-021A	Mechanical	305	Add	2R
CC-HS-021B	Mechanical	305	Add	2R
RC-HSS-042A-A	Mechanical	253	Add	1R
RC-HSS-042A-B	Mechanical	253	Add	1R
RC-PSSP-20	Mechanical	305	Add	4/81
RC-PSSP-24A	Mechanical	305	Add	2R
RC-PSSP-24B	Mechanical	305	Add	2R
RC-PSSP-25A	Mechanical	305	Add	2R
RC-PSSP-25B	Mechanical	305	Add	2R
RC-PSSP-115	Mechanical	305	Add	2R
RC-PSSP-116	Mechanical	305	Add	2R
RC-PSSP-122A	Mechanical	305	Add	2R
RC-PSSP-122B	Mechanical	305	Add	2R
RC-PSSP-128	Mechanical	305	Add	2R
RC-PSSP-129	Mechanical	305	Add	2R
WGCB-H-47A	Mechanical	408	Add	2R
WGCB-PSSP-46E	Mechanical	408	Add	2R
WGCB-PSSP-46F	Mechanical	408	Add	2R
WGCB-PSSP-46G	Mechanical	408	Add	2R
WGCB-PSSP-46H	Mechanical	408	Add	2R
WGCB-PSSP-55E	Mechanical	408	Add	2R
WGCB-PSSP-55F	Mechanical	408	Add	2R
WGCB-PSSP-55G	Mechanical	408	Add	2R
WGCB-PSSP-55H	Mechanical	408	Add	2R
WGCB-PSSP-101	Mechanical	408	Add	2R
WGCB-PSSP-200A	Mechanical	408	Add	2R
WGCB-PSSP-200F	Mechanical	408	Add	2R
WGCB-PSSP-200C	Mechanical	408	Add	2R
WGCB-PSSP-200D	Mechanical	408	Add	2R
RC-HSS-22	Hydraulic	305	Remove*	2R
RC-HSS-128	Hydraulic	305	Remove*	2R
RC-HSS-129	Hydraulic	305	Remove*	2R

\* Replaced with Mechanical Snubbers.