PRIORITY [redacted]hal

DISPOSITION OF THE ORIGINAL DOCUMENT WILL BE TO THE TRANSMITTAL SIGNATURE UNLESS RECIPIENT IS OTHERWISE IDENTIFIED BELOW

1) 03679 J L YON CT01A
2) 03759 U S NUC REG WASHINGTON, DC
3) 03796 SCIENTECH DUNEDIN, FL
4) 03807 W M CARWILE SYS ENG CN03SE
5) 03833 CNS COMPL FILE (ORIG)X CN01RC
6) 03945 OPS TRAINING CT01A
7) 04446 M E HENSHAW EC08H
8) 04490 C T KIKER CT01A
9) 04552 L E HAYNES EC07F
10) 05160 P T VU MG01RC
11) 05309 R L EDMOND CT01A
12) 05323 K E NICHOLSON CN01RC
13) 05327 L P BYERS CN02OP
14) 05328 CNS OPS REF LIBRARY CN02OP
15) 05330 CNS PLANT ENGINEERING CN03CE

Duke Energy
DOCUMENT TRANSMITTAL FORM

REFERENCE

CATAWBA NUCLEAR STATION

SELECTED LICENSEE COMMITMENTS

Date: 09/13/07

Document Transmittal #: DUK072560048

QA CONDITION ☐ Yes ■ No

OTHER ACKNOWLEDGEMENT REQUIRED ■ Yes

IF QA OR OTHER ACKNOWLEDGEMENT REQUIRED, PLEASE ACKNOWLEDGE RECEIPT BY RETURNING THIS FORM TO:

Duke Energy
4800 Concord Road
Document Management
CN04DM
York, South Carolina 29745

Rec'd By _____

Date _____

DOCUMENT NO	QA COND	REV #/ DATE	DISTR CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTAL
LOEP (PGS. 1-4)	NA	032 08/16/07	CADM-03	V1	V10	V1	V1	X	V26	V1	V1	V1	V1	V1	V1	V3	V1	V1	91
CHAPTER 16.9-13	NA	001 03/19/07																	

REMARKS: PLEASE REFER TO THE ATTACHED MEMO FOR FILING INSTRUCTIONS

J R MORRIS
VICE PRESIDENT
CATAWBA NUCLEAR STATION

BY:

B ALDRIDGE CN01SA BA/RBE

A053
NRR

DUKE ENERGY CORPORATION
Catawba Nuclear Station
4800 Concord Road
York, SC 29745

803 831 3000

August 16, 2007

RE: Catawba Nuclear Station
Selected Licensee Commitments Manual
Revision Date 03/19/07

Attached are revisions to the Catawba Nuclear Station Selected Licensee Commitments Manual. Please remove and replace the following pages:

REMOVE	INSERT
LIST OF EFFECTIVE SECTIONS	
Pages 1 through 4 Revision 31	Pages 1 through 4 Revision 32
TAB 16.9	
16.9-13-1 through 16.9-13-14 Revision 0	16.9-13-1 through 16.9-13-21 Revision 1

If you have any questions concerning the contents of this package update, please contact Betty Aldridge at (803) 831-3758.

Randall D. Hart
Regulatory Compliance Manager

Attachments

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
TABLE OF CONTENTS	9	03/08/07
16.1	0	10/09/02
16.2	1	10/17/02
16.3	0	10/09/02
16.5-1	1	10/24/06
16.5-2	Deleted	
16.5-3	1	02/20/04
16.5-4	0	10/09/02
16.5-5	0	10/09/02
16.5-6	0	10/09/02
16.5-7	0	10/09/02
16.5-8	1	05/18/04
16.5-9	0	10/24/06
16.5-10	0	03/08/07
16.6-1	0	10/09/02
16.6-2	Deleted	
16.6-3	0	10/09/02
16.6-4	0	10/09/02
16.6-5	0	10/09/02
16.7-1	0	10/09/02
16.7-2	1	08/20/04
16.7-3	0	10/09/02
16.7-4	0	10/09/02
16.7-5	1	01/02/03

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.7-6	1	11/17/05
16.7-7	0	10/09/02
16.7-8	1	05/25/05
16.7-9	4	02/01/05
16.7-10	0	10/09/02
16.7-11	0	10/09/02
16.7-12	0	10/09/02
16.7-13	1	05/17/06
16.7-14	0	10/06/03
16.7-15	0	03/01/05
16.8-1	1	02/01/05
16.8-2	1	10/24/06
16.8-3	1	10/24/06
16.8-4	1	10/24/06
16.8-5	2	02/20/04
16.9-1	4	08/03/06
16.9-2	3	05/25/05
16.9-3	0	10/09/02
16.9-4	2	05/25/05
16.9-5	3	05/17/06
16.9-6	3	10/24/06
16.9-7	3	03/10/04
16.9-8	4	10/24/06
16.9-9	2	03/10/04

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.9-10	4	10/24/06
16.9-11	2	03/10/04
16.9-12	1	03/10/04
16.9-13	1	03/19/07
16.9-14	1	09/25/06
16.9-15	0	10/09/02
16.9-16	0	10/09/02
16.9-17	0	10/09/02
16.9-18	0	10/09/02
16.9-19	1	01/02/03
16.9-20	0	10/09/02
16.9-21	0	10/09/02
16.9-22	0	10/09/02
16.9-23	2	05/25/05
16.9-24	2	10/24/06
16.9-25	0	04/03/06
16.10-1	0	10/09/02
16.10-2	1	10/24/06
16.10-3	0	08/21/03
16.11-1	0	10/09/02
16.11-2	0	10/09/02
16.11-3	0	10/09/02
16.11-4	0	10/09/02
16.11-5	0	10/09/02

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.11-6	0	10/09/02
16.11-7	1	02/27/03
16.11-8	0	10/09/02
16.11-9	0	10/09/02
16.11-10	0	10/09/02
16.11-11	1	03/20/03
16.11-12	0	10/09/02
16.11-13	0	10/09/02
16.11-14	0	10/09/02
16.11-15	0	10/09/02
16.11-16	0	10/09/02
16.11-17	0	10/09/02
16.11-18	0	10/09/02
16.11-19	0	10/09/02
16.11-20	0	10/09/02
16.11-21	0	10/09/02
16.12-1	0	10/09/02
16.13-1	0	10/09/02
16.13-2	Deleted	
16.13-3	Deleted	
16.13-4	0	10/09/02

16.9 AUXILIARY SYSTEMS

16.9-13 Snubbers

COMMITMENT

----------NOTES----------

1. Snubbers installed on non-safety related systems may be excluded from these requirements provided their failure or the failure of the system on which they are installed would not have an adverse effect on any safety related system.

2. If a snubber does not support the OPERABILITY of a Technical Specification required system, or if the supported system is not required to be OPERABLE, then Limiting Condition for Operation (LCO) 3.0.8 is not utilized.

All snubbers shall be OPERABLE.

APPLICABILITY: Whenever the system supported by the snubber is required to be OPERABLE.

REMEDIAL ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. ----------NOTE---------- Only applicable to seismic snubbers which support the OPERABILITY of Technical Specification required systems. ----------	A.1 Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately upon determination of train inoperability OR 72 hours
	AND	
One or more snubber(s) associated with one train of multiple train system(s) inoperable. OR One or more snubber(s) associated with single train system(s) inoperable.	A.2 ----------NOTE---------- Only applicable when utilizing the 72 hour Completion Time of Required Action A.1. ---------- Verify at least one train of the Auxiliary Feedwater (AFW) System (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), is OPERABLE.	Immediately
	AND	
	A.3 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis.	Prior to restoring affected train to OPERABLE status OR 72 hours

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. ----------NOTE---------- Only applicable to seismic snubbers which support the OPERABILITY of Technical Specification required systems. ---------- One or more snubber(s) associated with more than one train of multiple train system(s) inoperable.	B.1 Verify at least one train of the AFW System (including a minimum set of supporting equipment required for its successful operation) or alternative cooling method not associated with the inoperable snubber(s), is OPERABLE.	Immediately
	AND	
	B.2 Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately upon inoperability of all AFW System trains and all alternative cooling methods OR 12 hours
	AND	
	B.3 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis.	Prior to restoring affected train(s) to OPERABLE status OR 12 hours

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. ----------NOTE---------- Only applicable to seismic snubbers which support the OPERABILITY of Technical Specification required systems. ----------	C.1 Verify at least one train of the AFW System (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), is OPERABLE.	Immediately
One or more snubber(s) associated with one train of multiple train system(s) inoperable.	AND	
AND	C.2 Perform a qualitative risk assessment of the resulting configuration.	Immediately
Opposite train of associated system(s) inoperable for reasons other than inoperable snubber(s).	AND	
	C.3 Enter the applicable Conditions and Required Actions for the affected train(s) of multiple train system(s) that contain the inoperable snubber(s).	Immediately upon inoperability of all AFW System trains OR 72 hours
	AND	
	C.4 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ----------	
	Perform engineering evaluation per the Functional Test Failure Analysis.	Prior to restoring affected train(s) to OPERABLE status OR 72 hours

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. ----------NOTE---------- Only applicable to non-seismic snubbers which support the OPERABILITY of Technical Specification required systems. ---------- One or more snubber(s) inoperable.	D.1 Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately
	AND	
	D.2 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis.	Immediately

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. One or more snubber(s) inoperable. AND Prior system OPERABILITY evaluation performed.	E.1 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis to determine impact on prior system OPERABILITY evaluation.	Immediately
	AND	
	E.2 ----------NOTE---------- Only applicable if prior system OPERABILITY evaluation is invalidated. ---------- Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately

TESTING REQUIREMENTS

----------NOTES----------

1. Each snubber shall be demonstrated OPERABLE by performance of the following augmented inservice inspection program.

2. Snubbers which fail the visual inspection or the functional test acceptance criteria shall be repaired or replaced. Replacement snubbers and snubbers which have repairs which might affect the functional test results shall be tested to meet the functional test criteria before installation in the unit. Mechanical snubbers shall have met the acceptance criteria subsequent to their most recent service, and the freedom of motion test shall have been performed within 12 months before being installed in the unit.

3. As used in this SLC, "type of snubber" shall mean snubbers of the same design and manufacturer, irrespective of capacity.

	TEST	FREQUENCY
TR 16.9-13-1	----------NOTE---------- Snubbers are categorized as inaccessible or accessible during reactor operation and may be inspected independently according to the schedule determined by Table 16.9-13-1. The first inspection interval using Table 16.9-13-1 shall be based upon the previous inspection interval as established by the requirements in effect before Technical Specification Amendment 88 (Unit 1) and 82 (Unit 2). ----------	
	Perform a visual inspection for each category of snubber.	In accordance with Table 16.9-13-1
TR 16.9-13-2	----------NOTE---------- In case of a severe dynamic event, mechanical snubbers in the system which experienced the event shall be inspected during the refueling outage to assure that they have freedom of movement and are not frozen up. ----------	
	Perform an inspection, during shutdown, to determine if there has been a severe dynamic event for systems which have the potential for a severe dynamic event.	18 months

(continued)

TESTING REQUIREMENTS (continued)

	TEST	FREQUENCY
TR 16.9-13-3	----------NOTE---------- The large-bore steam generator hydraulic snubbers shall be treated as a separate population for functional test purposes and shall be functionally tested under Sample Plan 1. ---------- Perform, during shutdown, snubber functional testing on a representative sample of each type of snubber in accordance with one of the following three Sample Plans: 1. Functionally test 10% of a type of snubber with an additional 10% tested for each functional testing failure, or 2. Functionally test a sample size and determine sample acceptance or continue testing using Figure 16.9-13-1, or 3. Functionally test a representative sample size and determine sample acceptance or rejection using the stated equation.	18 months
TR 16.9-13-4	----------NOTE---------- Service life records shall be documented and the documentation retained for the duration of the unit operating license. ---------- Verify that the service life of all snubbers has not been exceeded or will not be exceeded prior to the next scheduled surveillance inspection.	18 months

Table 16.9-13-1

Snubber Visual Inspection Interval (page 1 of 2)

POPULATION OR CATEGORY (NOTES 1 AND 2)	NUMBER OF UNACCEPTABLE SNUBBERS		
	COLUMN A EXTEND INTERVAL (NOTES 3 AND 6)	COLUMN B REPEAT INTERVAL (NOTES 4 AND 6)	COLUMN C REDUCE INTERVAL (NOTES 5 AND 6)
1	0	0	1
80	0	0	2
100	0	1	4
150	0	3	8
200	2	5	13
300	5	12	25
400	8	18	36
500	12	24	48
750	20	40	78
≥ 1000	29	56	109

Note 1: The next visual inspection interval for a snubber population or category size shall be determined based upon the previous inspection interval and the number of unacceptable snubbers found during that interval. Snubbers may be categorized, based upon their accessibility during power operation, as accessible or inaccessible. These categories may be examined separately or jointly. However, the licensee must make and document that decision before any inspection and shall use that decision as the basis upon which to determine the next inspection interval for that category.

Note 2: Interpolation between population or category sizes and the number of unacceptable snubbers is permissible. Use next lower integer for the value of the limit for Columns A, B, or C if that integer includes a fractional value of unacceptable snubbers as determined by interpolation.

Note 3: If the number of unacceptable snubbers is equal to or less than the number in Column A, the next inspection interval may be twice the previous interval but not greater than 48 months.

Note 4: If the number of unacceptable snubbers is equal to or less than the number in Column B but greater than the number in Column A, the next inspection interval shall be the same as the previous interval.

Note 5: If the number of unacceptable snubbers is equal to or greater than the number in Column C, the next inspection interval shall be two-thirds of the previous interval. However, if the number of unacceptable snubbers is less than the number in Column C but greater than the number in Column B, the

Table 16.9-13-1

Snubber Visual Inspection Interval (page 2 of 2)

next interval shall be reduced proportionally by interpolation, that is, the previous interval shall be reduced by a factor that is one-third of the ratio of the difference between the number of unacceptable snubbers found during the previous interval and the number in Column B to the difference in the numbers in Columns B and C.

Note 6: The provisions of SLC 16.2.6 are applicable for all inspection intervals up to and including 48 months.

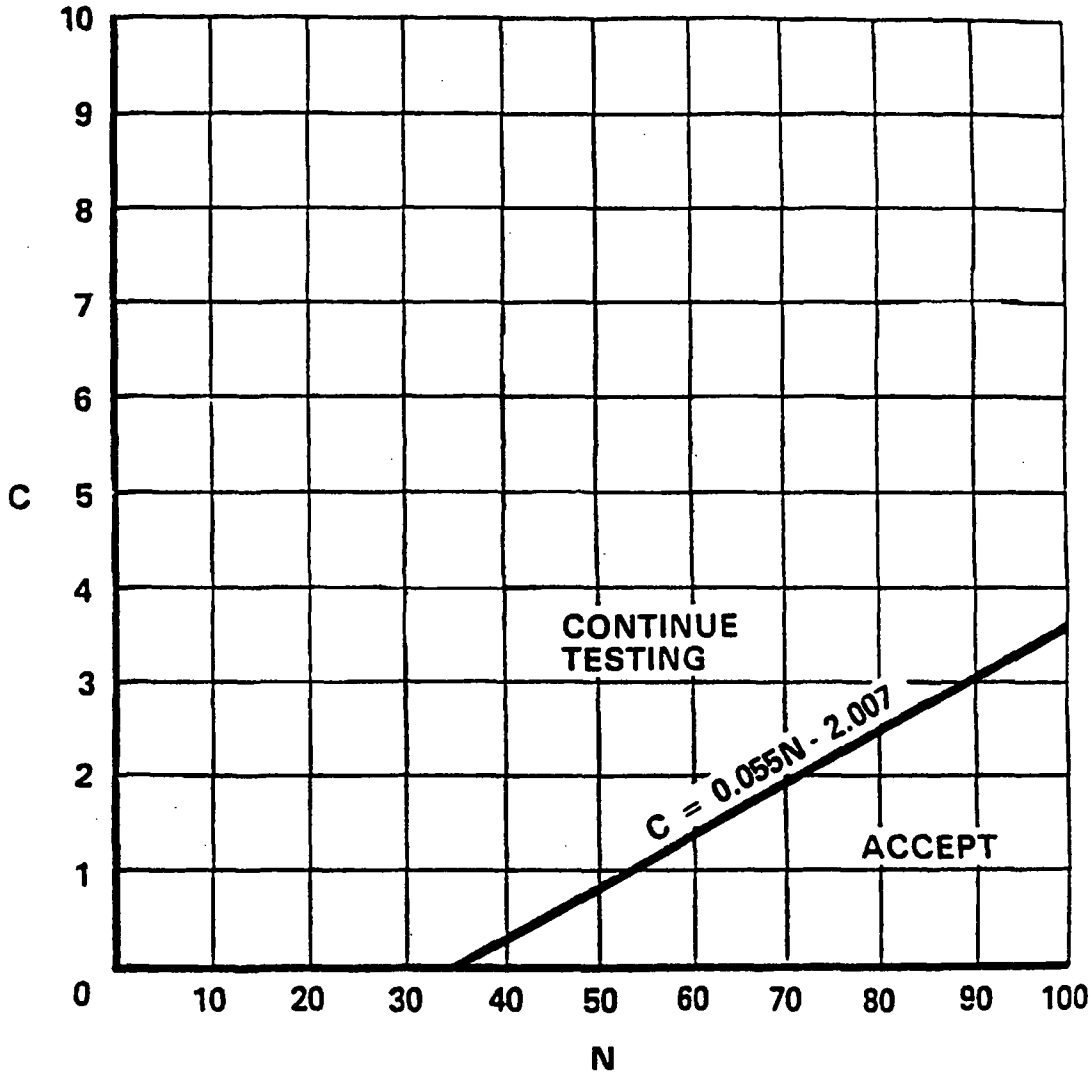

Figure 16.9-13-1

Sample Plan 2 for Snubber Functional Test

BASES

All 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 event initiating dynamic loads.

The snubber requirements of SLC 16.9-13 were originally located in the Technical Specifications. The Nuclear Regulatory Commission (NRC) authorized the use of these requirements, while located in Technical Specifications, as an acceptable alternative to the requirements of the ASME Code, 1989 Edition, Section XI, Article IWF-5000 (References 3, 4). Any revision to these snubber visual inspection and functional test requirements shall consider the basis for the granted relief from the ASME Code requirements and any resulting requirement for NRC review and approval.

Snubbers are classified and grouped by design and manufacturer but not by size. For example, mechanical snubbers utilizing the same design features of the 2-kip, 10-kip, and 100-kip capacity manufactured by Company "A" are of the same type. The same design mechanical snubbers manufactured by Company "B" for the purposes of this SLC would be of a different type, as would hydraulic snubbers from either manufacturer.

A list of individual snubbers with detailed information of snubber location and size and of system affected shall be available at the plant in accordance with Section 50.71(c) of 10 CFR Part 50. The addition or deletion of any hydraulic or mechanical snubber shall be made in accordance with Section 50.59 of 10 CFR Part 50.

The OPERABILITY requirements for snubbers which mitigate significant seismic or non-seismic loads do not meet the criteria in 10 CFR 50.36(c)(2)(ii) for inclusion in plant Technical Specifications; therefore, these requirements are contained in this SLC. The programmatic requirements for the visual inspection and functional testing of these snubbers also do not meet the criteria in 10 CFR 50.36(c)(2)(ii) for inclusion in plant Technical Specifications and, as such, are appropriate for control by this SLC and are the same for both categories of snubbers.

Seismic Snubbers

Seismic snubbers are installed primarily to mitigate loads resulting from a seismic event. However, some seismic snubbers also mitigate other non-seismic loads. If these non-seismic loads have been determined to have no effect on the OPERABILITY of the associated Technical Specification supported system(s) while the snubber(s) are inoperable (as determined by Engineering), then Technical Specification LCO 3.0.8 governs the OPERABILITY requirements for these snubbers.

LCO 3.0.8 establishes conditions under which Technical Specification supported systems are considered to remain OPERABLE when associated seismic snubbers are not capable of providing their associated support function(s). This LCO states that the supported system is not considered to

BASES (continued)

be inoperable solely due to one or more of these snubbers not being capable of performing their associated support function(s). Thus, any affected supported system LCO(s) are not required to be declared not met solely for this reason, if risk is assessed and managed. This is appropriate because: (1) a limited length of time is allowed for inspection, testing, maintenance, or repair of one or more of these snubbers not capable of performing their associated support function(s); (2) REMEDIAL ACTIONS are specified in this SLC; (3) there is a low probability of a seismic event concurrent with an event that would require operation of the supported system while the snubber(s) are not capable of performing their associated support function; and (4) the redundant train of the supported system is normally available. LCO 3.0.8 represents an allowance that does not have to be utilized. It is always acceptable to either wait until the supported system LCO(s) are not applicable or declare the Technical Specification supported system(s) inoperable.

If the allowed time expires and the seismic snubber(s) are unable to perform their associated support function(s), the affected supported system LCO(s) must be declared not met and the Conditions and Required Actions entered in accordance with LCO 3.0.2.

Snubbers with Both Seismic and Significant Non-Seismic Loads

If the affected snubber(s) have more than one function, one of which is the mitigation of seismic loads, than LCO 3.0.8 may be utilized. However, there must be a deterministic analysis that demonstrates that the Technical Specification supported system(s) can still perform their functions in spite of the non-seismic loads. For example, if the affected snubber(s) mitigate both seismic loads and accident loads (i.e., blowdown loads), then only the accident loads are considered deterministically to determine if the supported system(s) are OPERABLE. If the Technical Specification supported system(s) are OPERABLE for the non-seismic loads, then LCO 3.0.8 may be utilized for the seismic loads. Otherwise, LCO 3.0.8 cannot be utilized.

Snubbers with Significant Non-Seismic Loads

LCO 3.0.8 may not be utilized for snubbers with significant non-seismic loads that impact the OPERABILITY of Technical Specification supported system(s).

REMEDIAL ACTIONS

When one or more installed snubbers are discovered to be inoperable by means of routine walk down or observation, the applicable REMEDIAL ACTIONS for any affected system(s) and component(s) must be entered immediately and an engineering evaluation per the Functional Test Failure Analysis must be performed. The purpose of the evaluation is to determine

BASES (continued)

the cause of failure and to address transportability issues.

For snubbers that are removed for testing or maintenance activities, it is possible that a prior evaluation of the system may verify the continued operability of the system with the snubber(s) removed. In these cases, it is not necessary to enter into the system REMEDIAL ACTIONS as long as the conditions of the prior evaluation are met.

Should one or more snubbers fail to meet testing acceptance criteria or be discovered in a condition where failure is apparent, an engineering evaluation is to be performed within the prescribed time frame, as described in the Functional Test Failure Analysis.

Condition A applies when one or more seismic snubber(s) associated with one train of multiple train system(s) are inoperable or when one or more seismic snubber(s) associated with single train system(s) are inoperable, and thus are not capable of providing their associated support function(s). If the LCO 3.0.8 a. allowance is utilized, the SLC allows up to 72 hours to restore the seismic snubber(s) before declaring the supported system(s) inoperable. Also, there must be an immediate verification that at least one train of the AFW System is OPERABLE (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s). The 72 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported system while the seismic snubber(s) are not capable of performing their associated support function, and the fact that the redundant train of the supported system is normally available. At the end of the specified 72 hour period, the required seismic snubber(s) must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met. A seismic snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified.

Condition B applies when one or more seismic snubber(s) associated with more than one train of multiple train system(s) are inoperable, and thus are not capable of providing their associated support function(s). If the LCO 3.0.8 b. allowance is utilized, the SLC allows up to 12 hours to restore the seismic snubber(s) before declaring the supported system(s) inoperable, provided there is an immediate verification that at least one train of the AFW System is OPERABLE (including a minimum set of supporting equipment required for its successful operation) or an alternative cooling method not associated with the inoperable snubber(s). The alternative cooling method may include, but is not limited to, feed and bleed, fire water system, or aggressive secondary cooldown using the steam generators. The 12 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported

BASES (continued)

system while the seismic snubber(s) are not capable of performing their associated support function. At the end of the specified 12 hour period, the required seismic snubber(s) must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met. The affected supported system LCO(s) shall also be immediately declared not met upon the inoperability of all AFW System trains and all alternative cooling methods. A seismic snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified.

Condition C applies when one or more seismic snubber(s) associated with one train of multiple train system(s) are inoperable and the opposite train of the associated system(s) is also inoperable for reasons other than inoperable snubber(s). The SLC allows up to 72 hours to restore the seismic snubber(s) before declaring the supported system(s) inoperable, provided there is: (1) an immediate verification that at least one train of the AFW System is OPERABLE (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), and (2) an immediate performance of a qualitative risk assessment of the resulting configuration. The 72 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported system while the seismic snubber(s) are not capable of performing their associated support function and the opposite train of the associated system(s) is inoperable. At the end of the specified 72 hour period, the required seismic snubber(s) must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met. The affected supported system LCO(s) shall also be immediately declared not met upon the inoperability of all AFW System trains. A seismic snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified.

Condition D applies when one or more non-seismic snubber(s) are inoperable. In this case, the affected supported system LCO(s) shall be immediately declared not met, as LCO 3.0.8 does not apply to non-seismic snubbers. A snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified. For those inoperable snubbers that mitigate both seismic and non-seismic loads, if the supported system(s) remain operable (as determined via engineering analysis) when subjected to the non-seismic loads, then the provisions of LCO 3.0.8 may be applied for these snubbers.

BASES (continued)

Condition E applies when one or more snubber(s) are inoperable and a prior system OPERABILITY evaluation has been performed. In this case, an engineering evaluation is to be immediately performed per the Functional Test Failure Analysis to determine if the prior evaluation remains valid. If the prior evaluation is invalidated, then the affected supported system LCO(s) shall be immediately declared not met.

This SLC requires that risk be assessed and managed when utilizing the allowances of LCO 3.0.8. Industry and NRC guidance regarding the implementation of 10 CFR 50.65(a)(4) (the Maintenance Rule) does not address seismic risk. However, the use of this SLC should be considered with respect to other plant maintenance activities, and integrated into the existing Maintenance Rule process so that maintenance on any unaffected train or subsystem is properly controlled, and emergent issues are properly addressed. The risk assessment required to utilize LCO 3.0.8 need not be quantified, but may be a qualitative awareness of the vulnerability of systems and components when one or more snubber(s) are not able to perform their associated support function(s).

Visual Inspections

The visual inspection frequency is based upon maintaining a constant level of snubber protection during an earthquake or severe transient. Therefore, the required inspection interval varies inversely with the observed snubber failures and is determined by the number of inoperable snubbers found during an inspection. In order to establish the inspection frequency for each type of snubber, it was assumed that the frequency of snubber failures and initiating events are constant with time and that the failure of any snubber on that system could cause the system to be unprotected and to result in failure during an assumed initiating event. Inspections performed before that interval has elapsed may be used as a new reference point to determine the next inspection. However, the results of such early inspections performed before the original required time interval has elapsed (nominal time less 25%) may not be used to lengthen the required inspection interval. Any inspection whose results require a shorter inspection interval will override the previous schedule. The acceptance criteria are to be used in the visual inspection to determine OPERABILITY of the snubbers.

Visual inspections shall verify that: (1) the snubber has no visible indications of damage or impaired OPERABILITY, (2) attachments to the foundation or supporting structure are functional, and (3) fasteners for the attachment of the snubber to the component and to the snubber anchorage are functional. Snubbers which appear inoperable as a result of visual inspections shall be classified as unacceptable and may be reclassified acceptable for the purpose of establishing the next visual inspection interval, provided that: (i) the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers irrespective of type that may be generically susceptible; and (ii) the affected snubber is functionally tested in

BASES (continued)

the as-found condition and determined OPERABLE. All snubbers found connected to an inoperable common hydraulic fluid reservoir shall be counted as unacceptable and may be reclassified as acceptable for determining the next inspection interval provided that criterion (i) and (ii) above are met. A review and evaluation shall be performed and documented to justify continued operation with an unacceptable snubber. If continued operation cannot be justified, the snubber shall be declared inoperable and the REMEDIAL ACTION requirements shall be met.

Refueling Outage Inspections

At each refueling, the systems which have the potential for a severe dynamic event, specifically, the main steam system (upstream of the main steam isolation valves), the main steam safety and power operated relief valves and piping, auxiliary feedwater system, main steam supply to the auxiliary feedwater pump turbine, and the letdown and charging portion of the chemical and volume control system shall be inspected to determine if there has been a severe dynamic event. In the case of a severe dynamic event, mechanical snubbers in that system which experienced the event shall be inspected during the refueling outage to assure that the mechanical snubbers have freedom of movement and are not frozen up. The inspection shall consist of verifying freedom of motion using one of the following: (1) manually induced snubber movement, or (2) evaluation of in-place snubber piston setting, or (3) stroking the mechanical snubber through its full range of travel. If one or more mechanical snubbers are found to be frozen up during this inspection, those snubbers shall be replaced or repaired before returning to power. The requirements of TESTING REQUIREMENT 16.9-13-1 are independent of the requirements of this item.

Functional Testing

At least once per 18 months during shutdown, a representative sample of snubbers of each type shall be tested using one of the following Sample Plans. The large-bore steam generator hydraulic snubbers shall be treated as a separate type (population) for functional test purposes. A 10% random sample shall be tested at least once per 18 months during refueling with continued testing based on a failure evaluation. The Sample Plan shall be selected prior to the test period and cannot be changed during the test period. The NRC shall be notified in writing of the Sample Plan selected for each snubber type prior to the test period or the Sample Plan used in the prior test period shall be implemented:

1) At least 10% of all snubbers shall be functionally tested either in-place or in a bench test. For each snubber of a type that does not meet the functional test acceptance criteria, an additional 10% of all snubbers shall be functionally tested until no more failures are found or until all snubbers have been functionally tested; or

BASES (continued)

2) A representative sample of all snubbers shall be functionally tested in accordance with Figure 16.9-13-1. "C" is the total number of snubbers of a type found not meeting the acceptance requirements. The cumulative number of snubbers tested is denoted by "N". At the end of each day's testing, the new values of "N" and "C" (previous day's total plus current day's increments) shall be plotted on Figure 16.9-13-1. If at any time the point plotted falls in the "Accept" region, testing of snubbers of that type may be terminated. When the point plotted lies in the "Continue Testing" region, additional snubbers of that type shall be tested until the point falls in the "Accept" region or all the snubbers of that type have been tested; or

3) An initial representative sample of 55 snubbers shall be functionally tested. For each snubber type which does not meet the functional test acceptance criteria, another sample of at least one-half the size of the initial sample shall be tested until the total number tested is equal to the initial sample size multiplied by the factor, 1 + C/2, where "C" is the number of snubbers found which do not meet the functional test acceptance criteria. The results from this Sample Plan shall be plotted using an "Accept" line which follows the equation N = 55(1 + C/2). Each snubber point should be plotted as soon as the snubber is tested. If the point plotted falls on or below the "Accept" line, testing may be terminated. If the point plotted falls above the "Accept" line, testing must continue until the point falls in the "Accept" region or all the snubbers of that type have been tested.

Testing equipment failure during functional testing may invalidate that day's testing and allow that day's testing to resume anew at a later time provided all snubbers tested with the failed equipment during the day of equipment failure are retested. The representative sample selected for the functional test Sample Plans shall be randomly selected from all snubbers and reviewed before beginning the testing. The review shall ensure, as far as practicable, that they are representative of the various configurations, operating environments, range of size, and capacity of snubbers. Snubbers placed in the same location as snubbers which failed the previous functional test shall be retested at the time of the next functional test but shall not be included in the Sample Plan. If during the functional testing, additional sampling is required due to failure of only one type of snubber, the functional test results shall be reviewed at that time to determine if additional samples should be limited to the type of snubber which has failed the functional testing.

Figure 16.9-13-1 was developed using "Wald's Sequential Probability Ratio Plan" as described in "Quality Control and Industrial Statistics" by Acheson J. Duncan.

BASES (continued)

Permanent or other exemptions from the inspection program for individual snubbers may be granted by the Commission if a justifiable basis for exemption is presented and, if applicable, snubber life testing was performed to qualify the snubber for the applicable design conditions. Snubbers so exempted shall be listed in the list of individual snubbers indicating the extent of the exemptions.

The snubber testing program may remove snubbers from service and restore OPERABILITY of the snubber application by replacement with another like snubber. In this situation, if the removed snubber later fails to meet test acceptance criteria, the system Required Action is not applicable since the failed snubber component has no current required function; however, the engineering evaluation per the Functional Test Failure Analysis is still required to determine the failure cause and address transportability issues. During the allowed 72 hours to perform an engineering evaluation or at any other time, when conditions of the affected system(s) and component(s) are determined to no longer support a reasonable assurance of OPERABILITY, applicable Required Actions are to be entered immediately.

Functional Test Acceptance Criteria

The snubber functional test shall verify that:

1) Activation (restraining action) is achieved within the specified range in both tension and compression, except that inertia dependent, acceleration limiting mechanical snubbers may be tested to verify only that activation takes place in both directions of travel;

2) Snubber bleed, or release rate where required, is present in both tension and compression, within the specified range;

3) For mechanical snubbers, the force required to initiate or maintain motion of the snubber is within the specified range in both directions of travel; and

4) For snubbers specifically required not to displace under continuous load, the ability of the snubber to withstand load without displacement.

Testing methods may be used to measure parameters indirectly or parameters other than those specified if those results can be correlated to the specified parameters through established methods.

Functional Test Failure Analysis

An engineering evaluation shall be made of each failure to meet the functional test acceptance criteria to determine the cause of the failure. The

BASES (continued)

results of this evaluation shall be used, if applicable, in selecting snubbers to be tested in an effort to determine the OPERABILITY of other snubbers irrespective of type which may be subject to the same failure mode.

For the snubbers found inoperable, an engineering evaluation shall be performed on the components to which the inoperable snubbers are attached. The purpose of this engineering evaluation shall be to determine if the components to which the inoperable snubbers are attached were adversely affected by the inoperability of the snubbers in order to ensure that the component remains capable of meeting the designed service.

If any snubber selected for functional testing either fails to lock up or fails to move, i.e., frozen in place, the cause will be evaluated and, if caused by manufacturer or design deficiency, all snubbers of the same type subject to the same defect shall be functionally tested. This TESTING REQUIREMENT shall be independent of the requirements stated in TESTING REQUIREMENT 16.9-13-3 for snubbers not meeting the functional test acceptance criteria.

All snubbers that fail to meet the functional test criteria must be evaluated to determine the cause, and the potential for applicability of the failure mode to other snubbers. Likewise, an evaluation is required to determine if the attached components have been adversely affected by the functional failure of the snubber. It is noted that the evaluation is only required for snubbers that are inoperable due to a failure of the snubber itself to meet the functional requirements. A snubber that is inoperable due solely to being disconnected from the supported component does not necessitate a component or system evaluation, provided that the snubber itself meets the requirements of the functional test criteria. In this case, the only action required is that the snubber be completely restored and the cause of the disconnection determined and evaluated for generic implications.

Service Life

The service life of a snubber is established via manufacturer input and information through consideration of the snubber service conditions and associated installation and maintenance records (newly installed snubbers, seal replaced, spring replaced, in high radiation area, in high temperature area, etc.). The requirement to monitor the snubber service life is included to ensure that the snubbers periodically undergo a performance evaluation in view of their age and operating conditions. These records will provide statistical bases for future consideration of snubber service life.

If a service lifetime limit is associated (established) with any snubber (or critical part) based on manufacturer's information, qualification tests, or historical service results, then the service life shall be monitored to ensure that the service life is not exceeded between surveillance inspections.

BASES (continued)

Established snubber service life shall be extended or shortened based on monitored test results and failure history. The replacements (snubbers or critical parts) shall be documented and the documentation shall be retained. Records of the service lives of all hydraulic and mechanical snubbers, including the date at which the service life commences, and associated installation and maintenance records shall be retained for the duration of the unit operating license.

REFERENCES

1. Letter from W.R. McCollum, Jr. to NRC, Request for Relief 95-05, Snubber Inspection Interval for Unit 1, August 23, 1995.

2. Letter from W.R. McCollum, Jr. to NRC, Request for Relief 96-01, Snubber Inspection Interval for Unit 2, February 12, 1996.

3. Letter from NRC to W.R. McCollum, Request for Relief 95-05, January 11, 1996.

4. Letter from NRC to W.R. McCollum, Request for Relief 96-01, May 16, 1996.

5. Letter from NRC to Gary R. Peterson, Duke, Issuance of Improved Technical Specifications Amendments for Catawba, September 30, 1998.

6. Letter from M.S. Tuckman to NRC, Licensing Position Regarding Snubbers, May 20, 1999.

7. Letter from NRC to G.R. Peterson, Licensing Position Regarding Snubbers, July 7, 1999.

8. Technical Specifications Task Force (TSTF)-372-A, Revision 4, Addition of LCO 3.0.8, Inoperability of Snubbers.

9. TSTF-IG-05-03, Technical Specifications Task Force Implementation Guidance for TSTF-372-A, Revision 4, Addition of LCO 3.0.8, Inoperability of Snubbers.

10. Nuclear System Directive 415, Operational Risk Management (Modes 1-3) per 10CFR 50.65(a)(4).

11. Federal Register, 70FR23252, Notice of Availability of Model Application Concerning Technical Specification Improvement to Modify Requirements Regarding the Addition of Limiting Condition for Operation 3.0.8 on the Inoperability of Snubbers Using the Consolidated Line Item Improvement Process.

DUKE ENERGY CORPORATION
Catawba Nuclear Station
4800 Concord Road
York, SC 29745

803 831 3000

August 16, 2007

RE: Catawba Nuclear Station
Selected Licensee Commitments Manual
Revision Date 03/19/07

Attached are revisions to the Catawba Nuclear Station Selected Licensee Commitments Manual. Please remove and replace the following pages:

REMOVE	INSERT
LIST OF EFFECTIVE SECTIONS	
Pages 1 through 4 Revision 31	Pages 1 through 4 Revision 32
TAB 16.9	
16.9-13-1 through 16.9-13-14 Revision 0	16.9-13-1 through 16.9-13-21 Revision 1

If you have any questions concerning the contents of this package update, please contact Betty Aldridge at (803) 831-3758.

Randall D. Hart
Regulatory Compliance Manager

Attachments

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
TABLE OF CONTENTS	9	03/08/07
16.1	0	10/09/02
16.2	1	10/17/02
16.3	0	10/09/02
16.5-1	1	10/24/06
16.5-2	Deleted	
16.5-3	1	02/20/04
16.5-4	0	10/09/02
16.5-5	0	10/09/02
16.5-6	0	10/09/02
16.5-7	0	10/09/02
16.5-8	1	05/18/04
16.5-9	0	10/24/06
16.5-10	0	03/08/07
16.6-1	0	10/09/02
16.6-2	Deleted	
16.6-3	0	10/09/02
16.6-4	0	10/09/02
16.6-5	0	10/09/02
16.7-1	0	10/09/02
16.7-2	1	08/20/04
16.7-3	0	10/09/02
16.7-4	0	10/09/02
16.7-5	1	01/02/03

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.7-6	1	11/17/05
16.7-7	0	10/09/02
16.7-8	1	05/25/05
16.7-9	4	02/01/05
16.7-10	0	10/09/02
16.7-11	0	10/09/02
16.7-12	0	10/09/02
16.7-13	1	05/17/06
16.7-14	0	10/06/03
16.7-15	0	03/01/05
16.8-1	1	02/01/05
16.8-2	1	10/24/06
16.8-3	1	10/24/06
16.8-4	1	10/24/06
16.8-5	2	02/20/04
16.9-1	4	08/03/06
16.9-2	3	05/25/05
16.9-3	0	10/09/02
16.9-4	2	05/25/05
16.9-5	3	05/17/06
16.9-6	3	10/24/06
16.9-7	3	03/10/04
16.9-8	4	10/24/06
16.9-9	2	03/10/04

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.9-10	4	10/24/06
16.9-11	2	03/10/04
16.9-12	1	03/10/04
16.9-13	1	03/19/07
16.9-14	1	09/25/06
16.9-15	0	10/09/02
16.9-16	0	10/09/02
16.9-17	0	10/09/02
16.9-18	0	10/09/02
16.9-19	1	01/02/03
16.9-20	0	10/09/02
16.9-21	0	10/09/02
16.9-22	0	10/09/02
16.9-23	2	05/25/05
16.9-24	2	10/24/06
16.9-25	0	04/03/06
16.10-1	0	10/09/02
16.10-2	1	10/24/06
16.10-3	0	08/21/03
16.11-1	0	10/09/02
16.11-2	0	10/09/02
16.11-3	0	10/09/02
16.11-4	0	10/09/02
16.11-5	0	10/09/02

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.11-6	0	10/09/02
16.11-7	1	02/27/03
16.11-8	0	10/09/02
16.11-9	0	10/09/02
16.11-10	0	10/09/02
16.11-11	1	03/20/03
16.11-12	0	10/09/02
16.11-13	0	10/09/02
16.11-14	0	10/09/02
16.11-15	0	10/09/02
16.11-16	0	10/09/02
16.11-17	0	10/09/02
16.11-18	0	10/09/02
16.11-19	0	10/09/02
16.11-20	0	10/09/02
16.11-21	0	10/09/02
16.12-1	0	10/09/02
16.13-1	0	10/09/02
16.13-2	Deleted	
16.13-3	Deleted	
16.13-4	0	10/09/02

16.9 AUXILIARY SYSTEMS

16.9-13 Snubbers

COMMITMENT

----------NOTES----------

1. Snubbers installed on non-safety related systems may be excluded from these requirements provided their failure or the failure of the system on which they are installed would not have an adverse effect on any safety related system.

2. If a snubber does not support the OPERABILITY of a Technical Specification required system, or if the supported system is not required to be OPERABLE, then Limiting Condition for Operation (LCO) 3.0.8 is not utilized.

All snubbers shall be OPERABLE.

APPLICABILITY: Whenever the system supported by the snubber is required to be OPERABLE.

REMEDIAL ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. ----------NOTE---------- Only applicable to seismic snubbers which support the OPERABILITY of Technical Specification required systems. ----------	A.1 Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately upon determination of train inoperability OR 72 hours
	AND	
One or more snubber(s) associated with one train of multiple train system(s) inoperable. OR One or more snubber(s) associated with single train system(s) inoperable.	A.2 ----------NOTE---------- Only applicable when utilizing the 72 hour Completion Time of Required Action A.1. ---------- Verify at least one train of the Auxiliary Feedwater (AFW) System (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), is OPERABLE.	Immediately
	AND	
	A.3 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis.	Prior to restoring affected train to OPERABLE status OR 72 hours

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. ----------NOTE---------- Only applicable to seismic snubbers which support the OPERABILITY of Technical Specification required systems. ---------- One or more snubber(s) associated with more than one train of multiple train system(s) inoperable.	B.1 Verify at least one train of the AFW System (including a minimum set of supporting equipment required for its successful operation) or alternative cooling method not associated with the inoperable snubber(s), is OPERABLE.	Immediately
	AND	
	B.2 Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately upon inoperability of all AFW System trains and all alternative cooling methods OR 12 hours
	AND	
	B.3 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis.	Prior to restoring affected train(s) to OPERABLE status OR 12 hours

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. ----------NOTE---------- Only applicable to seismic snubbers which support the OPERABILITY of Technical Specification required systems. ----------	C.1 Verify at least one train of the AFW System (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), is OPERABLE.	Immediately
One or more snubber(s) associated with one train of multiple train system(s) inoperable.	AND	
AND	C.2 Perform a qualitative risk assessment of the resulting configuration.	Immediately
Opposite train of associated system(s) inoperable for reasons other than inoperable snubber(s).	AND	
	C.3 Enter the applicable Conditions and Required Actions for the affected train(s) of multiple train system(s) that contain the inoperable snubber(s).	Immediately upon inoperability of all AFW System trains OR 72 hours
	AND	
	C.4 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ----------	
	Perform engineering evaluation per the Functional Test Failure Analysis.	Prior to restoring affected train(s) to OPERABLE status OR 72 hours

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. ----------NOTE---------- Only applicable to non-seismic snubbers which support the OPERABILITY of Technical Specification required systems. ---------- One or more snubber(s) inoperable.	D.1 Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately
	AND	
	D.2 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis.	Immediately

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. One or more snubber(s) inoperable. AND Prior system OPERABILITY evaluation performed.	E.1 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis to determine impact on prior system OPERABILITY evaluation.	Immediately
	AND	
	E.2 ----------NOTE---------- Only applicable if prior system OPERABILITY evaluation is invalidated. ---------- Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately

TESTING REQUIREMENTS

----------NOTES----------

1. Each snubber shall be demonstrated OPERABLE by performance of the following augmented inservice inspection program.

2. Snubbers which fail the visual inspection or the functional test acceptance criteria shall be repaired or replaced. Replacement snubbers and snubbers which have repairs which might affect the functional test results shall be tested to meet the functional test criteria before installation in the unit. Mechanical snubbers shall have met the acceptance criteria subsequent to their most recent service, and the freedom of motion test shall have been performed within 12 months before being installed in the unit.

3. As used in this SLC, "type of snubber" shall mean snubbers of the same design and manufacturer, irrespective of capacity.

	TEST	FREQUENCY
TR 16.9-13-1	----------NOTE---------- Snubbers are categorized as inaccessible or accessible during reactor operation and may be inspected independently according to the schedule determined by Table 16.9-13-1. The first inspection interval using Table 16.9-13-1 shall be based upon the previous inspection interval as established by the requirements in effect before Technical Specification Amendment 88 (Unit 1) and 82 (Unit 2). ----------	
	Perform a visual inspection for each category of snubber.	In accordance with Table 16.9-13-1
TR 16.9-13-2	----------NOTE---------- In case of a severe dynamic event, mechanical snubbers in the system which experienced the event shall be inspected during the refueling outage to assure that they have freedom of movement and are not frozen up. ----------	
	Perform an inspection, during shutdown, to determine if there has been a severe dynamic event for systems which have the potential for a severe dynamic event.	18 months

(continued)

TESTING REQUIREMENTS (continued)

	TEST	FREQUENCY
TR 16.9-13-3	----------NOTE---------- The large-bore steam generator hydraulic snubbers shall be treated as a separate population for functional test purposes and shall be functionally tested under Sample Plan 1. ---------- Perform, during shutdown, snubber functional testing on a representative sample of each type of snubber in accordance with one of the following three Sample Plans: 1. Functionally test 10% of a type of snubber with an additional 10% tested for each functional testing failure, or 2. Functionally test a sample size and determine sample acceptance or continue testing using Figure 16.9-13-1, or 3. Functionally test a representative sample size and determine sample acceptance or rejection using the stated equation.	18 months
TR 16.9-13-4	----------NOTE---------- Service life records shall be documented and the documentation retained for the duration of the unit operating license. ---------- Verify that the service life of all snubbers has not been exceeded or will not be exceeded prior to the next scheduled surveillance inspection.	18 months

Table 16.9-13-1

Snubber Visual Inspection Interval (page 1 of 2)

POPULATION OR CATEGORY (NOTES 1 AND 2)	NUMBER OF UNACCEPTABLE SNUBBERS		
	COLUMN A EXTEND INTERVAL (NOTES 3 AND 6)	COLUMN B REPEAT INTERVAL (NOTES 4 AND 6)	COLUMN C REDUCE INTERVAL (NOTES 5 AND 6)
1	0	0	1
80	0	0	2
100	0	1	4
150	0	3	8
200	2	5	13
300	5	12	25
400	8	18	36
500	12	24	48
750	20	40	78
≥ 1000	29	56	109

Note 1: The next visual inspection interval for a snubber population or category size shall be determined based upon the previous inspection interval and the number of unacceptable snubbers found during that interval. Snubbers may be categorized, based upon their accessibility during power operation, as accessible or inaccessible. These categories may be examined separately or jointly. However, the licensee must make and document that decision before any inspection and shall use that decision as the basis upon which to determine the next inspection interval for that category.

Note 2: Interpolation between population or category sizes and the number of unacceptable snubbers is permissible. Use next lower integer for the value of the limit for Columns A, B, or C if that integer includes a fractional value of unacceptable snubbers as determined by interpolation.

Note 3: If the number of unacceptable snubbers is equal to or less than the number in Column A, the next inspection interval may be twice the previous interval but not greater than 48 months.

Note 4: If the number of unacceptable snubbers is equal to or less than the number in Column B but greater than the number in Column A, the next inspection interval shall be the same as the previous interval.

Note 5: If the number of unacceptable snubbers is equal to or greater than the number in Column C, the next inspection interval shall be two-thirds of the previous interval. However, if the number of unacceptable snubbers is less than the number in Column C but greater than the number in Column B, the

Table 16.9-13-1

Snubber Visual Inspection Interval (page 2 of 2)

next interval shall be reduced proportionally by interpolation, that is, the previous interval shall be reduced by a factor that is one-third of the ratio of the difference between the number of unacceptable snubbers found during the previous interval and the number in Column B to the difference in the numbers in Columns B and C.

Note 6: The provisions of SLC 16.2.6 are applicable for all inspection intervals up to and including 48 months.

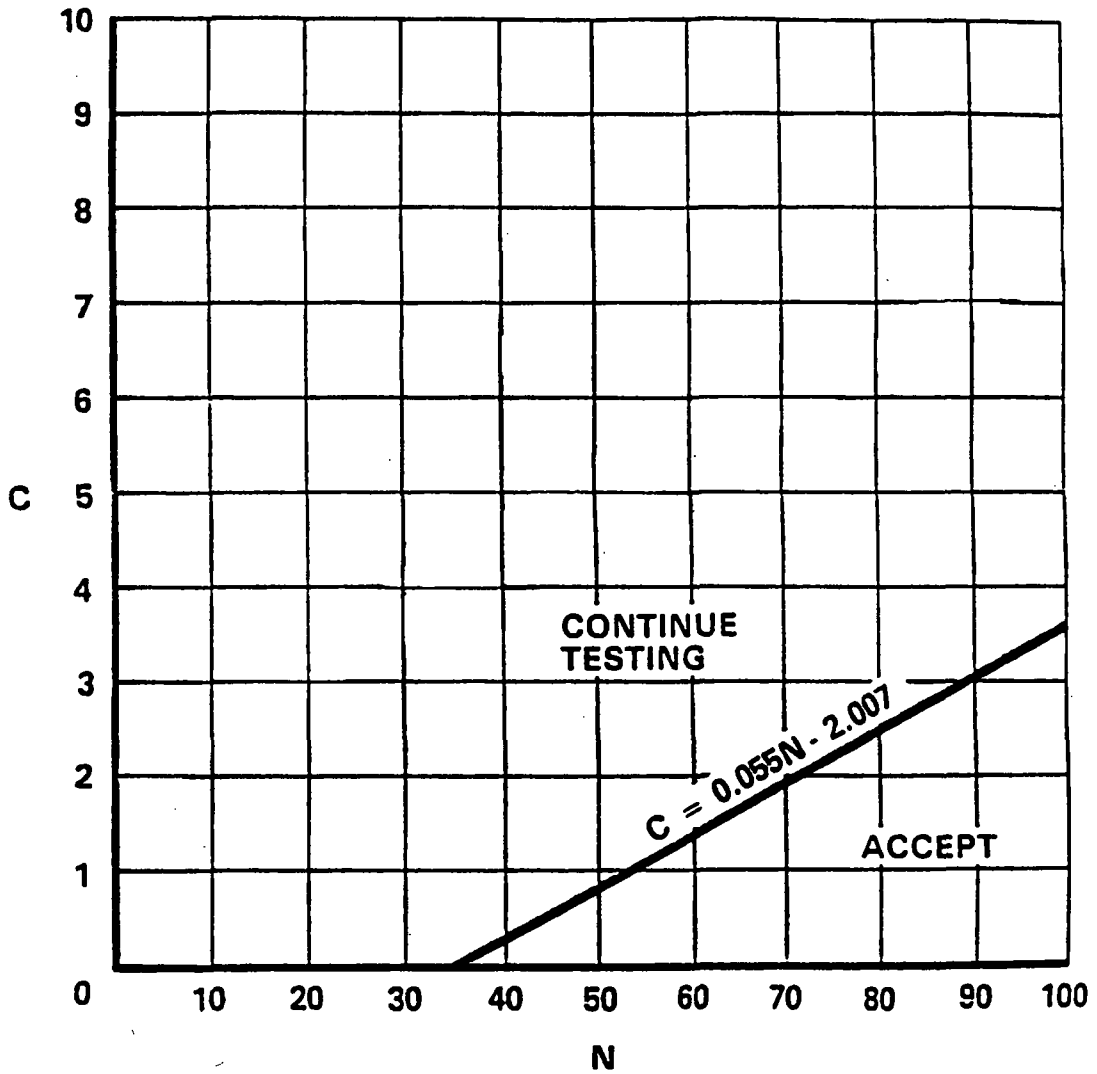

Figure 16.9-13-1

Sample Plan 2 for Snubber Functional Test

BASES

All 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 event initiating dynamic loads.

The snubber requirements of SLC 16.9-13 were originally located in the Technical Specifications. The Nuclear Regulatory Commission (NRC) authorized the use of these requirements, while located in Technical Specifications, as an acceptable alternative to the requirements of the ASME Code, 1989 Edition, Section XI, Article IWF-5000 (References 3, 4). Any revision to these snubber visual inspection and functional test requirements shall consider the basis for the granted relief from the ASME Code requirements and any resulting requirement for NRC review and approval.

Snubbers are classified and grouped by design and manufacturer but not by size. For example, mechanical snubbers utilizing the same design features of the 2-kip, 10-kip, and 100-kip capacity manufactured by Company "A" are of the same type. The same design mechanical snubbers manufactured by Company "B" for the purposes of this SLC would be of a different type, as would hydraulic snubbers from either manufacturer.

A list of individual snubbers with detailed information of snubber location and size and of system affected shall be available at the plant in accordance with Section 50.71(c) of 10 CFR Part 50. The addition or deletion of any hydraulic or mechanical snubber shall be made in accordance with Section 50.59 of 10 CFR Part 50.

The OPERABILITY requirements for snubbers which mitigate significant seismic or non-seismic loads do not meet the criteria in 10 CFR 50.36(c)(2)(ii) for inclusion in plant Technical Specifications; therefore, these requirements are contained in this SLC. The programmatic requirements for the visual inspection and functional testing of these snubbers also do not meet the criteria in 10 CFR 50.36(c)(2)(ii) for inclusion in plant Technical Specifications and, as such, are appropriate for control by this SLC and are the same for both categories of snubbers.

Seismic Snubbers

Seismic snubbers are installed primarily to mitigate loads resulting from a seismic event. However, some seismic snubbers also mitigate other non-seismic loads. If these non-seismic loads have been determined to have no effect on the OPERABILITY of the associated Technical Specification supported system(s) while the snubber(s) are inoperable (as determined by Engineering), then Technical Specification LCO 3.0.8 governs the OPERABILITY requirements for these snubbers.

LCO 3.0.8 establishes conditions under which Technical Specification supported systems are considered to remain OPERABLE when associated seismic snubbers are not capable of providing their associated support function(s). This LCO states that the supported system is not considered to

BASES (continued)

be inoperable solely due to one or more of these snubbers not being capable of performing their associated support function(s). Thus, any affected supported system LCO(s) are not required to be declared not met solely for this reason, if risk is assessed and managed. This is appropriate because: (1) a limited length of time is allowed for inspection, testing, maintenance, or repair of one or more of these snubbers not capable of performing their associated support function(s); (2) REMEDIAL ACTIONS are specified in this SLC; (3) there is a low probability of a seismic event concurrent with an event that would require operation of the supported system while the snubber(s) are not capable of performing their associated support function; and (4) the redundant train of the supported system is normally available. LCO 3.0.8 represents an allowance that does not have to be utilized. It is always acceptable to either wait until the supported system LCO(s) are not applicable or declare the Technical Specification supported system(s) inoperable.

If the allowed time expires and the seismic snubber(s) are unable to perform their associated support function(s), the affected supported system LCO(s) must be declared not met and the Conditions and Required Actions entered in accordance with LCO 3.0.2.

Snubbers with Both Seismic and Significant Non-Seismic Loads

If the affected snubber(s) have more than one function, one of which is the mitigation of seismic loads, than LCO 3.0.8 may be utilized. However, there must be a deterministic analysis that demonstrates that the Technical Specification supported system(s) can still perform their functions in spite of the non-seismic loads. For example, if the affected snubber(s) mitigate both seismic loads and accident loads (i.e., blowdown loads), then only the accident loads are considered deterministically to determine if the supported system(s) are OPERABLE. If the Technical Specification supported system(s) are OPERABLE for the non-seismic loads, then LCO 3.0.8 may be utilized for the seismic loads. Otherwise, LCO 3.0.8 cannot be utilized.

Snubbers with Significant Non-Seismic Loads

LCO 3.0.8 may not be utilized for snubbers with significant non-seismic loads that impact the OPERABILITY of Technical Specification supported system(s).

REMEDIAL ACTIONS

When one or more installed snubbers are discovered to be inoperable by means of routine walk down or observation, the applicable REMEDIAL ACTIONS for any affected system(s) and component(s) must be entered immediately and an engineering evaluation per the Functional Test Failure Analysis must be performed. The purpose of the evaluation is to determine

BASES (continued)

the cause of failure and to address transportability issues.

For snubbers that are removed for testing or maintenance activities, it is possible that a prior evaluation of the system may verify the continued operability of the system with the snubber(s) removed. In these cases, it is not necessary to enter into the system REMEDIAL ACTIONS as long as the conditions of the prior evaluation are met.

Should one or more snubbers fail to meet testing acceptance criteria or be discovered in a condition where failure is apparent, an engineering evaluation is to be performed within the prescribed time frame, as described in the Functional Test Failure Analysis.

Condition A applies when one or more seismic snubber(s) associated with one train of multiple train system(s) are inoperable or when one or more seismic snubber(s) associated with single train system(s) are inoperable, and thus are not capable of providing their associated support function(s). If the LCO 3.0.8 a. allowance is utilized, the SLC allows up to 72 hours to restore the seismic snubber(s) before declaring the supported system(s) inoperable. Also, there must be an immediate verification that at least one train of the AFW System is OPERABLE (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s). The 72 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported system while the seismic snubber(s) are not capable of performing their associated support function, and the fact that the redundant train of the supported system is normally available. At the end of the specified 72 hour period, the required seismic snubber(s) must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met. A seismic snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified.

Condition B applies when one or more seismic snubber(s) associated with more than one train of multiple train system(s) are inoperable, and thus are not capable of providing their associated support function(s). If the LCO 3.0.8 b. allowance is utilized, the SLC allows up to 12 hours to restore the seismic snubber(s) before declaring the supported system(s) inoperable, provided there is an immediate verification that at least one train of the AFW System is OPERABLE (including a minimum set of supporting equipment required for its successful operation) or an alternative cooling method not associated with the inoperable snubber(s). The alternative cooling method may include, but is not limited to, feed and bleed, fire water system, or aggressive secondary cooldown using the steam generators. The 12 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported

BASES (continued)

system while the seismic snubber(s) are not capable of performing their associated support function. At the end of the specified 12 hour period, the required seismic snubber(s) must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met. The affected supported system LCO(s) shall also be immediately declared not met upon the inoperability of all AFW System trains and all alternative cooling methods. A seismic snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified.

Condition C applies when one or more seismic snubber(s) associated with one train of multiple train system(s) are inoperable and the opposite train of the associated system(s) is also inoperable for reasons other than inoperable snubber(s). The SLC allows up to 72 hours to restore the seismic snubber(s) before declaring the supported system(s) inoperable, provided there is: (1) an immediate verification that at least one train of the AFW System is OPERABLE (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), and (2) an immediate performance of a qualitative risk assessment of the resulting configuration. The 72 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported system while the seismic snubber(s) are not capable of performing their associated support function and the opposite train of the associated system(s) is inoperable. At the end of the specified 72 hour period, the required seismic snubber(s) must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met. The affected supported system LCO(s) shall also be immediately declared not met upon the inoperability of all AFW System trains. A seismic snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified.

Condition D applies when one or more non-seismic snubber(s) are inoperable. In this case, the affected supported system LCO(s) shall be immediately declared not met, as LCO 3.0.8 does not apply to non-seismic snubbers. A snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified. For those inoperable snubbers that mitigate both seismic and non-seismic loads, if the supported system(s) remain operable (as determined via engineering analysis) when subjected to the non-seismic loads, then the provisions of LCO 3.0.8 may be applied for these snubbers.

BASES (continued)

Condition E applies when one or more snubber(s) are inoperable and a prior system OPERABILITY evaluation has been performed. In this case, an engineering evaluation is to be immediately performed per the Functional Test Failure Analysis to determine if the prior evaluation remains valid. If the prior evaluation is invalidated, then the affected supported system LCO(s) shall be immediately declared not met.

This SLC requires that risk be assessed and managed when utilizing the allowances of LCO 3.0.8. Industry and NRC guidance regarding the implementation of 10 CFR 50.65(a)(4) (the Maintenance Rule) does not address seismic risk. However, the use of this SLC should be considered with respect to other plant maintenance activities, and integrated into the existing Maintenance Rule process so that maintenance on any unaffected train or subsystem is properly controlled, and emergent issues are properly addressed. The risk assessment required to utilize LCO 3.0.8 need not be quantified, but may be a qualitative awareness of the vulnerability of systems and components when one or more snubber(s) are not able to perform their associated support function(s).

Visual Inspections

The visual inspection frequency is based upon maintaining a constant level of snubber protection during an earthquake or severe transient. Therefore, the required inspection interval varies inversely with the observed snubber failures and is determined by the number of inoperable snubbers found during an inspection. In order to establish the inspection frequency for each type of snubber, it was assumed that the frequency of snubber failures and initiating events are constant with time and that the failure of any snubber on that system could cause the system to be unprotected and to result in failure during an assumed initiating event. Inspections performed before that interval has elapsed may be used as a new reference point to determine the next inspection. However, the results of such early inspections performed before the original required time interval has elapsed (nominal time less 25%) may not be used to lengthen the required inspection interval. Any inspection whose results require a shorter inspection interval will override the previous schedule. The acceptance criteria are to be used in the visual inspection to determine OPERABILITY of the snubbers.

Visual inspections shall verify that: (1) the snubber has no visible indications of damage or impaired OPERABILITY, (2) attachments to the foundation or supporting structure are functional, and (3) fasteners for the attachment of the snubber to the component and to the snubber anchorage are functional. Snubbers which appear inoperable as a result of visual inspections shall be classified as unacceptable and may be reclassified acceptable for the purpose of establishing the next visual inspection interval, provided that: (i) the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers irrespective of type that may be generically susceptible; and (ii) the affected snubber is functionally tested in

BASES (continued)

the as-found condition and determined OPERABLE. All snubbers found connected to an inoperable common hydraulic fluid reservoir shall be counted as unacceptable and may be reclassified as acceptable for determining the next inspection interval provided that criterion (i) and (ii) above are met. A review and evaluation shall be performed and documented to justify continued operation with an unacceptable snubber. If continued operation cannot be justified, the snubber shall be declared inoperable and the REMEDIAL ACTION requirements shall be met.

Refueling Outage Inspections

At each refueling, the systems which have the potential for a severe dynamic event, specifically, the main steam system (upstream of the main steam isolation valves), the main steam safety and power operated relief valves and piping, auxiliary feedwater system, main steam supply to the auxiliary feedwater pump turbine, and the letdown and charging portion of the chemical and volume control system shall be inspected to determine if there has been a severe dynamic event. In the case of a severe dynamic event, mechanical snubbers in that system which experienced the event shall be inspected during the refueling outage to assure that the mechanical snubbers have freedom of movement and are not frozen up. The inspection shall consist of verifying freedom of motion using one of the following: (1) manually induced snubber movement, or (2) evaluation of in-place snubber piston setting, or (3) stroking the mechanical snubber through its full range of travel. If one or more mechanical snubbers are found to be frozen up during this inspection, those snubbers shall be replaced or repaired before returning to power. The requirements of TESTING REQUIREMENT 16.9-13-1 are independent of the requirements of this item.

Functional Testing

At least once per 18 months during shutdown, a representative sample of snubbers of each type shall be tested using one of the following Sample Plans. The large-bore steam generator hydraulic snubbers shall be treated as a separate type (population) for functional test purposes. A 10% random sample shall be tested at least once per 18 months during refueling with continued testing based on a failure evaluation. The Sample Plan shall be selected prior to the test period and cannot be changed during the test period. The NRC shall be notified in writing of the Sample Plan selected for each snubber type prior to the test period or the Sample Plan used in the prior test period shall be implemented:

1) At least 10% of all snubbers shall be functionally tested either in-place or in a bench test. For each snubber of a type that does not meet the functional test acceptance criteria, an additional 10% of all snubbers shall be functionally tested until no more failures are found or until all snubbers have been functionally tested; or

BASES (continued)

2) A representative sample of all snubbers shall be functionally tested in accordance with Figure 16.9-13-1. "C" is the total number of snubbers of a type found not meeting the acceptance requirements. The cumulative number of snubbers tested is denoted by "N". At the end of each day's testing, the new values of "N" and "C" (previous day's total plus current day's increments) shall be plotted on Figure 16.9-13-1. If at any time the point plotted falls in the "Accept" region, testing of snubbers of that type may be terminated. When the point plotted lies in the "Continue Testing" region, additional snubbers of that type shall be tested until the point falls in the "Accept" region or all the snubbers of that type have been tested; or

3) An initial representative sample of 55 snubbers shall be functionally tested. For each snubber type which does not meet the functional test acceptance criteria, another sample of at least one-half the size of the initial sample shall be tested until the total number tested is equal to the initial sample size multiplied by the factor, 1 + C/2, where "C" is the number of snubbers found which do not meet the functional test acceptance criteria. The results from this Sample Plan shall be plotted using an "Accept" line which follows the equation N = 55(1 + C/2). Each snubber point should be plotted as soon as the snubber is tested. If the point plotted falls on or below the "Accept" line, testing may be terminated. If the point plotted falls above the "Accept" line, testing must continue until the point falls in the "Accept" region or all the snubbers of that type have been tested.

Testing equipment failure during functional testing may invalidate that day's testing and allow that day's testing to resume anew at a later time provided all snubbers tested with the failed equipment during the day of equipment failure are retested. The representative sample selected for the functional test Sample Plans shall be randomly selected from all snubbers and reviewed before beginning the testing. The review shall ensure, as far as practicable, that they are representative of the various configurations, operating environments, range of size, and capacity of snubbers. Snubbers placed in the same location as snubbers which failed the previous functional test shall be retested at the time of the next functional test but shall not be included in the Sample Plan. If during the functional testing, additional sampling is required due to failure of only one type of snubber, the functional test results shall be reviewed at that time to determine if additional samples should be limited to the type of snubber which has failed the functional testing.

Figure 16.9-13-1 was developed using "Wald's Sequential Probability Ratio Plan" as described in "Quality Control and Industrial Statistics" by Acheson J. Duncan.

BASES (continued)

Permanent or other exemptions from the inspection program for individual snubbers may be granted by the Commission if a justifiable basis for exemption is presented and, if applicable, snubber life testing was performed to qualify the snubber for the applicable design conditions. Snubbers so exempted shall be listed in the list of individual snubbers indicating the extent of the exemptions.

The snubber testing program may remove snubbers from service and restore OPERABILITY of the snubber application by replacement with another like snubber. In this situation, if the removed snubber later fails to meet test acceptance criteria, the system Required Action is not applicable since the failed snubber component has no current required function; however, the engineering evaluation per the Functional Test Failure Analysis is still required to determine the failure cause and address transportability issues. During the allowed 72 hours to perform an engineering evaluation or at any other time, when conditions of the affected system(s) and component(s) are determined to no longer support a reasonable assurance of OPERABILITY, applicable Required Actions are to be entered immediately.

Functional Test Acceptance Criteria

The snubber functional test shall verify that:

1) Activation (restraining action) is achieved within the specified range in both tension and compression, except that inertia dependent, acceleration limiting mechanical snubbers may be tested to verify only that activation takes place in both directions of travel;

2) Snubber bleed, or release rate where required, is present in both tension and compression, within the specified range;

3) For mechanical snubbers, the force required to initiate or maintain motion of the snubber is within the specified range in both directions of travel; and

4) For snubbers specifically required not to displace under continuous load, the ability of the snubber to withstand load without displacement.

Testing methods may be used to measure parameters indirectly or parameters other than those specified if those results can be correlated to the specified parameters through established methods.

Functional Test Failure Analysis

An engineering evaluation shall be made of each failure to meet the functional test acceptance criteria to determine the cause of the failure. The

BASES (continued)

results of this evaluation shall be used, if applicable, in selecting snubbers to be tested in an effort to determine the OPERABILITY of other snubbers irrespective of type which may be subject to the same failure mode.

For the snubbers found inoperable, an engineering evaluation shall be performed on the components to which the inoperable snubbers are attached. The purpose of this engineering evaluation shall be to determine if the components to which the inoperable snubbers are attached were adversely affected by the inoperability of the snubbers in order to ensure that the component remains capable of meeting the designed service.

If any snubber selected for functional testing either fails to lock up or fails to move, i.e., frozen in place, the cause will be evaluated and, if caused by manufacturer or design deficiency, all snubbers of the same type subject to the same defect shall be functionally tested. This TESTING REQUIREMENT shall be independent of the requirements stated in TESTING REQUIREMENT 16.9-13-3 for snubbers not meeting the functional test acceptance criteria.

All snubbers that fail to meet the functional test criteria must be evaluated to determine the cause, and the potential for applicability of the failure mode to other snubbers. Likewise, an evaluation is required to determine if the attached components have been adversely affected by the functional failure of the snubber. It is noted that the evaluation is only required for snubbers that are inoperable due to a failure of the snubber itself to meet the functional requirements. A snubber that is inoperable due solely to being disconnected from the supported component does not necessitate a component or system evaluation, provided that the snubber itself meets the requirements of the functional test criteria. In this case, the only action required is that the snubber be completely restored and the cause of the disconnection determined and evaluated for generic implications.

Service Life

The service life of a snubber is established via manufacturer input and information through consideration of the snubber service conditions and associated installation and maintenance records (newly installed snubbers, seal replaced, spring replaced, in high radiation area, in high temperature area, etc.). The requirement to monitor the snubber service life is included to ensure that the snubbers periodically undergo a performance evaluation in view of their age and operating conditions. These records will provide statistical bases for future consideration of snubber service life.

If a service lifetime limit is associated (established) with any snubber (or critical part) based on manufacturer's information, qualification tests, or historical service results, then the service life shall be monitored to ensure that the service life is not exceeded between surveillance inspections.

BASES (continued)

Established snubber service life shall be extended or shortened based on monitored test results and failure history. The replacements (snubbers or critical parts) shall be documented and the documentation shall be retained. Records of the service lives of all hydraulic and mechanical snubbers, including the date at which the service life commences, and associated installation and maintenance records shall be retained for the duration of the unit operating license.

REFERENCES

1. Letter from W.R. McCollum, Jr. to NRC, Request for Relief 95-05, Snubber Inspection Interval for Unit 1, August 23, 1995.

2. Letter from W.R. McCollum, Jr. to NRC, Request for Relief 96-01, Snubber Inspection Interval for Unit 2, February 12, 1996.

3. Letter from NRC to W.R. McCollum, Request for Relief 95-05, January 11, 1996.

4. Letter from NRC to W.R. McCollum, Request for Relief 96-01, May 16, 1996.

5. Letter from NRC to Gary R. Peterson, Duke, Issuance of Improved Technical Specifications Amendments for Catawba, September 30, 1998.

6. Letter from M.S. Tuckman to NRC, Licensing Position Regarding Snubbers, May 20, 1999.

7. Letter from NRC to G.R. Peterson, Licensing Position Regarding Snubbers, July 7, 1999.

8. Technical Specifications Task Force (TSTF)-372-A, Revision 4, Addition of LCO 3.0.8, Inoperability of Snubbers.

9. TSTF-IG-05-03, Technical Specifications Task Force Implementation Guidance for TSTF-372-A, Revision 4, Addition of LCO 3.0.8, Inoperability of Snubbers.

10. Nuclear System Directive 415, Operational Risk Management (Modes 1-3) per 10CFR 50.65(a)(4).

11. Federal Register, 70FR23252, Notice of Availability of Model Application Concerning Technical Specification Improvement to Modify Requirements Regarding the Addition of Limiting Condition for Operation 3.0.8 on the Inoperability of Snubbers Using the Consolidated Line Item Improvement Process.

DUKE ENERGY CORPORATION
Catawba Nuclear Station
4800 Concord Road
York, SC 29745

803 831 3000

August 16, 2007

RE: Catawba Nuclear Station
Selected Licensee Commitments Manual
Revision Date 03/19/07

Attached are revisions to the Catawba Nuclear Station Selected Licensee Commitments Manual. Please remove and replace the following pages:

REMOVE	INSERT
LIST OF EFFECTIVE SECTIONS	
Pages 1 through 4 Revision 31	Pages 1 through 4 Revision 32
TAB 16.9	
16.9-13-1 through 16.9-13-14 Revision 0	16.9-13-1 through 16.9-13-21 Revision 1

If you have any questions concerning the contents of this package update, please contact Betty Aldridge at (803) 831-3758.

Randall D. Hart
Regulatory Compliance Manager

Attachments

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
TABLE OF CONTENTS	9	03/08/07
16.1	0	10/09/02
16.2	1	10/17/02
16.3	0	10/09/02
16.5-1	1	10/24/06
16.5-2	Deleted	
16.5-3	1	02/20/04
16.5-4	0	10/09/02
16.5-5	0	10/09/02
16.5-6	0	10/09/02
16.5-7	0	10/09/02
16.5-8	1	05/18/04
16.5-9	0	10/24/06
16.5-10	0	03/08/07
16.6-1	0	10/09/02
16.6-2	Deleted	
16.6-3	0	10/09/02
16.6-4	0	10/09/02
16.6-5	0	10/09/02
16.7-1	0	10/09/02
16.7-2	1	08/20/04
16.7-3	0	10/09/02
16.7-4	0	10/09/02
16.7-5	1	01/02/03

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.7-6	1	11/17/05
16.7-7	0	10/09/02
16.7-8	1	05/25/05
16.7-9	4	02/01/05
16.7-10	0	10/09/02
16.7-11	0	10/09/02
16.7-12	0	10/09/02
16.7-13	1	05/17/06
16.7-14	0	10/06/03
16.7-15	0	03/01/05
16.8-1	1	02/01/05
16.8-2	1	10/24/06
16.8-3	1	10/24/06
16.8-4	1	10/24/06
16.8-5	2	02/20/04
16.9-1	4	08/03/06
16.9-2	3	05/25/05
16.9-3	0	10/09/02
16.9-4	2	05/25/05
16.9-5	3	05/17/06
16.9-6	3	10/24/06
16.9-7	3	03/10/04
16.9-8	4	10/24/06
16.9-9	2	03/10/04

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.9-10	4	10/24/06
16.9-11	2	03/10/04
16.9-12	1	03/10/04
16.9-13	1	03/19/07
16.9-14	1	09/25/06
16.9-15	0	10/09/02
16.9-16	0	10/09/02
16.9-17	0	10/09/02
16.9-18	0	10/09/02
16.9-19	1	01/02/03
16.9-20	0	10/09/02
16.9-21	0	10/09/02
16.9-22	0	10/09/02
16.9-23	2	05/25/05
16.9-24	2	10/24/06
16.9-25	0	04/03/06
16.10-1	0	10/09/02
16.10-2	1	10/24/06
16.10-3	0	08/21/03
16.11-1	0	10/09/02
16.11-2	0	10/09/02
16.11-3	0	10/09/02
16.11-4	0	10/09/02
16.11-5	0	10/09/02

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.11-6	0	10/09/02
16.11-7	1	02/27/03
16.11-8	0	10/09/02
16.11-9	0	10/09/02
16.11-10	0	10/09/02
16.11-11	1	03/20/03
16.11-12	0	10/09/02
16.11-13	0	10/09/02
16.11-14	0	10/09/02
16.11-15	0	10/09/02
16.11-16	0	10/09/02
16.11-17	0	10/09/02
16.11-18	0	10/09/02
16.11-19	0	10/09/02
16.11-20	0	10/09/02
16.11-21	0	10/09/02
16.12-1	0	10/09/02
16.13-1	0	10/09/02
16.13-2	Deleted	
16.13-3	Deleted	
16.13-4	0	10/09/02

16.9 AUXILIARY SYSTEMS

16.9-13 Snubbers

COMMITMENT

----------NOTES----------

1. Snubbers installed on non-safety related systems may be excluded from these requirements provided their failure or the failure of the system on which they are installed would not have an adverse effect on any safety related system.

2. If a snubber does not support the OPERABILITY of a Technical Specification required system, or if the supported system is not required to be OPERABLE, then Limiting Condition for Operation (LCO) 3.0.8 is not utilized.

All snubbers shall be OPERABLE.

APPLICABILITY: Whenever the system supported by the snubber is required to be OPERABLE.

REMEDIAL ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. ----------NOTE---------- Only applicable to seismic snubbers which support the OPERABILITY of Technical Specification required systems. ----------	A.1 Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately upon determination of train inoperability OR 72 hours
	AND	
One or more snubber(s) associated with one train of multiple train system(s) inoperable. OR One or more snubber(s) associated with single train system(s) inoperable.	A.2 ----------NOTE---------- Only applicable when utilizing the 72 hour Completion Time of Required Action A.1. ---------- Verify at least one train of the Auxiliary Feedwater (AFW) System (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), is OPERABLE.	Immediately
	AND	
	A.3 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis.	Prior to restoring affected train to OPERABLE status OR 72 hours

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. ----------NOTE---------- Only applicable to seismic snubbers which support the OPERABILITY of Technical Specification required systems. ---------- One or more snubber(s) associated with more than one train of multiple train system(s) inoperable.	B.1 Verify at least one train of the AFW System (including a minimum set of supporting equipment required for its successful operation) or alternative cooling method not associated with the inoperable snubber(s), is OPERABLE.	Immediately
	AND	
	B.2 Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately upon inoperability of all AFW System trains and all alternative cooling methods OR 12 hours
	AND	
	B.3 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis.	Prior to restoring affected train(s) to OPERABLE status OR 12 hours

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. ----------NOTE---------- Only applicable to seismic snubbers which support the OPERABILITY of Technical Specification required systems. ----------	C.1 Verify at least one train of the AFW System (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), is OPERABLE.	Immediately
One or more snubber(s) associated with one train of multiple train system(s) inoperable.	AND	
AND	C.2 Perform a qualitative risk assessment of the resulting configuration.	Immediately
Opposite train of associated system(s) inoperable for reasons other than inoperable snubber(s).	AND	
	C.3 Enter the applicable Conditions and Required Actions for the affected train(s) of multiple train system(s) that contain the inoperable snubber(s).	Immediately upon inoperability of all AFW System trains OR 72 hours
	AND	
	C.4 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ----------	
	Perform engineering evaluation per the Functional Test Failure Analysis.	Prior to restoring affected train(s) to OPERABLE status OR 72 hours

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. ----------NOTE---------- Only applicable to non-seismic snubbers which support the OPERABILITY of Technical Specification required systems. ---------- One or more snubber(s) inoperable.	D.1 Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately
	AND	
	D.2 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis.	Immediately

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. One or more snubber(s) inoperable. AND Prior system OPERABILITY evaluation performed.	E.1 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis to determine impact on prior system OPERABILITY evaluation.	Immediately
	AND	
	E.2 ----------NOTE---------- Only applicable if prior system OPERABILITY evaluation is invalidated. ---------- Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately

TESTING REQUIREMENTS

----------NOTES----------

1. Each snubber shall be demonstrated OPERABLE by performance of the following augmented inservice inspection program.

2. Snubbers which fail the visual inspection or the functional test acceptance criteria shall be repaired or replaced. Replacement snubbers and snubbers which have repairs which might affect the functional test results shall be tested to meet the functional test criteria before installation in the unit. Mechanical snubbers shall have met the acceptance criteria subsequent to their most recent service, and the freedom of motion test shall have been performed within 12 months before being installed in the unit.

3. As used in this SLC, "type of snubber" shall mean snubbers of the same design and manufacturer, irrespective of capacity.

	TEST	FREQUENCY
TR 16.9-13-1	----------NOTE---------- Snubbers are categorized as inaccessible or accessible during reactor operation and may be inspected independently according to the schedule determined by Table 16.9-13-1. The first inspection interval using Table 16.9-13-1 shall be based upon the previous inspection interval as established by the requirements in effect before Technical Specification Amendment 88 (Unit 1) and 82 (Unit 2). ----------	
	Perform a visual inspection for each category of snubber.	In accordance with Table 16.9-13-1
TR 16.9-13-2	----------NOTE---------- In case of a severe dynamic event, mechanical snubbers in the system which experienced the event shall be inspected during the refueling outage to assure that they have freedom of movement and are not frozen up. ----------	
	Perform an inspection, during shutdown, to determine if there has been a severe dynamic event for systems which have the potential for a severe dynamic event.	18 months

(continued)

TESTING REQUIREMENTS (continued)

	TEST	FREQUENCY
TR 16.9-13-3	----------NOTE---------- The large-bore steam generator hydraulic snubbers shall be treated as a separate population for functional test purposes and shall be functionally tested under Sample Plan 1. ---------- Perform, during shutdown, snubber functional testing on a representative sample of each type of snubber in accordance with one of the following three Sample Plans: 1. Functionally test 10% of a type of snubber with an additional 10% tested for each functional testing failure, or 2. Functionally test a sample size and determine sample acceptance or continue testing using Figure 16.9-13-1, or 3. Functionally test a representative sample size and determine sample acceptance or rejection using the stated equation.	18 months
TR 16.9-13-4	----------NOTE---------- Service life records shall be documented and the documentation retained for the duration of the unit operating license. ---------- Verify that the service life of all snubbers has not been exceeded or will not be exceeded prior to the next scheduled surveillance inspection.	18 months

Table 16.9-13-1

Snubber Visual Inspection Interval (page 1 of 2)

POPULATION OR CATEGORY (NOTES 1 AND 2)	NUMBER OF UNACCEPTABLE SNUBBERS		
	COLUMN A EXTEND INTERVAL (NOTES 3 AND 6)	COLUMN B REPEAT INTERVAL (NOTES 4 AND 6)	COLUMN C REDUCE INTERVAL (NOTES 5 AND 6)
1	0	0	1
80	0	0	2
100	0	1	4
150	0	3	8
200	2	5	13
300	5	12	25
400	8	18	36
500	12	24	48
750	20	40	78
≥ 1000	29	56	109

Note 1: The next visual inspection interval for a snubber population or category size shall be determined based upon the previous inspection interval and the number of unacceptable snubbers found during that interval. Snubbers may be categorized, based upon their accessibility during power operation, as accessible or inaccessible. These categories may be examined separately or jointly. However, the licensee must make and document that decision before any inspection and shall use that decision as the basis upon which to determine the next inspection interval for that category.

Note 2: Interpolation between population or category sizes and the number of unacceptable snubbers is permissible. Use next lower integer for the value of the limit for Columns A, B, or C if that integer includes a fractional value of unacceptable snubbers as determined by interpolation.

Note 3: If the number of unacceptable snubbers is equal to or less than the number in Column A, the next inspection interval may be twice the previous interval but not greater than 48 months.

Note 4: If the number of unacceptable snubbers is equal to or less than the number in Column B but greater than the number in Column A, the next inspection interval shall be the same as the previous interval.

Note 5: If the number of unacceptable snubbers is equal to or greater than the number in Column C, the next inspection interval shall be two-thirds of the previous interval. However, if the number of unacceptable snubbers is less than the number in Column C but greater than the number in Column B, the

Table 16.9-13-1

Snubber Visual Inspection Interval (page 2 of 2)

next interval shall be reduced proportionally by interpolation, that is, the previous interval shall be reduced by a factor that is one-third of the ratio of the difference between the number of unacceptable snubbers found during the previous interval and the number in Column B to the difference in the numbers in Columns B and C.

Note 6: The provisions of SLC 16.2.6 are applicable for all inspection intervals up to and including 48 months.

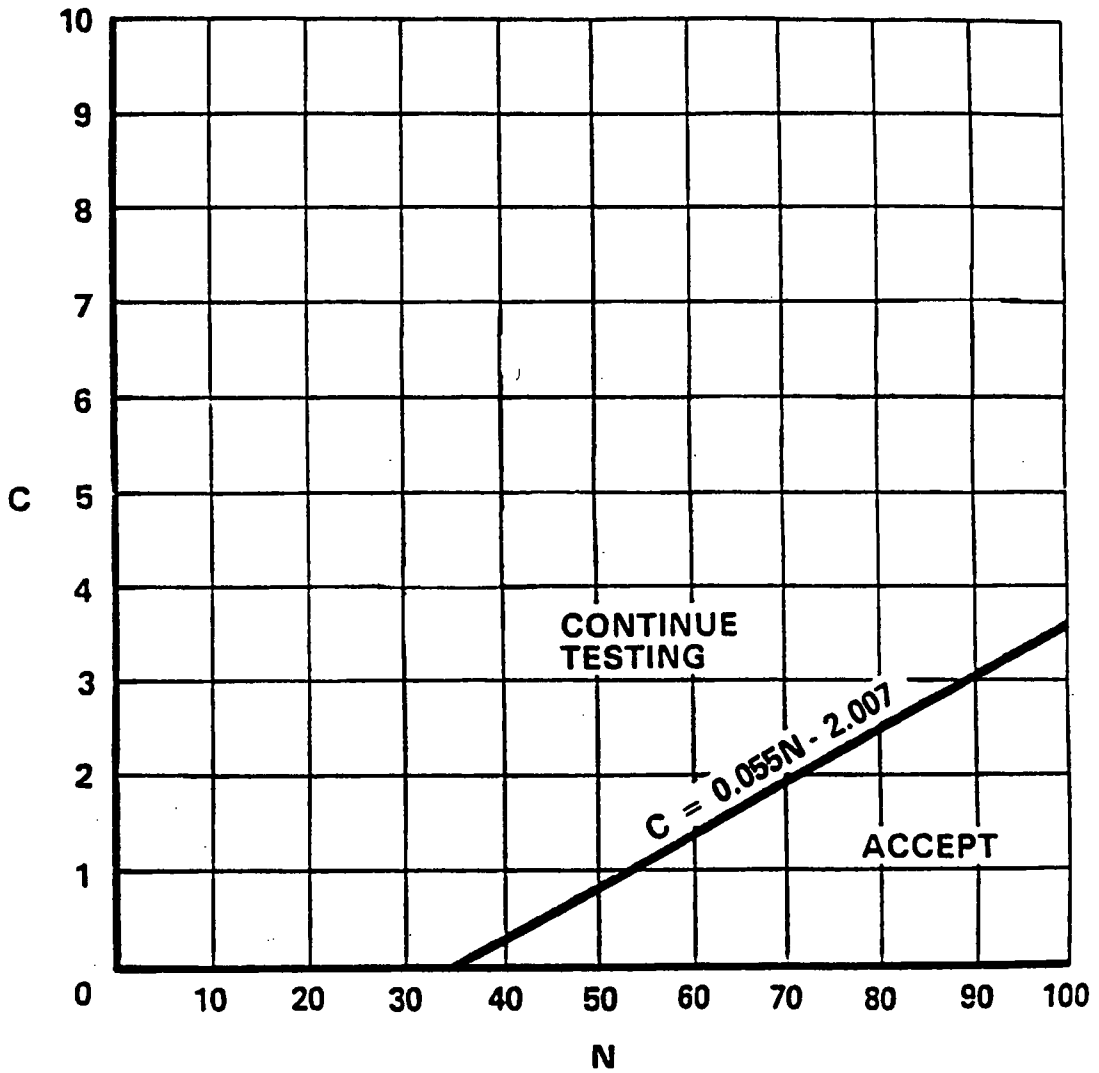

Figure 16.9-13-1

Sample Plan 2 for Snubber Functional Test

BASES

All 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 event initiating dynamic loads.

The snubber requirements of SLC 16.9-13 were originally located in the Technical Specifications. The Nuclear Regulatory Commission (NRC) authorized the use of these requirements, while located in Technical Specifications, as an acceptable alternative to the requirements of the ASME Code, 1989 Edition, Section XI, Article IWF-5000 (References 3, 4). Any revision to these snubber visual inspection and functional test requirements shall consider the basis for the granted relief from the ASME Code requirements and any resulting requirement for NRC review and approval.

Snubbers are classified and grouped by design and manufacturer but not by size. For example, mechanical snubbers utilizing the same design features of the 2-kip, 10-kip, and 100-kip capacity manufactured by Company "A" are of the same type. The same design mechanical snubbers manufactured by Company "B" for the purposes of this SLC would be of a different type, as would hydraulic snubbers from either manufacturer.

A list of individual snubbers with detailed information of snubber location and size and of system affected shall be available at the plant in accordance with Section 50.71(c) of 10 CFR Part 50. The addition or deletion of any hydraulic or mechanical snubber shall be made in accordance with Section 50.59 of 10 CFR Part 50.

The OPERABILITY requirements for snubbers which mitigate significant seismic or non-seismic loads do not meet the criteria in 10 CFR 50.36(c)(2)(ii) for inclusion in plant Technical Specifications; therefore, these requirements are contained in this SLC. The programmatic requirements for the visual inspection and functional testing of these snubbers also do not meet the criteria in 10 CFR 50.36(c)(2)(ii) for inclusion in plant Technical Specifications and, as such, are appropriate for control by this SLC and are the same for both categories of snubbers.

Seismic Snubbers

Seismic snubbers are installed primarily to mitigate loads resulting from a seismic event. However, some seismic snubbers also mitigate other non-seismic loads. If these non-seismic loads have been determined to have no effect on the OPERABILITY of the associated Technical Specification supported system(s) while the snubber(s) are inoperable (as determined by Engineering), then Technical Specification LCO 3.0.8 governs the OPERABILITY requirements for these snubbers.

LCO 3.0.8 establishes conditions under which Technical Specification supported systems are considered to remain OPERABLE when associated seismic snubbers are not capable of providing their associated support function(s). This LCO states that the supported system is not considered to

BASES (continued)

be inoperable solely due to one or more of these snubbers not being capable of performing their associated support function(s). Thus, any affected supported system LCO(s) are not required to be declared not met solely for this reason, if risk is assessed and managed. This is appropriate because: (1) a limited length of time is allowed for inspection, testing, maintenance, or repair of one or more of these snubbers not capable of performing their associated support function(s); (2) REMEDIAL ACTIONS are specified in this SLC; (3) there is a low probability of a seismic event concurrent with an event that would require operation of the supported system while the snubber(s) are not capable of performing their associated support function; and (4) the redundant train of the supported system is normally available. LCO 3.0.8 represents an allowance that does not have to be utilized. It is always acceptable to either wait until the supported system LCO(s) are not applicable or declare the Technical Specification supported system(s) inoperable.

If the allowed time expires and the seismic snubber(s) are unable to perform their associated support function(s), the affected supported system LCO(s) must be declared not met and the Conditions and Required Actions entered in accordance with LCO 3.0.2.

Snubbers with Both Seismic and Significant Non-Seismic Loads

If the affected snubber(s) have more than one function, one of which is the mitigation of seismic loads, than LCO 3.0.8 may be utilized. However, there must be a deterministic analysis that demonstrates that the Technical Specification supported system(s) can still perform their functions in spite of the non-seismic loads. For example, if the affected snubber(s) mitigate both seismic loads and accident loads (i.e., blowdown loads), then only the accident loads are considered deterministically to determine if the supported system(s) are OPERABLE. If the Technical Specification supported system(s) are OPERABLE for the non-seismic loads, then LCO 3.0.8 may be utilized for the seismic loads. Otherwise, LCO 3.0.8 cannot be utilized.

Snubbers with Significant Non-Seismic Loads

LCO 3.0.8 may not be utilized for snubbers with significant non-seismic loads that impact the OPERABILITY of Technical Specification supported system(s).

REMEDIAL ACTIONS

When one or more installed snubbers are discovered to be inoperable by means of routine walk down or observation, the applicable REMEDIAL ACTIONS for any affected system(s) and component(s) must be entered immediately and an engineering evaluation per the Functional Test Failure Analysis must be performed. The purpose of the evaluation is to determine

BASES (continued)

the cause of failure and to address transportability issues.

For snubbers that are removed for testing or maintenance activities, it is possible that a prior evaluation of the system may verify the continued operability of the system with the snubber(s) removed. In these cases, it is not necessary to enter into the system REMEDIAL ACTIONS as long as the conditions of the prior evaluation are met.

Should one or more snubbers fail to meet testing acceptance criteria or be discovered in a condition where failure is apparent, an engineering evaluation is to be performed within the prescribed time frame, as described in the Functional Test Failure Analysis.

Condition A applies when one or more seismic snubber(s) associated with one train of multiple train system(s) are inoperable or when one or more seismic snubber(s) associated with single train system(s) are inoperable, and thus are not capable of providing their associated support function(s). If the LCO 3.0.8 a. allowance is utilized, the SLC allows up to 72 hours to restore the seismic snubber(s) before declaring the supported system(s) inoperable. Also, there must be an immediate verification that at least one train of the AFW System is OPERABLE (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s). The 72 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported system while the seismic snubber(s) are not capable of performing their associated support function, and the fact that the redundant train of the supported system is normally available. At the end of the specified 72 hour period, the required seismic snubber(s) must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met. A seismic snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified.

Condition B applies when one or more seismic snubber(s) associated with more than one train of multiple train system(s) are inoperable, and thus are not capable of providing their associated support function(s). If the LCO 3.0.8 b. allowance is utilized, the SLC allows up to 12 hours to restore the seismic snubber(s) before declaring the supported system(s) inoperable, provided there is an immediate verification that at least one train of the AFW System is OPERABLE (including a minimum set of supporting equipment required for its successful operation) or an alternative cooling method not associated with the inoperable snubber(s). The alternative cooling method may include, but is not limited to, feed and bleed, fire water system, or aggressive secondary cooldown using the steam generators. The 12 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported

BASES (continued)

system while the seismic snubber(s) are not capable of performing their associated support function. At the end of the specified 12 hour period, the required seismic snubber(s) must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met. The affected supported system LCO(s) shall also be immediately declared not met upon the inoperability of all AFW System trains and all alternative cooling methods. A seismic snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified.

Condition C applies when one or more seismic snubber(s) associated with one train of multiple train system(s) are inoperable and the opposite train of the associated system(s) is also inoperable for reasons other than inoperable snubber(s). The SLC allows up to 72 hours to restore the seismic snubber(s) before declaring the supported system(s) inoperable, provided there is: (1) an immediate verification that at least one train of the AFW System is OPERABLE (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), and (2) an immediate performance of a qualitative risk assessment of the resulting configuration. The 72 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported system while the seismic snubber(s) are not capable of performing their associated support function and the opposite train of the associated system(s) is inoperable. At the end of the specified 72 hour period, the required seismic snubber(s) must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met. The affected supported system LCO(s) shall also be immediately declared not met upon the inoperability of all AFW System trains. A seismic snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified.

Condition D applies when one or more non-seismic snubber(s) are inoperable. In this case, the affected supported system LCO(s) shall be immediately declared not met, as LCO 3.0.8 does not apply to non-seismic snubbers. A snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified. For those inoperable snubbers that mitigate both seismic and non-seismic loads, if the supported system(s) remain operable (as determined via engineering analysis) when subjected to the non-seismic loads, then the provisions of LCO 3.0.8 may be applied for these snubbers.

BASES (continued)

Condition E applies when one or more snubber(s) are inoperable and a prior system OPERABILITY evaluation has been performed. In this case, an engineering evaluation is to be immediately performed per the Functional Test Failure Analysis to determine if the prior evaluation remains valid. If the prior evaluation is invalidated, then the affected supported system LCO(s) shall be immediately declared not met.

This SLC requires that risk be assessed and managed when utilizing the allowances of LCO 3.0.8. Industry and NRC guidance regarding the implementation of 10 CFR 50.65(a)(4) (the Maintenance Rule) does not address seismic risk. However, the use of this SLC should be considered with respect to other plant maintenance activities, and integrated into the existing Maintenance Rule process so that maintenance on any unaffected train or subsystem is properly controlled, and emergent issues are properly addressed. The risk assessment required to utilize LCO 3.0.8 need not be quantified, but may be a qualitative awareness of the vulnerability of systems and components when one or more snubber(s) are not able to perform their associated support function(s).

Visual Inspections

The visual inspection frequency is based upon maintaining a constant level of snubber protection during an earthquake or severe transient. Therefore, the required inspection interval varies inversely with the observed snubber failures and is determined by the number of inoperable snubbers found during an inspection. In order to establish the inspection frequency for each type of snubber, it was assumed that the frequency of snubber failures and initiating events are constant with time and that the failure of any snubber on that system could cause the system to be unprotected and to result in failure during an assumed initiating event. Inspections performed before that interval has elapsed may be used as a new reference point to determine the next inspection. However, the results of such early inspections performed before the original required time interval has elapsed (nominal time less 25%) may not be used to lengthen the required inspection interval. Any inspection whose results require a shorter inspection interval will override the previous schedule. The acceptance criteria are to be used in the visual inspection to determine OPERABILITY of the snubbers.

Visual inspections shall verify that: (1) the snubber has no visible indications of damage or impaired OPERABILITY, (2) attachments to the foundation or supporting structure are functional, and (3) fasteners for the attachment of the snubber to the component and to the snubber anchorage are functional. Snubbers which appear inoperable as a result of visual inspections shall be classified as unacceptable and may be reclassified acceptable for the purpose of establishing the next visual inspection interval, provided that: (i) the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers irrespective of type that may be generically susceptible; and (ii) the affected snubber is functionally tested in

BASES (continued)

the as-found condition and determined OPERABLE. All snubbers found connected to an inoperable common hydraulic fluid reservoir shall be counted as unacceptable and may be reclassified as acceptable for determining the next inspection interval provided that criterion (i) and (ii) above are met. A review and evaluation shall be performed and documented to justify continued operation with an unacceptable snubber. If continued operation cannot be justified, the snubber shall be declared inoperable and the REMEDIAL ACTION requirements shall be met.

Refueling Outage Inspections

At each refueling, the systems which have the potential for a severe dynamic event, specifically, the main steam system (upstream of the main steam isolation valves), the main steam safety and power operated relief valves and piping, auxiliary feedwater system, main steam supply to the auxiliary feedwater pump turbine, and the letdown and charging portion of the chemical and volume control system shall be inspected to determine if there has been a severe dynamic event. In the case of a severe dynamic event, mechanical snubbers in that system which experienced the event shall be inspected during the refueling outage to assure that the mechanical snubbers have freedom of movement and are not frozen up. The inspection shall consist of verifying freedom of motion using one of the following: (1) manually induced snubber movement, or (2) evaluation of in-place snubber piston setting, or (3) stroking the mechanical snubber through its full range of travel. If one or more mechanical snubbers are found to be frozen up during this inspection, those snubbers shall be replaced or repaired before returning to power. The requirements of TESTING REQUIREMENT 16.9-13-1 are independent of the requirements of this item.

Functional Testing

At least once per 18 months during shutdown, a representative sample of snubbers of each type shall be tested using one of the following Sample Plans. The large-bore steam generator hydraulic snubbers shall be treated as a separate type (population) for functional test purposes. A 10% random sample shall be tested at least once per 18 months during refueling with continued testing based on a failure evaluation. The Sample Plan shall be selected prior to the test period and cannot be changed during the test period. The NRC shall be notified in writing of the Sample Plan selected for each snubber type prior to the test period or the Sample Plan used in the prior test period shall be implemented:

1) At least 10% of all snubbers shall be functionally tested either in-place or in a bench test. For each snubber of a type that does not meet the functional test acceptance criteria, an additional 10% of all snubbers shall be functionally tested until no more failures are found or until all snubbers have been functionally tested; or

BASES (continued)

2) A representative sample of all snubbers shall be functionally tested in accordance with Figure 16.9-13-1. "C" is the total number of snubbers of a type found not meeting the acceptance requirements. The cumulative number of snubbers tested is denoted by "N". At the end of each day's testing, the new values of "N" and "C" (previous day's total plus current day's increments) shall be plotted on Figure 16.9-13-1. If at any time the point plotted falls in the "Accept" region, testing of snubbers of that type may be terminated. When the point plotted lies in the "Continue Testing" region, additional snubbers of that type shall be tested until the point falls in the "Accept" region or all the snubbers of that type have been tested; or

3) An initial representative sample of 55 snubbers shall be functionally tested. For each snubber type which does not meet the functional test acceptance criteria, another sample of at least one-half the size of the initial sample shall be tested until the total number tested is equal to the initial sample size multiplied by the factor, 1 + C/2, where "C" is the number of snubbers found which do not meet the functional test acceptance criteria. The results from this Sample Plan shall be plotted using an "Accept" line which follows the equation N = 55(1 + C/2). Each snubber point should be plotted as soon as the snubber is tested. If the point plotted falls on or below the "Accept" line, testing may be terminated. If the point plotted falls above the "Accept" line, testing must continue until the point falls in the "Accept" region or all the snubbers of that type have been tested.

Testing equipment failure during functional testing may invalidate that day's testing and allow that day's testing to resume anew at a later time provided all snubbers tested with the failed equipment during the day of equipment failure are retested. The representative sample selected for the functional test Sample Plans shall be randomly selected from all snubbers and reviewed before beginning the testing. The review shall ensure, as far as practicable, that they are representative of the various configurations, operating environments, range of size, and capacity of snubbers. Snubbers placed in the same location as snubbers which failed the previous functional test shall be retested at the time of the next functional test but shall not be included in the Sample Plan. If during the functional testing, additional sampling is required due to failure of only one type of snubber, the functional test results shall be reviewed at that time to determine if additional samples should be limited to the type of snubber which has failed the functional testing.

Figure 16.9-13-1 was developed using "Wald's Sequential Probability Ratio Plan" as described in "Quality Control and Industrial Statistics" by Acheson J. Duncan.

BASES (continued)

Permanent or other exemptions from the inspection program for individual snubbers may be granted by the Commission if a justifiable basis for exemption is presented and, if applicable, snubber life testing was performed to qualify the snubber for the applicable design conditions. Snubbers so exempted shall be listed in the list of individual snubbers indicating the extent of the exemptions.

The snubber testing program may remove snubbers from service and restore OPERABILITY of the snubber application by replacement with another like snubber. In this situation, if the removed snubber later fails to meet test acceptance criteria, the system Required Action is not applicable since the failed snubber component has no current required function; however, the engineering evaluation per the Functional Test Failure Analysis is still required to determine the failure cause and address transportability issues. During the allowed 72 hours to perform an engineering evaluation or at any other time, when conditions of the affected system(s) and component(s) are determined to no longer support a reasonable assurance of OPERABILITY, applicable Required Actions are to be entered immediately.

Functional Test Acceptance Criteria

The snubber functional test shall verify that:

1) Activation (restraining action) is achieved within the specified range in both tension and compression, except that inertia dependent, acceleration limiting mechanical snubbers may be tested to verify only that activation takes place in both directions of travel;

2) Snubber bleed, or release rate where required, is present in both tension and compression, within the specified range;

3) For mechanical snubbers, the force required to initiate or maintain motion of the snubber is within the specified range in both directions of travel; and

4) For snubbers specifically required not to displace under continuous load, the ability of the snubber to withstand load without displacement.

Testing methods may be used to measure parameters indirectly or parameters other than those specified if those results can be correlated to the specified parameters through established methods.

Functional Test Failure Analysis

An engineering evaluation shall be made of each failure to meet the functional test acceptance criteria to determine the cause of the failure. The

BASES (continued)

results of this evaluation shall be used, if applicable, in selecting snubbers to be tested in an effort to determine the OPERABILITY of other snubbers irrespective of type which may be subject to the same failure mode.

For the snubbers found inoperable, an engineering evaluation shall be performed on the components to which the inoperable snubbers are attached. The purpose of this engineering evaluation shall be to determine if the components to which the inoperable snubbers are attached were adversely affected by the inoperability of the snubbers in order to ensure that the component remains capable of meeting the designed service.

If any snubber selected for functional testing either fails to lock up or fails to move, i.e., frozen in place, the cause will be evaluated and, if caused by manufacturer or design deficiency, all snubbers of the same type subject to the same defect shall be functionally tested. This TESTING REQUIREMENT shall be independent of the requirements stated in TESTING REQUIREMENT 16.9-13-3 for snubbers not meeting the functional test acceptance criteria.

All snubbers that fail to meet the functional test criteria must be evaluated to determine the cause, and the potential for applicability of the failure mode to other snubbers. Likewise, an evaluation is required to determine if the attached components have been adversely affected by the functional failure of the snubber. It is noted that the evaluation is only required for snubbers that are inoperable due to a failure of the snubber itself to meet the functional requirements. A snubber that is inoperable due solely to being disconnected from the supported component does not necessitate a component or system evaluation, provided that the snubber itself meets the requirements of the functional test criteria. In this case, the only action required is that the snubber be completely restored and the cause of the disconnection determined and evaluated for generic implications.

Service Life

The service life of a snubber is established via manufacturer input and information through consideration of the snubber service conditions and associated installation and maintenance records (newly installed snubbers, seal replaced, spring replaced, in high radiation area, in high temperature area, etc.). The requirement to monitor the snubber service life is included to ensure that the snubbers periodically undergo a performance evaluation in view of their age and operating conditions. These records will provide statistical bases for future consideration of snubber service life.

If a service lifetime limit is associated (established) with any snubber (or critical part) based on manufacturer's information, qualification tests, or historical service results, then the service life shall be monitored to ensure that the service life is not exceeded between surveillance inspections.

BASES (continued)

Established snubber service life shall be extended or shortened based on monitored test results and failure history. The replacements (snubbers or critical parts) shall be documented and the documentation shall be retained. Records of the service lives of all hydraulic and mechanical snubbers, including the date at which the service life commences, and associated installation and maintenance records shall be retained for the duration of the unit operating license.

REFERENCES

1. Letter from W.R. McCollum, Jr. to NRC, Request for Relief 95-05, Snubber Inspection Interval for Unit 1, August 23, 1995.

2. Letter from W.R. McCollum, Jr. to NRC, Request for Relief 96-01, Snubber Inspection Interval for Unit 2, February 12, 1996.

3. Letter from NRC to W.R. McCollum, Request for Relief 95-05, January 11, 1996.

4. Letter from NRC to W.R. McCollum, Request for Relief 96-01, May 16, 1996.

5. Letter from NRC to Gary R. Peterson, Duke, Issuance of Improved Technical Specifications Amendments for Catawba, September 30, 1998.

6. Letter from M.S. Tuckman to NRC, Licensing Position Regarding Snubbers, May 20, 1999.

7. Letter from NRC to G.R. Peterson, Licensing Position Regarding Snubbers, July 7, 1999.

8. Technical Specifications Task Force (TSTF)-372-A, Revision 4, Addition of LCO 3.0.8, Inoperability of Snubbers.

9. TSTF-IG-05-03, Technical Specifications Task Force Implementation Guidance for TSTF-372-A, Revision 4, Addition of LCO 3.0.8, Inoperability of Snubbers.

10. Nuclear System Directive 415, Operational Risk Management (Modes 1-3) per 10CFR 50.65(a)(4).

11. Federal Register, 70FR23252, Notice of Availability of Model Application Concerning Technical Specification Improvement to Modify Requirements Regarding the Addition of Limiting Condition for Operation 3.0.8 on the Inoperability of Snubbers Using the Consolidated Line Item Improvement Process.

DUKE ENERGY CORPORATION
Catawba Nuclear Station
4800 Concord Road
York, SC 29745

803 831 3000

August 16, 2007

RE: Catawba Nuclear Station
Selected Licensee Commitments Manual
Revision Date 03/19/07

Attached are revisions to the Catawba Nuclear Station Selected Licensee Commitments Manual. Please remove and replace the following pages:

REMOVE	INSERT
LIST OF EFFECTIVE SECTIONS	
Pages 1 through 4 Revision 31	Pages 1 through 4 Revision 32
TAB 16.9	
16.9-13-1 through 16.9-13-14 Revision 0	16.9-13-1 through 16.9-13-21 Revision 1

If you have any questions concerning the contents of this package update, please contact Betty Aldridge at (803) 831-3758.

Randall D. Hart
Regulatory Compliance Manager

Attachments

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
TABLE OF CONTENTS	9	03/08/07
16.1	0	10/09/02
16.2	1	10/17/02
16.3	0	10/09/02
16.5-1	1	10/24/06
16.5-2	Deleted	
16.5-3	1	02/20/04
16.5-4	0	10/09/02
16.5-5	0	10/09/02
16.5-6	0	10/09/02
16.5-7	0	10/09/02
16.5-8	1	05/18/04
16.5-9	0	10/24/06
16.5-10	0	03/08/07
16.6-1	0	10/09/02
16.6-2	Deleted	
16.6-3	0	10/09/02
16.6-4	0	10/09/02
16.6-5	0	10/09/02
16.7-1	0	10/09/02
16.7-2	1	08/20/04
16.7-3	0	10/09/02
16.7-4	0	10/09/02
16.7-5	1	01/02/03

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.7-6	1	11/17/05
16.7-7	0	10/09/02
16.7-8	1	05/25/05
16.7-9	4	02/01/05
16.7-10	0	10/09/02
16.7-11	0	10/09/02
16.7-12	0	10/09/02
16.7-13	1	05/17/06
16.7-14	0	10/06/03
16.7-15	0	03/01/05
16.8-1	1	02/01/05
16.8-2	1	10/24/06
16.8-3	1	10/24/06
16.8-4	1	10/24/06
16.8-5	2	02/20/04
16.9-1	4	08/03/06
16.9-2	3	05/25/05
16.9-3	0	10/09/02
16.9-4	2	05/25/05
16.9-5	3	05/17/06
16.9-6	3	10/24/06
16.9-7	3	03/10/04
16.9-8	4	10/24/06
16.9-9	2	03/10/04

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.9-10	4	10/24/06
16.9-11	2	03/10/04
16.9-12	1	03/10/04
16.9-13	1	03/19/07
16.9-14	1	09/25/06
16.9-15	0	10/09/02
16.9-16	0	10/09/02
16.9-17	0	10/09/02
16.9-18	0	10/09/02
16.9-19	1	01/02/03
16.9-20	0	10/09/02
16.9-21	0	10/09/02
16.9-22	0	10/09/02
16.9-23	2	05/25/05
16.9-24	2	10/24/06
16.9-25	0	04/03/06
16.10-1	0	10/09/02
16.10-2	1	10/24/06
16.10-3	0	08/21/03
16.11-1	0	10/09/02
16.11-2	0	10/09/02
16.11-3	0	10/09/02
16.11-4	0	10/09/02
16.11-5	0	10/09/02

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.11-6	0	10/09/02
16.11-7	1	02/27/03
16.11-8	0	10/09/02
16.11-9	0	10/09/02
16.11-10	0	10/09/02
16.11-11	1	03/20/03
16.11-12	0	10/09/02
16.11-13	0	10/09/02
16.11-14	0	10/09/02
16.11-15	0	10/09/02
16.11-16	0	10/09/02
16.11-17	0	10/09/02
16.11-18	0	10/09/02
16.11-19	0	10/09/02
16.11-20	0	10/09/02
16.11-21	0	10/09/02
16.12-1	0	10/09/02
16.13-1	0	10/09/02
16.13-2	Deleted	
16.13-3	Deleted	
16.13-4	0	10/09/02

16.9 AUXILIARY SYSTEMS

16.9-13 Snubbers

COMMITMENT

----------NOTES----------

1. Snubbers installed on non-safety related systems may be excluded from these requirements provided their failure or the failure of the system on which they are installed would not have an adverse effect on any safety related system.

2. If a snubber does not support the OPERABILITY of a Technical Specification required system, or if the supported system is not required to be OPERABLE, then Limiting Condition for Operation (LCO) 3.0.8 is not utilized.

All snubbers shall be OPERABLE.

APPLICABILITY: Whenever the system supported by the snubber is required to be OPERABLE.

REMEDIAL ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. ----------NOTE---------- Only applicable to seismic snubbers which support the OPERABILITY of Technical Specification required systems. ----------	A.1 Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately upon determination of train inoperability OR 72 hours
	AND	
One or more snubber(s) associated with one train of multiple train system(s) inoperable. OR One or more snubber(s) associated with single train system(s) inoperable.	A.2 ----------NOTE---------- Only applicable when utilizing the 72 hour Completion Time of Required Action A.1. ----------	
	Verify at least one train of the Auxiliary Feedwater (AFW) System (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), is OPERABLE.	Immediately
	AND	
	A.3 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ----------	
	Perform engineering evaluation per the Functional Test Failure Analysis.	Prior to restoring affected train to OPERABLE status OR 72 hours

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. ----------NOTE---------- Only applicable to seismic snubbers which support the OPERABILITY of Technical Specification required systems. ---------- One or more snubber(s) associated with more than one train of multiple train system(s) inoperable.	B.1 Verify at least one train of the AFW System (including a minimum set of supporting equipment required for its successful operation) or alternative cooling method not associated with the inoperable snubber(s), is OPERABLE.	Immediately
	AND	
	B.2 Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately upon inoperability of all AFW System trains and all alternative cooling methods OR 12 hours
	AND	
	B.3 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis.	Prior to restoring affected train(s) to OPERABLE status OR 12 hours

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. ----------NOTE---------- Only applicable to seismic snubbers which support the OPERABILITY of Technical Specification required systems. ----------	C.1 Verify at least one train of the AFW System (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), is OPERABLE.	Immediately
One or more snubber(s) associated with one train of multiple train system(s) inoperable.	AND	
AND	C.2 Perform a qualitative risk assessment of the resulting configuration.	Immediately
Opposite train of associated system(s) inoperable for reasons other than inoperable snubber(s).	AND	
	C.3 Enter the applicable Conditions and Required Actions for the affected train(s) of multiple train system(s) that contain the inoperable snubber(s).	Immediately upon inoperability of all AFW System trains OR 72 hours
	AND	
	C.4 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ----------	
	Perform engineering evaluation per the Functional Test Failure Analysis.	Prior to restoring affected train(s) to OPERABLE status OR 72 hours

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. ----------NOTE---------- Only applicable to non-seismic snubbers which support the OPERABILITY of Technical Specification required systems. ---------- One or more snubber(s) inoperable.	D.1 Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately
	AND	
	D.2 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis.	Immediately

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. One or more snubber(s) inoperable. AND Prior system OPERABILITY evaluation performed.	E.1 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis to determine impact on prior system OPERABILITY evaluation.	Immediately
	AND	
	E.2 ----------NOTE---------- Only applicable if prior system OPERABILITY evaluation is invalidated. ---------- Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately

TESTING REQUIREMENTS

----------NOTES----------

1. Each snubber shall be demonstrated OPERABLE by performance of the following augmented inservice inspection program.

2. Snubbers which fail the visual inspection or the functional test acceptance criteria shall be repaired or replaced. Replacement snubbers and snubbers which have repairs which might affect the functional test results shall be tested to meet the functional test criteria before installation in the unit. Mechanical snubbers shall have met the acceptance criteria subsequent to their most recent service, and the freedom of motion test shall have been performed within 12 months before being installed in the unit.

3. As used in this SLC, "type of snubber" shall mean snubbers of the same design and manufacturer, irrespective of capacity.

	TEST	FREQUENCY
TR 16.9-13-1	----------NOTE---------- Snubbers are categorized as inaccessible or accessible during reactor operation and may be inspected independently according to the schedule determined by Table 16.9-13-1. The first inspection interval using Table 16.9-13-1 shall be based upon the previous inspection interval as established by the requirements in effect before Technical Specification Amendment 88 (Unit 1) and 82 (Unit 2). ----------	
	Perform a visual inspection for each category of snubber.	In accordance with Table 16.9-13-1
TR 16.9-13-2	----------NOTE---------- In case of a severe dynamic event, mechanical snubbers in the system which experienced the event shall be inspected during the refueling outage to assure that they have freedom of movement and are not frozen up. ----------	
	Perform an inspection, during shutdown, to determine if there has been a severe dynamic event for systems which have the potential for a severe dynamic event.	18 months

(continued)

TESTING REQUIREMENTS (continued)

	TEST	FREQUENCY
TR 16.9-13-3	----------NOTE---------- The large-bore steam generator hydraulic snubbers shall be treated as a separate population for functional test purposes and shall be functionally tested under Sample Plan 1. ---------- Perform, during shutdown, snubber functional testing on a representative sample of each type of snubber in accordance with one of the following three Sample Plans: 1. Functionally test 10% of a type of snubber with an additional 10% tested for each functional testing failure, or 2. Functionally test a sample size and determine sample acceptance or continue testing using Figure 16.9-13-1, or 3. Functionally test a representative sample size and determine sample acceptance or rejection using the stated equation.	18 months
TR 16.9-13-4	----------NOTE---------- Service life records shall be documented and the documentation retained for the duration of the unit operating license. ---------- Verify that the service life of all snubbers has not been exceeded or will not be exceeded prior to the next scheduled surveillance inspection.	18 months

Table 16.9-13-1

Snubber Visual Inspection Interval (page 1 of 2)

POPULATION OR CATEGORY (NOTES 1 AND 2)	NUMBER OF UNACCEPTABLE SNUBBERS		
	COLUMN A EXTEND INTERVAL (NOTES 3 AND 6)	COLUMN B REPEAT INTERVAL (NOTES 4 AND 6)	COLUMN C REDUCE INTERVAL (NOTES 5 AND 6)
1	0	0	1
80	0	0	2
100	0	1	4
150	0	3	8
200	2	5	13
300	5	12	25
400	8	18	36
500	12	24	48
750	20	40	78
≥ 1000	29	56	109

Note 1: The next visual inspection interval for a snubber population or category size shall be determined based upon the previous inspection interval and the number of unacceptable snubbers found during that interval. Snubbers may be categorized, based upon their accessibility during power operation, as accessible or inaccessible. These categories may be examined separately or jointly. However, the licensee must make and document that decision before any inspection and shall use that decision as the basis upon which to determine the next inspection interval for that category.

Note 2: Interpolation between population or category sizes and the number of unacceptable snubbers is permissible. Use next lower integer for the value of the limit for Columns A, B, or C if that integer includes a fractional value of unacceptable snubbers as determined by interpolation.

Note 3: If the number of unacceptable snubbers is equal to or less than the number in Column A, the next inspection interval may be twice the previous interval but not greater than 48 months.

Note 4: If the number of unacceptable snubbers is equal to or less than the number in Column B but greater than the number in Column A, the next inspection interval shall be the same as the previous interval.

Note 5: If the number of unacceptable snubbers is equal to or greater than the number in Column C, the next inspection interval shall be two-thirds of the previous interval. However, if the number of unacceptable snubbers is less than the number in Column C but greater than the number in Column B, the

Table 16.9-13-1

Snubber Visual Inspection Interval (page 2 of 2)

next interval shall be reduced proportionally by interpolation, that is, the previous interval shall be reduced by a factor that is one-third of the ratio of the difference between the number of unacceptable snubbers found during the previous interval and the number in Column B to the difference in the numbers in Columns B and C.

Note 6: The provisions of SLC 16.2.6 are applicable for all inspection intervals up to and including 48 months.

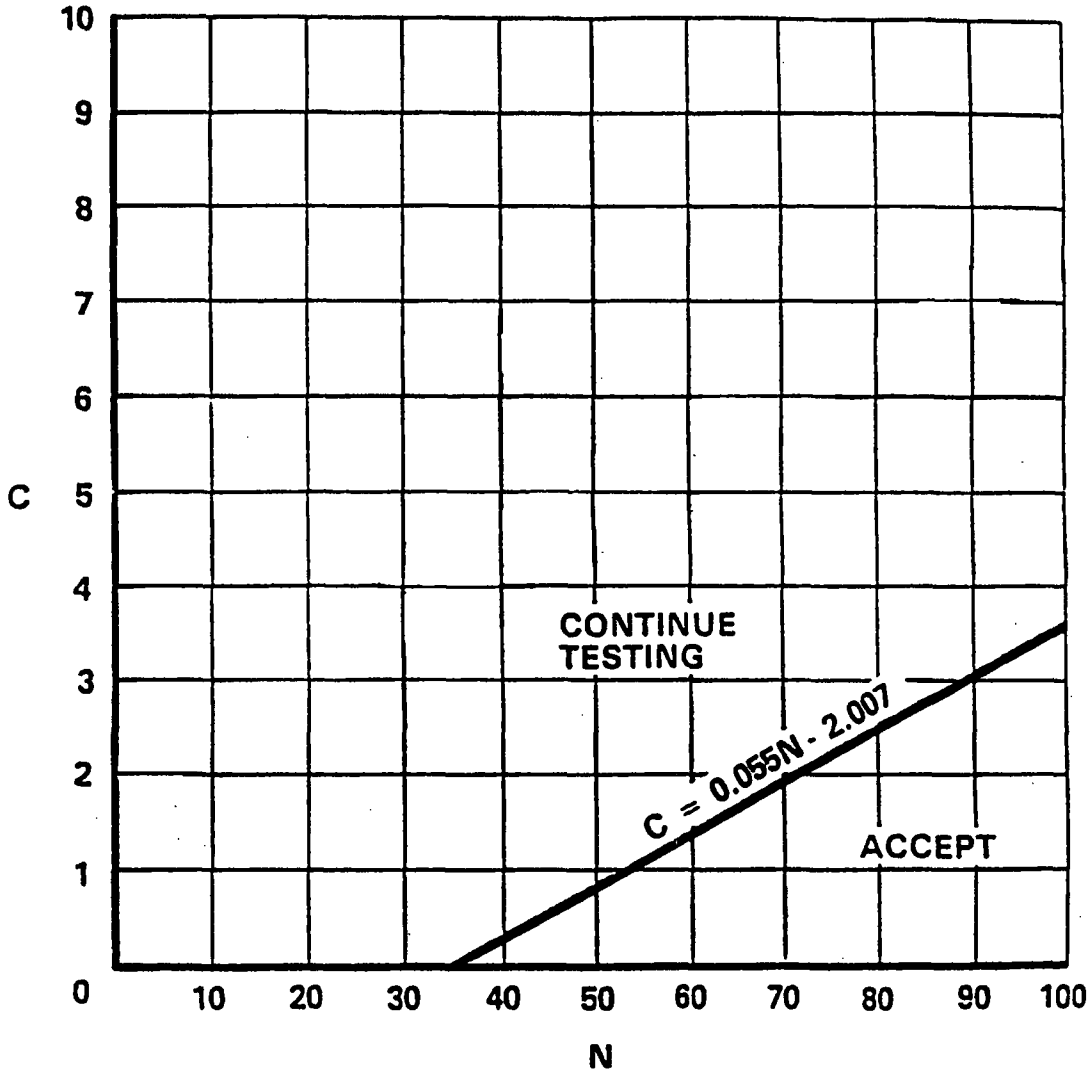

Figure 16.9-13-1

Sample Plan 2 for Snubber Functional Test

BASES

All 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 event initiating dynamic loads.

The snubber requirements of SLC 16.9-13 were originally located in the Technical Specifications. The Nuclear Regulatory Commission (NRC) authorized the use of these requirements, while located in Technical Specifications, as an acceptable alternative to the requirements of the ASME Code, 1989 Edition, Section XI, Article IWF-5000 (References 3, 4). Any revision to these snubber visual inspection and functional test requirements shall consider the basis for the granted relief from the ASME Code requirements and any resulting requirement for NRC review and approval.

Snubbers are classified and grouped by design and manufacturer but not by size. For example, mechanical snubbers utilizing the same design features of the 2-kip, 10-kip, and 100-kip capacity manufactured by Company "A" are of the same type. The same design mechanical snubbers manufactured by Company "B" for the purposes of this SLC would be of a different type, as would hydraulic snubbers from either manufacturer.

A list of individual snubbers with detailed information of snubber location and size and of system affected shall be available at the plant in accordance with Section 50.71(c) of 10 CFR Part 50. The addition or deletion of any hydraulic or mechanical snubber shall be made in accordance with Section 50.59 of 10 CFR Part 50.

The OPERABILITY requirements for snubbers which mitigate significant seismic or non-seismic loads do not meet the criteria in 10 CFR 50.36(c)(2)(ii) for inclusion in plant Technical Specifications; therefore, these requirements are contained in this SLC. The programmatic requirements for the visual inspection and functional testing of these snubbers also do not meet the criteria in 10 CFR 50.36(c)(2)(ii) for inclusion in plant Technical Specifications and, as such, are appropriate for control by this SLC and are the same for both categories of snubbers.

Seismic Snubbers

Seismic snubbers are installed primarily to mitigate loads resulting from a seismic event. However, some seismic snubbers also mitigate other non-seismic loads. If these non-seismic loads have been determined to have no effect on the OPERABILITY of the associated Technical Specification supported system(s) while the snubber(s) are inoperable (as determined by Engineering), then Technical Specification LCO 3.0.8 governs the OPERABILITY requirements for these snubbers.

LCO 3.0.8 establishes conditions under which Technical Specification supported systems are considered to remain OPERABLE when associated seismic snubbers are not capable of providing their associated support function(s). This LCO states that the supported system is not considered to

BASES (continued)

be inoperable solely due to one or more of these snubbers not being capable of performing their associated support function(s). Thus, any affected supported system LCO(s) are not required to be declared not met solely for this reason, if risk is assessed and managed. This is appropriate because: (1) a limited length of time is allowed for inspection, testing, maintenance, or repair of one or more of these snubbers not capable of performing their associated support function(s); (2) REMEDIAL ACTIONS are specified in this SLC; (3) there is a low probability of a seismic event concurrent with an event that would require operation of the supported system while the snubber(s) are not capable of performing their associated support function; and (4) the redundant train of the supported system is normally available. LCO 3.0.8 represents an allowance that does not have to be utilized. It is always acceptable to either wait until the supported system LCO(s) are not applicable or declare the Technical Specification supported system(s) inoperable.

If the allowed time expires and the seismic snubber(s) are unable to perform their associated support function(s), the affected supported system LCO(s) must be declared not met and the Conditions and Required Actions entered in accordance with LCO 3.0.2.

Snubbers with Both Seismic and Significant Non-Seismic Loads

If the affected snubber(s) have more than one function, one of which is the mitigation of seismic loads, than LCO 3.0.8 may be utilized. However, there must be a deterministic analysis that demonstrates that the Technical Specification supported system(s) can still perform their functions in spite of the non-seismic loads. For example, if the affected snubber(s) mitigate both seismic loads and accident loads (i.e., blowdown loads), then only the accident loads are considered deterministically to determine if the supported system(s) are OPERABLE. If the Technical Specification supported system(s) are OPERABLE for the non-seismic loads, then LCO 3.0.8 may be utilized for the seismic loads. Otherwise, LCO 3.0.8 cannot be utilized.

Snubbers with Significant Non-Seismic Loads

LCO 3.0.8 may not be utilized for snubbers with significant non-seismic loads that impact the OPERABILITY of Technical Specification supported system(s).

REMEDIAL ACTIONS

When one or more installed snubbers are discovered to be inoperable by means of routine walk down or observation, the applicable REMEDIAL ACTIONS for any affected system(s) and component(s) must be entered immediately and an engineering evaluation per the Functional Test Failure Analysis must be performed. The purpose of the evaluation is to determine

BASES (continued)

the cause of failure and to address transportability issues.

For snubbers that are removed for testing or maintenance activities, it is possible that a prior evaluation of the system may verify the continued operability of the system with the snubber(s) removed. In these cases, it is not necessary to enter into the system REMEDIAL ACTIONS as long as the conditions of the prior evaluation are met.

Should one or more snubbers fail to meet testing acceptance criteria or be discovered in a condition where failure is apparent, an engineering evaluation is to be performed within the prescribed time frame, as described in the Functional Test Failure Analysis.

Condition A applies when one or more seismic snubber(s) associated with one train of multiple train system(s) are inoperable or when one or more seismic snubber(s) associated with single train system(s) are inoperable, and thus are not capable of providing their associated support function(s). If the LCO 3.0.8 a. allowance is utilized, the SLC allows up to 72 hours to restore the seismic snubber(s) before declaring the supported system(s) inoperable. Also, there must be an immediate verification that at least one train of the AFW System is OPERABLE (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s). The 72 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported system while the seismic snubber(s) are not capable of performing their associated support function, and the fact that the redundant train of the supported system is normally available. At the end of the specified 72 hour period, the required seismic snubber(s) must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met. A seismic snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified.

Condition B applies when one or more seismic snubber(s) associated with more than one train of multiple train system(s) are inoperable, and thus are not capable of providing their associated support function(s). If the LCO 3.0.8 b. allowance is utilized, the SLC allows up to 12 hours to restore the seismic snubber(s) before declaring the supported system(s) inoperable, provided there is an immediate verification that at least one train of the AFW System is OPERABLE (including a minimum set of supporting equipment required for its successful operation) or an alternative cooling method not associated with the inoperable snubber(s). The alternative cooling method may include, but is not limited to, feed and bleed, fire water system, or aggressive secondary cooldown using the steam generators. The 12 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported

BASES (continued)

system while the seismic snubber(s) are not capable of performing their associated support function. At the end of the specified 12 hour period, the required seismic snubber(s) must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met. The affected supported system LCO(s) shall also be immediately declared not met upon the inoperability of all AFW System trains and all alternative cooling methods. A seismic snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified.

Condition C applies when one or more seismic snubber(s) associated with one train of multiple train system(s) are inoperable and the opposite train of the associated system(s) is also inoperable for reasons other than inoperable snubber(s). The SLC allows up to 72 hours to restore the seismic snubber(s) before declaring the supported system(s) inoperable, provided there is: (1) an immediate verification that at least one train of the AFW System is OPERABLE (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), and (2) an immediate performance of a qualitative risk assessment of the resulting configuration. The 72 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported system while the seismic snubber(s) are not capable of performing their associated support function and the opposite train of the associated system(s) is inoperable. At the end of the specified 72 hour period, the required seismic snubber(s) must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met. The affected supported system LCO(s) shall also be immediately declared not met upon the inoperability of all AFW System trains. A seismic snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified.

Condition D applies when one or more non-seismic snubber(s) are inoperable. In this case, the affected supported system LCO(s) shall be immediately declared not met, as LCO 3.0.8 does not apply to non-seismic snubbers. A snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified. For those inoperable snubbers that mitigate both seismic and non-seismic loads, if the supported system(s) remain operable (as determined via engineering analysis) when subjected to the non-seismic loads, then the provisions of LCO 3.0.8 may be applied for these snubbers.

BASES (continued)

Condition E applies when one or more snubber(s) are inoperable and a prior system OPERABILITY evaluation has been performed. In this case, an engineering evaluation is to be immediately performed per the Functional Test Failure Analysis to determine if the prior evaluation remains valid. If the prior evaluation is invalidated, then the affected supported system LCO(s) shall be immediately declared not met.

This SLC requires that risk be assessed and managed when utilizing the allowances of LCO 3.0.8. Industry and NRC guidance regarding the implementation of 10 CFR 50.65(a)(4) (the Maintenance Rule) does not address seismic risk. However, the use of this SLC should be considered with respect to other plant maintenance activities, and integrated into the existing Maintenance Rule process so that maintenance on any unaffected train or subsystem is properly controlled, and emergent issues are properly addressed. The risk assessment required to utilize LCO 3.0.8 need not be quantified, but may be a qualitative awareness of the vulnerability of systems and components when one or more snubber(s) are not able to perform their associated support function(s).

Visual Inspections

The visual inspection frequency is based upon maintaining a constant level of snubber protection during an earthquake or severe transient. Therefore, the required inspection interval varies inversely with the observed snubber failures and is determined by the number of inoperable snubbers found during an inspection. In order to establish the inspection frequency for each type of snubber, it was assumed that the frequency of snubber failures and initiating events are constant with time and that the failure of any snubber on that system could cause the system to be unprotected and to result in failure during an assumed initiating event. Inspections performed before that interval has elapsed may be used as a new reference point to determine the next inspection. However, the results of such early inspections performed before the original required time interval has elapsed (nominal time less 25%) may not be used to lengthen the required inspection interval. Any inspection whose results require a shorter inspection interval will override the previous schedule. The acceptance criteria are to be used in the visual inspection to determine OPERABILITY of the snubbers.

Visual inspections shall verify that: (1) the snubber has no visible indications of damage or impaired OPERABILITY, (2) attachments to the foundation or supporting structure are functional, and (3) fasteners for the attachment of the snubber to the component and to the snubber anchorage are functional. Snubbers which appear inoperable as a result of visual inspections shall be classified as unacceptable and may be reclassified acceptable for the purpose of establishing the next visual inspection interval, provided that: (i) the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers irrespective of type that may be generically susceptible; and (ii) the affected snubber is functionally tested in

BASES (continued)

the as-found condition and determined OPERABLE. All snubbers found connected to an inoperable common hydraulic fluid reservoir shall be counted as unacceptable and may be reclassified as acceptable for determining the next inspection interval provided that criterion (i) and (ii) above are met. A review and evaluation shall be performed and documented to justify continued operation with an unacceptable snubber. If continued operation cannot be justified, the snubber shall be declared inoperable and the REMEDIAL ACTION requirements shall be met.

Refueling Outage Inspections

At each refueling, the systems which have the potential for a severe dynamic event, specifically, the main steam system (upstream of the main steam isolation valves), the main steam safety and power operated relief valves and piping, auxiliary feedwater system, main steam supply to the auxiliary feedwater pump turbine, and the letdown and charging portion of the chemical and volume control system shall be inspected to determine if there has been a severe dynamic event. In the case of a severe dynamic event, mechanical snubbers in that system which experienced the event shall be inspected during the refueling outage to assure that the mechanical snubbers have freedom of movement and are not frozen up. The inspection shall consist of verifying freedom of motion using one of the following: (1) manually induced snubber movement, or (2) evaluation of in-place snubber piston setting, or (3) stroking the mechanical snubber through its full range of travel. If one or more mechanical snubbers are found to be frozen up during this inspection, those snubbers shall be replaced or repaired before returning to power. The requirements of TESTING REQUIREMENT 16.9-13-1 are independent of the requirements of this item.

Functional Testing

At least once per 18 months during shutdown, a representative sample of snubbers of each type shall be tested using one of the following Sample Plans. The large-bore steam generator hydraulic snubbers shall be treated as a separate type (population) for functional test purposes. A 10% random sample shall be tested at least once per 18 months during refueling with continued testing based on a failure evaluation. The Sample Plan shall be selected prior to the test period and cannot be changed during the test period. The NRC shall be notified in writing of the Sample Plan selected for each snubber type prior to the test period or the Sample Plan used in the prior test period shall be implemented:

1) At least 10% of all snubbers shall be functionally tested either in-place or in a bench test. For each snubber of a type that does not meet the functional test acceptance criteria, an additional 10% of all snubbers shall be functionally tested until no more failures are found or until all snubbers have been functionally tested; or

BASES (continued)

2) A representative sample of all snubbers shall be functionally tested in accordance with Figure 16.9-13-1. "C" is the total number of snubbers of a type found not meeting the acceptance requirements. The cumulative number of snubbers tested is denoted by "N". At the end of each day's testing, the new values of "N" and "C" (previous day's total plus current day's increments) shall be plotted on Figure 16.9-13-1. If at any time the point plotted falls in the "Accept" region, testing of snubbers of that type may be terminated. When the point plotted lies in the "Continue Testing" region, additional snubbers of that type shall be tested until the point falls in the "Accept" region or all the snubbers of that type have been tested; or

3) An initial representative sample of 55 snubbers shall be functionally tested. For each snubber type which does not meet the functional test acceptance criteria, another sample of at least one-half the size of the initial sample shall be tested until the total number tested is equal to the initial sample size multiplied by the factor, 1 + C/2, where "C" is the number of snubbers found which do not meet the functional test acceptance criteria. The results from this Sample Plan shall be plotted using an "Accept" line which follows the equation N = 55(1 + C/2). Each snubber point should be plotted as soon as the snubber is tested. If the point plotted falls on or below the "Accept" line, testing may be terminated. If the point plotted falls above the "Accept" line, testing must continue until the point falls in the "Accept" region or all the snubbers of that type have been tested.

Testing equipment failure during functional testing may invalidate that day's testing and allow that day's testing to resume anew at a later time provided all snubbers tested with the failed equipment during the day of equipment failure are retested. The representative sample selected for the functional test Sample Plans shall be randomly selected from all snubbers and reviewed before beginning the testing. The review shall ensure, as far as practicable, that they are representative of the various configurations, operating environments, range of size, and capacity of snubbers. Snubbers placed in the same location as snubbers which failed the previous functional test shall be retested at the time of the next functional test but shall not be included in the Sample Plan. If during the functional testing, additional sampling is required due to failure of only one type of snubber, the functional test results shall be reviewed at that time to determine if additional samples should be limited to the type of snubber which has failed the functional testing.

Figure 16.9-13-1 was developed using "Wald's Sequential Probability Ratio Plan" as described in "Quality Control and Industrial Statistics" by Acheson J. Duncan.

BASES (continued)

Permanent or other exemptions from the inspection program for individual snubbers may be granted by the Commission if a justifiable basis for exemption is presented and, if applicable, snubber life testing was performed to qualify the snubber for the applicable design conditions. Snubbers so exempted shall be listed in the list of individual snubbers indicating the extent of the exemptions.

The snubber testing program may remove snubbers from service and restore OPERABILITY of the snubber application by replacement with another like snubber. In this situation, if the removed snubber later fails to meet test acceptance criteria, the system Required Action is not applicable since the failed snubber component has no current required function; however, the engineering evaluation per the Functional Test Failure Analysis is still required to determine the failure cause and address transportability issues. During the allowed 72 hours to perform an engineering evaluation or at any other time, when conditions of the affected system(s) and component(s) are determined to no longer support a reasonable assurance of OPERABILITY, applicable Required Actions are to be entered immediately.

Functional Test Acceptance Criteria

The snubber functional test shall verify that:

1) Activation (restraining action) is achieved within the specified range in both tension and compression, except that inertia dependent, acceleration limiting mechanical snubbers may be tested to verify only that activation takes place in both directions of travel;

2) Snubber bleed, or release rate where required, is present in both tension and compression, within the specified range;

3) For mechanical snubbers, the force required to initiate or maintain motion of the snubber is within the specified range in both directions of travel; and

4) For snubbers specifically required not to displace under continuous load, the ability of the snubber to withstand load without displacement.

Testing methods may be used to measure parameters indirectly or parameters other than those specified if those results can be correlated to the specified parameters through established methods.

Functional Test Failure Analysis

An engineering evaluation shall be made of each failure to meet the functional test acceptance criteria to determine the cause of the failure. The

BASES (continued)

results of this evaluation shall be used, if applicable, in selecting snubbers to be tested in an effort to determine the OPERABILITY of other snubbers irrespective of type which may be subject to the same failure mode.

For the snubbers found inoperable, an engineering evaluation shall be performed on the components to which the inoperable snubbers are attached. The purpose of this engineering evaluation shall be to determine if the components to which the inoperable snubbers are attached were adversely affected by the inoperability of the snubbers in order to ensure that the component remains capable of meeting the designed service.

If any snubber selected for functional testing either fails to lock up or fails to move, i.e., frozen in place, the cause will be evaluated and, if caused by manufacturer or design deficiency, all snubbers of the same type subject to the same defect shall be functionally tested. This TESTING REQUIREMENT shall be independent of the requirements stated in TESTING REQUIREMENT 16.9-13-3 for snubbers not meeting the functional test acceptance criteria.

All snubbers that fail to meet the functional test criteria must be evaluated to determine the cause, and the potential for applicability of the failure mode to other snubbers. Likewise, an evaluation is required to determine if the attached components have been adversely affected by the functional failure of the snubber. It is noted that the evaluation is only required for snubbers that are inoperable due to a failure of the snubber itself to meet the functional requirements. A snubber that is inoperable due solely to being disconnected from the supported component does not necessitate a component or system evaluation, provided that the snubber itself meets the requirements of the functional test criteria. In this case, the only action required is that the snubber be completely restored and the cause of the disconnection determined and evaluated for generic implications.

Service Life

The service life of a snubber is established via manufacturer input and information through consideration of the snubber service conditions and associated installation and maintenance records (newly installed snubbers, seal replaced, spring replaced, in high radiation area, in high temperature area, etc.). The requirement to monitor the snubber service life is included to ensure that the snubbers periodically undergo a performance evaluation in view of their age and operating conditions. These records will provide statistical bases for future consideration of snubber service life.

If a service lifetime limit is associated (established) with any snubber (or critical part) based on manufacturer's information, qualification tests, or historical service results, then the service life shall be monitored to ensure that the service life is not exceeded between surveillance inspections.

BASES (continued)

Established snubber service life shall be extended or shortened based on monitored test results and failure history. The replacements (snubbers or critical parts) shall be documented and the documentation shall be retained. Records of the service lives of all hydraulic and mechanical snubbers, including the date at which the service life commences, and associated installation and maintenance records shall be retained for the duration of the unit operating license.

REFERENCES

1. Letter from W.R. McCollum, Jr. to NRC, Request for Relief 95-05, Snubber Inspection Interval for Unit 1, August 23, 1995.

2. Letter from W.R. McCollum, Jr. to NRC, Request for Relief 96-01, Snubber Inspection Interval for Unit 2, February 12, 1996.

3. Letter from NRC to W.R. McCollum, Request for Relief 95-05, January 11, 1996.

4. Letter from NRC to W.R. McCollum, Request for Relief 96-01, May 16, 1996.

5. Letter from NRC to Gary R. Peterson, Duke, Issuance of Improved Technical Specifications Amendments for Catawba, September 30, 1998.

6. Letter from M.S. Tuckman to NRC, Licensing Position Regarding Snubbers, May 20, 1999.

7. Letter from NRC to G.R. Peterson, Licensing Position Regarding Snubbers, July 7, 1999.

8. Technical Specifications Task Force (TSTF)-372-A, Revision 4, Addition of LCO 3.0.8, Inoperability of Snubbers.

9. TSTF-IG-05-03, Technical Specifications Task Force Implementation Guidance for TSTF-372-A, Revision 4, Addition of LCO 3.0.8, Inoperability of Snubbers.

10. Nuclear System Directive 415, Operational Risk Management (Modes 1-3) per 10CFR 50.65(a)(4).

11. Federal Register, 70FR23252, Notice of Availability of Model Application Concerning Technical Specification Improvement to Modify Requirements Regarding the Addition of Limiting Condition for Operation 3.0.8 on the Inoperability of Snubbers Using the Consolidated Line Item Improvement Process.

DUKE ENERGY CORPORATION
Catawba Nuclear Station
4800 Concord Road
York, SC 29745

803 831 3000

August 16, 2007

RE: Catawba Nuclear Station
Selected Licensee Commitments Manual
Revision Date 03/19/07

Attached are revisions to the Catawba Nuclear Station Selected Licensee Commitments Manual. Please remove and replace the following pages:

REMOVE	INSERT
LIST OF EFFECTIVE SECTIONS	
Pages 1 through 4 Revision 31	Pages 1 through 4 Revision 32
TAB 16.9	
16.9-13-1 through 16.9-13-14 Revision 0	16.9-13-1 through 16.9-13-21 Revision 1

If you have any questions concerning the contents of this package update, please contact Betty Aldridge at (803) 831-3758.

Randall D. Hart
Regulatory Compliance Manager

Attachments

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
TABLE OF CONTENTS	9	03/08/07
16.1	0	10/09/02
16.2	1	10/17/02
16.3	0	10/09/02
16.5-1	1	10/24/06
16.5-2	Deleted	
16.5-3	1	02/20/04
16.5-4	0	10/09/02
16.5-5	0	10/09/02
16.5-6	0	10/09/02
16.5-7	0	10/09/02
16.5-8	1	05/18/04
16.5-9	0	10/24/06
16.5-10	0	03/08/07
16.6-1	0	10/09/02
16.6-2	Deleted	
16.6-3	0	10/09/02
16.6-4	0	10/09/02
16.6-5	0	10/09/02
16.7-1	0	10/09/02
16.7-2	1	08/20/04
16.7-3	0	10/09/02
16.7-4	0	10/09/02
16.7-5	1	01/02/03

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.7-6	1	11/17/05
16.7-7	0	10/09/02
16.7-8	1	05/25/05
16.7-9	4	02/01/05
16.7-10	0	10/09/02
16.7-11	0	10/09/02
16.7-12	0	10/09/02
16.7-13	1	05/17/06
16.7-14	0	10/06/03
16.7-15	0	03/01/05
16.8-1	1	02/01/05
16.8-2	1	10/24/06
16.8-3	1	10/24/06
16.8-4	1	10/24/06
16.8-5	2	02/20/04
16.9-1	4	08/03/06
16.9-2	3	05/25/05
16.9-3	0	10/09/02
16.9-4	2	05/25/05
16.9-5	3	05/17/06
16.9-6	3	10/24/06
16.9-7	3	03/10/04
16.9-8	4	10/24/06
16.9-9	2	03/10/04

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.9-10	4	10/24/06
16.9-11	2	03/10/04
16.9-12	1	03/10/04
16.9-13	1	03/19/07
16.9-14	1	09/25/06
16.9-15	0	10/09/02
16.9-16	0	10/09/02
16.9-17	0	10/09/02
16.9-18	0	10/09/02
16.9-19	1	01/02/03
16.9-20	0	10/09/02
16.9-21	0	10/09/02
16.9-22	0	10/09/02
16.9-23	2	05/25/05
16.9-24	2	10/24/06
16.9-25	0	04/03/06
16.10-1	0	10/09/02
16.10-2	1	10/24/06
16.10-3	0	08/21/03
16.11-1	0	10/09/02
16.11-2	0	10/09/02
16.11-3	0	10/09/02
16.11-4	0	10/09/02
16.11-5	0	10/09/02

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.11-6	0	10/09/02
16.11-7	1	02/27/03
16.11-8	0	10/09/02
16.11-9	0	10/09/02
16.11-10	0	10/09/02
16.11-11	1	03/20/03
16.11-12	0	10/09/02
16.11-13	0	10/09/02
16.11-14	0	10/09/02
16.11-15	0	10/09/02
16.11-16	0	10/09/02
16.11-17	0	10/09/02
16.11-18	0	10/09/02
16.11-19	0	10/09/02
16.11-20	0	10/09/02
16.11-21	0	10/09/02
16.12-1	0	10/09/02
16.13-1	0	10/09/02
16.13-2	Deleted	
16.13-3	Deleted	
16.13-4	0	10/09/02

16.9 AUXILIARY SYSTEMS

16.9-13 Snubbers

COMMITMENT

----------NOTES----------

1. Snubbers installed on non-safety related systems may be excluded from these requirements provided their failure or the failure of the system on which they are installed would not have an adverse effect on any safety related system.

2. If a snubber does not support the OPERABILITY of a Technical Specification required system, or if the supported system is not required to be OPERABLE, then Limiting Condition for Operation (LCO) 3.0.8 is not utilized.

All snubbers shall be OPERABLE.

APPLICABILITY: Whenever the system supported by the snubber is required to be OPERABLE.

REMEDIAL ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. ----------NOTE---------- Only applicable to seismic snubbers which support the OPERABILITY of Technical Specification required systems. ----------	A.1 Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately upon determination of train inoperability OR 72 hours
	AND	
One or more snubber(s) associated with one train of multiple train system(s) inoperable. OR One or more snubber(s) associated with single train system(s) inoperable.	A.2 ----------NOTE---------- Only applicable when utilizing the 72 hour Completion Time of Required Action A.1. ---------- Verify at least one train of the Auxiliary Feedwater (AFW) System (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), is OPERABLE.	Immediately
	AND	
	A.3 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis.	Prior to restoring affected train to OPERABLE status OR 72 hours

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. ----------NOTE---------- Only applicable to seismic snubbers which support the OPERABILITY of Technical Specification required systems. ---------- One or more snubber(s) associated with more than one train of multiple train system(s) inoperable.	B.1 Verify at least one train of the AFW System (including a minimum set of supporting equipment required for its successful operation) or alternative cooling method not associated with the inoperable snubber(s), is OPERABLE.	Immediately
	AND	
	B.2 Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately upon inoperability of all AFW System trains and all alternative cooling methods OR 12 hours
	AND	
	B.3 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis.	Prior to restoring affected train(s) to OPERABLE status OR 12 hours

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. ----------NOTE---------- Only applicable to seismic snubbers which support the OPERABILITY of Technical Specification required systems. ----------	C.1 Verify at least one train of the AFW System (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), is OPERABLE.	Immediately
One or more snubber(s) associated with one train of multiple train system(s) inoperable.	AND	
AND	C.2 Perform a qualitative risk assessment of the resulting configuration.	Immediately
Opposite train of associated system(s) inoperable for reasons other than inoperable snubber(s).	AND	
	C.3 Enter the applicable Conditions and Required Actions for the affected train(s) of multiple train system(s) that contain the inoperable snubber(s).	Immediately upon inoperability of all AFW System trains OR 72 hours
	AND	
	C.4 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ----------	
	Perform engineering evaluation per the Functional Test Failure Analysis.	Prior to restoring affected train(s) to OPERABLE status OR 72 hours

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. ----------NOTE---------- Only applicable to non-seismic snubbers which support the OPERABILITY of Technical Specification required systems. ---------- One or more snubber(s) inoperable.	D.1 Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately
	AND	
	D.2 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis.	Immediately

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. One or more snubber(s) inoperable. AND Prior system OPERABILITY evaluation performed.	E.1 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis to determine impact on prior system OPERABILITY evaluation.	Immediately
	AND	
	E.2 ----------NOTE---------- Only applicable if prior system OPERABILITY evaluation is invalidated. ---------- Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately

TESTING REQUIREMENTS

----------NOTES----------

1. Each snubber shall be demonstrated OPERABLE by performance of the following augmented inservice inspection program.

2. Snubbers which fail the visual inspection or the functional test acceptance criteria shall be repaired or replaced. Replacement snubbers and snubbers which have repairs which might affect the functional test results shall be tested to meet the functional test criteria before installation in the unit. Mechanical snubbers shall have met the acceptance criteria subsequent to their most recent service, and the freedom of motion test shall have been performed within 12 months before being installed in the unit.

3. As used in this SLC, "type of snubber" shall mean snubbers of the same design and manufacturer, irrespective of capacity.

	TEST	FREQUENCY
TR 16.9-13-1	----------NOTE---------- Snubbers are categorized as inaccessible or accessible during reactor operation and may be inspected independently according to the schedule determined by Table 16.9-13-1. The first inspection interval using Table 16.9-13-1 shall be based upon the previous inspection interval as established by the requirements in effect before Technical Specification Amendment 88 (Unit 1) and 82 (Unit 2). ----------	
	Perform a visual inspection for each category of snubber.	In accordance with Table 16.9-13-1
TR 16.9-13-2	----------NOTE---------- In case of a severe dynamic event, mechanical snubbers in the system which experienced the event shall be inspected during the refueling outage to assure that they have freedom of movement and are not frozen up. ----------	
	Perform an inspection, during shutdown, to determine if there has been a severe dynamic event for systems which have the potential for a severe dynamic event.	18 months

(continued)

TESTING REQUIREMENTS (continued)

	TEST	FREQUENCY
TR 16.9-13-3	----------NOTE---------- The large-bore steam generator hydraulic snubbers shall be treated as a separate population for functional test purposes and shall be functionally tested under Sample Plan 1. ---------- Perform, during shutdown, snubber functional testing on a representative sample of each type of snubber in accordance with one of the following three Sample Plans: 1. Functionally test 10% of a type of snubber with an additional 10% tested for each functional testing failure, or 2. Functionally test a sample size and determine sample acceptance or continue testing using Figure 16.9-13-1, or 3. Functionally test a representative sample size and determine sample acceptance or rejection using the stated equation.	18 months
TR 16.9-13-4	----------NOTE---------- Service life records shall be documented and the documentation retained for the duration of the unit operating license. ---------- Verify that the service life of all snubbers has not been exceeded or will not be exceeded prior to the next scheduled surveillance inspection.	18 months

Table 16.9-13-1

Snubber Visual Inspection Interval (page 1 of 2)

POPULATION OR CATEGORY (NOTES 1 AND 2)	NUMBER OF UNACCEPTABLE SNUBBERS		
	COLUMN A EXTEND INTERVAL (NOTES 3 AND 6)	COLUMN B REPEAT INTERVAL (NOTES 4 AND 6)	COLUMN C REDUCE INTERVAL (NOTES 5 AND 6)
1	0	0	1
80	0	0	2
100	0	1	4
150	0	3	8
200	2	5	13
300	5	12	25
400	8	18	36
500	12	24	48
750	20	40	78
≥ 1000	29	56	109

Note 1: The next visual inspection interval for a snubber population or category size shall be determined based upon the previous inspection interval and the number of unacceptable snubbers found during that interval. Snubbers may be categorized, based upon their accessibility during power operation, as accessible or inaccessible. These categories may be examined separately or jointly. However, the licensee must make and document that decision before any inspection and shall use that decision as the basis upon which to determine the next inspection interval for that category.

Note 2: Interpolation between population or category sizes and the number of unacceptable snubbers is permissible. Use next lower integer for the value of the limit for Columns A, B, or C if that integer includes a fractional value of unacceptable snubbers as determined by interpolation.

Note 3: If the number of unacceptable snubbers is equal to or less than the number in Column A, the next inspection interval may be twice the previous interval but not greater than 48 months.

Note 4: If the number of unacceptable snubbers is equal to or less than the number in Column B but greater than the number in Column A, the next inspection interval shall be the same as the previous interval.

Note 5: If the number of unacceptable snubbers is equal to or greater than the number in Column C, the next inspection interval shall be two-thirds of the previous interval. However, if the number of unacceptable snubbers is less than the number in Column C but greater than the number in Column B, the

Table 16.9-13-1

Snubber Visual Inspection Interval (page 2 of 2)

next interval shall be reduced proportionally by interpolation, that is, the previous interval shall be reduced by a factor that is one-third of the ratio of the difference between the number of unacceptable snubbers found during the previous interval and the number in Column B to the difference in the numbers in Columns B and C.

Note 6: The provisions of SLC 16.2.6 are applicable for all inspection intervals up to and including 48 months.

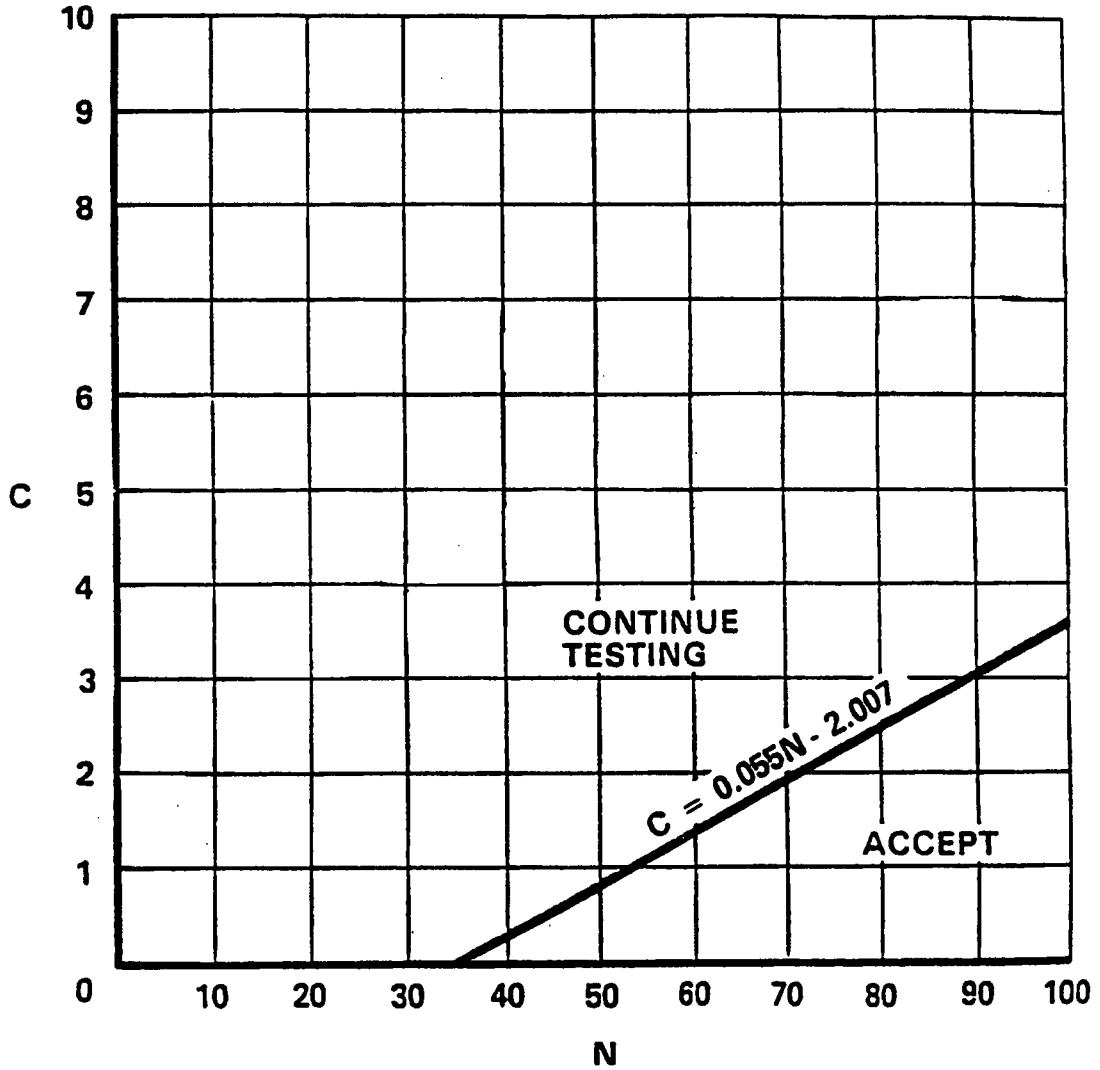

Figure 16.9-13-1

Sample Plan 2 for Snubber Functional Test

BASES

All 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 event initiating dynamic loads.

The snubber requirements of SLC 16.9-13 were originally located in the Technical Specifications. The Nuclear Regulatory Commission (NRC) authorized the use of these requirements, while located in Technical Specifications, as an acceptable alternative to the requirements of the ASME Code, 1989 Edition, Section XI, Article IWF-5000 (References 3, 4). Any revision to these snubber visual inspection and functional test requirements shall consider the basis for the granted relief from the ASME Code requirements and any resulting requirement for NRC review and approval.

Snubbers are classified and grouped by design and manufacturer but not by size. For example, mechanical snubbers utilizing the same design features of the 2-kip, 10-kip, and 100-kip capacity manufactured by Company "A" are of the same type. The same design mechanical snubbers manufactured by Company "B" for the purposes of this SLC would be of a different type, as would hydraulic snubbers from either manufacturer.

A list of individual snubbers with detailed information of snubber location and size and of system affected shall be available at the plant in accordance with Section 50.71(c) of 10 CFR Part 50. The addition or deletion of any hydraulic or mechanical snubber shall be made in accordance with Section 50.59 of 10 CFR Part 50.

The OPERABILITY requirements for snubbers which mitigate significant seismic or non-seismic loads do not meet the criteria in 10 CFR 50.36(c)(2)(ii) for inclusion in plant Technical Specifications; therefore, these requirements are contained in this SLC. The programmatic requirements for the visual inspection and functional testing of these snubbers also do not meet the criteria in 10 CFR 50.36(c)(2)(ii) for inclusion in plant Technical Specifications and, as such, are appropriate for control by this SLC and are the same for both categories of snubbers.

Seismic Snubbers

Seismic snubbers are installed primarily to mitigate loads resulting from a seismic event. However, some seismic snubbers also mitigate other non-seismic loads. If these non-seismic loads have been determined to have no effect on the OPERABILITY of the associated Technical Specification supported system(s) while the snubber(s) are inoperable (as determined by Engineering), then Technical Specification LCO 3.0.8 governs the OPERABILITY requirements for these snubbers.

LCO 3.0.8 establishes conditions under which Technical Specification supported systems are considered to remain OPERABLE when associated seismic snubbers are not capable of providing their associated support function(s). This LCO states that the supported system is not considered to

BASES (continued)

be inoperable solely due to one or more of these snubbers not being capable of performing their associated support function(s). Thus, any affected supported system LCO(s) are not required to be declared not met solely for this reason, if risk is assessed and managed. This is appropriate because: (1) a limited length of time is allowed for inspection, testing, maintenance, or repair of one or more of these snubbers not capable of performing their associated support function(s); (2) REMEDIAL ACTIONS are specified in this SLC; (3) there is a low probability of a seismic event concurrent with an event that would require operation of the supported system while the snubber(s) are not capable of performing their associated support function; and (4) the redundant train of the supported system is normally available. LCO 3.0.8 represents an allowance that does not have to be utilized. It is always acceptable to either wait until the supported system LCO(s) are not applicable or declare the Technical Specification supported system(s) inoperable.

If the allowed time expires and the seismic snubber(s) are unable to perform their associated support function(s), the affected supported system LCO(s) must be declared not met and the Conditions and Required Actions entered in accordance with LCO 3.0.2.

Snubbers with Both Seismic and Significant Non-Seismic Loads

If the affected snubber(s) have more than one function, one of which is the mitigation of seismic loads, than LCO 3.0.8 may be utilized. However, there must be a deterministic analysis that demonstrates that the Technical Specification supported system(s) can still perform their functions in spite of the non-seismic loads. For example, if the affected snubber(s) mitigate both seismic loads and accident loads (i.e., blowdown loads), then only the accident loads are considered deterministically to determine if the supported system(s) are OPERABLE. If the Technical Specification supported system(s) are OPERABLE for the non-seismic loads, then LCO 3.0.8 may be utilized for the seismic loads. Otherwise, LCO 3.0.8 cannot be utilized.

Snubbers with Significant Non-Seismic Loads

LCO 3.0.8 may not be utilized for snubbers with significant non-seismic loads that impact the OPERABILITY of Technical Specification supported system(s).

REMEDIAL ACTIONS

When one or more installed snubbers are discovered to be inoperable by means of routine walk down or observation, the applicable REMEDIAL ACTIONS for any affected system(s) and component(s) must be entered immediately and an engineering evaluation per the Functional Test Failure Analysis must be performed. The purpose of the evaluation is to determine

BASES (continued)

the cause of failure and to address transportability issues.

For snubbers that are removed for testing or maintenance activities, it is possible that a prior evaluation of the system may verify the continued operability of the system with the snubber(s) removed. In these cases, it is not necessary to enter into the system REMEDIAL ACTIONS as long as the conditions of the prior evaluation are met.

Should one or more snubbers fail to meet testing acceptance criteria or be discovered in a condition where failure is apparent, an engineering evaluation is to be performed within the prescribed time frame, as described in the Functional Test Failure Analysis.

Condition A applies when one or more seismic snubber(s) associated with one train of multiple train system(s) are inoperable or when one or more seismic snubber(s) associated with single train system(s) are inoperable, and thus are not capable of providing their associated support function(s). If the LCO 3.0.8 a. allowance is utilized, the SLC allows up to 72 hours to restore the seismic snubber(s) before declaring the supported system(s) inoperable. Also, there must be an immediate verification that at least one train of the AFW System is OPERABLE (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s). The 72 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported system while the seismic snubber(s) are not capable of performing their associated support function, and the fact that the redundant train of the supported system is normally available. At the end of the specified 72 hour period, the required seismic snubber(s) must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met. A seismic snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified.

Condition B applies when one or more seismic snubber(s) associated with more than one train of multiple train system(s) are inoperable, and thus are not capable of providing their associated support function(s). If the LCO 3.0.8 b. allowance is utilized, the SLC allows up to 12 hours to restore the seismic snubber(s) before declaring the supported system(s) inoperable, provided there is an immediate verification that at least one train of the AFW System is OPERABLE (including a minimum set of supporting equipment required for its successful operation) or an alternative cooling method not associated with the inoperable snubber(s). The alternative cooling method may include, but is not limited to, feed and bleed, fire water system, or aggressive secondary cooldown using the steam generators. The 12 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported

BASES (continued)

system while the seismic snubber(s) are not capable of performing their associated support function. At the end of the specified 12 hour period, the required seismic snubber(s) must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met. The affected supported system LCO(s) shall also be immediately declared not met upon the inoperability of all AFW System trains and all alternative cooling methods. A seismic snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified.

Condition C applies when one or more seismic snubber(s) associated with one train of multiple train system(s) are inoperable and the opposite train of the associated system(s) is also inoperable for reasons other than inoperable snubber(s). The SLC allows up to 72 hours to restore the seismic snubber(s) before declaring the supported system(s) inoperable, provided there is: (1) an immediate verification that at least one train of the AFW System is OPERABLE (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), and (2) an immediate performance of a qualitative risk assessment of the resulting configuration. The 72 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported system while the seismic snubber(s) are not capable of performing their associated support function and the opposite train of the associated system(s) is inoperable. At the end of the specified 72 hour period, the required seismic snubber(s) must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met. The affected supported system LCO(s) shall also be immediately declared not met upon the inoperability of all AFW System trains. A seismic snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified.

Condition D applies when one or more non-seismic snubber(s) are inoperable. In this case, the affected supported system LCO(s) shall be immediately declared not met, as LCO 3.0.8 does not apply to non-seismic snubbers. A snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified. For those inoperable snubbers that mitigate both seismic and non-seismic loads, if the supported system(s) remain operable (as determined via engineering analysis) when subjected to the non-seismic loads, then the provisions of LCO 3.0.8 may be applied for these snubbers.

BASES (continued)

Condition E applies when one or more snubber(s) are inoperable and a prior system OPERABILITY evaluation has been performed. In this case, an engineering evaluation is to be immediately performed per the Functional Test Failure Analysis to determine if the prior evaluation remains valid. If the prior evaluation is invalidated, then the affected supported system LCO(s) shall be immediately declared not met.

This SLC requires that risk be assessed and managed when utilizing the allowances of LCO 3.0.8. Industry and NRC guidance regarding the implementation of 10 CFR 50.65(a)(4) (the Maintenance Rule) does not address seismic risk. However, the use of this SLC should be considered with respect to other plant maintenance activities, and integrated into the existing Maintenance Rule process so that maintenance on any unaffected train or subsystem is properly controlled, and emergent issues are properly addressed. The risk assessment required to utilize LCO 3.0.8 need not be quantified, but may be a qualitative awareness of the vulnerability of systems and components when one or more snubber(s) are not able to perform their associated support function(s).

Visual Inspections

The visual inspection frequency is based upon maintaining a constant level of snubber protection during an earthquake or severe transient. Therefore, the required inspection interval varies inversely with the observed snubber failures and is determined by the number of inoperable snubbers found during an inspection. In order to establish the inspection frequency for each type of snubber, it was assumed that the frequency of snubber failures and initiating events are constant with time and that the failure of any snubber on that system could cause the system to be unprotected and to result in failure during an assumed initiating event. Inspections performed before that interval has elapsed may be used as a new reference point to determine the next inspection. However, the results of such early inspections performed before the original required time interval has elapsed (nominal time less 25%) may not be used to lengthen the required inspection interval. Any inspection whose results require a shorter inspection interval will override the previous schedule. The acceptance criteria are to be used in the visual inspection to determine OPERABILITY of the snubbers.

Visual inspections shall verify that: (1) the snubber has no visible indications of damage or impaired OPERABILITY, (2) attachments to the foundation or supporting structure are functional, and (3) fasteners for the attachment of the snubber to the component and to the snubber anchorage are functional. Snubbers which appear inoperable as a result of visual inspections shall be classified as unacceptable and may be reclassified acceptable for the purpose of establishing the next visual inspection interval, provided that: (i) the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers irrespective of type that may be generically susceptible; and (ii) the affected snubber is functionally tested in

BASES (continued)

the as-found condition and determined OPERABLE. All snubbers found connected to an inoperable common hydraulic fluid reservoir shall be counted as unacceptable and may be reclassified as acceptable for determining the next inspection interval provided that criterion (i) and (ii) above are met. A review and evaluation shall be performed and documented to justify continued operation with an unacceptable snubber. If continued operation cannot be justified, the snubber shall be declared inoperable and the REMEDIAL ACTION requirements shall be met.

Refueling Outage Inspections

At each refueling, the systems which have the potential for a severe dynamic event, specifically, the main steam system (upstream of the main steam isolation valves), the main steam safety and power operated relief valves and piping, auxiliary feedwater system, main steam supply to the auxiliary feedwater pump turbine, and the letdown and charging portion of the chemical and volume control system shall be inspected to determine if there has been a severe dynamic event. In the case of a severe dynamic event, mechanical snubbers in that system which experienced the event shall be inspected during the refueling outage to assure that the mechanical snubbers have freedom of movement and are not frozen up. The inspection shall consist of verifying freedom of motion using one of the following: (1) manually induced snubber movement, or (2) evaluation of in-place snubber piston setting, or (3) stroking the mechanical snubber through its full range of travel. If one or more mechanical snubbers are found to be frozen up during this inspection, those snubbers shall be replaced or repaired before returning to power. The requirements of TESTING REQUIREMENT 16.9-13-1 are independent of the requirements of this item.

Functional Testing

At least once per 18 months during shutdown, a representative sample of snubbers of each type shall be tested using one of the following Sample Plans. The large-bore steam generator hydraulic snubbers shall be treated as a separate type (population) for functional test purposes. A 10% random sample shall be tested at least once per 18 months during refueling with continued testing based on a failure evaluation. The Sample Plan shall be selected prior to the test period and cannot be changed during the test period. The NRC shall be notified in writing of the Sample Plan selected for each snubber type prior to the test period or the Sample Plan used in the prior test period shall be implemented:

1) At least 10% of all snubbers shall be functionally tested either in-place or in a bench test. For each snubber of a type that does not meet the functional test acceptance criteria, an additional 10% of all snubbers shall be functionally tested until no more failures are found or until all snubbers have been functionally tested; or

BASES (continued)

2) A representative sample of all snubbers shall be functionally tested in accordance with Figure 16.9-13-1. "C" is the total number of snubbers of a type found not meeting the acceptance requirements. The cumulative number of snubbers tested is denoted by "N". At the end of each day's testing, the new values of "N" and "C" (previous day's total plus current day's increments) shall be plotted on Figure 16.9-13-1. If at any time the point plotted falls in the "Accept" region, testing of snubbers of that type may be terminated. When the point plotted lies in the "Continue Testing" region, additional snubbers of that type shall be tested until the point falls in the "Accept" region or all the snubbers of that type have been tested; or

3) An initial representative sample of 55 snubbers shall be functionally tested. For each snubber type which does not meet the functional test acceptance criteria, another sample of at least one-half the size of the initial sample shall be tested until the total number tested is equal to the initial sample size multiplied by the factor, 1 + C/2, where "C" is the number of snubbers found which do not meet the functional test acceptance criteria. The results from this Sample Plan shall be plotted using an "Accept" line which follows the equation N = 55(1 + C/2). Each snubber point should be plotted as soon as the snubber is tested. If the point plotted falls on or below the "Accept" line, testing may be terminated. If the point plotted falls above the "Accept" line, testing must continue until the point falls in the "Accept" region or all the snubbers of that type have been tested.

Testing equipment failure during functional testing may invalidate that day's testing and allow that day's testing to resume anew at a later time provided all snubbers tested with the failed equipment during the day of equipment failure are retested. The representative sample selected for the functional test Sample Plans shall be randomly selected from all snubbers and reviewed before beginning the testing. The review shall ensure, as far as practicable, that they are representative of the various configurations, operating environments, range of size, and capacity of snubbers. Snubbers placed in the same location as snubbers which failed the previous functional test shall be retested at the time of the next functional test but shall not be included in the Sample Plan. If during the functional testing, additional sampling is required due to failure of only one type of snubber, the functional test results shall be reviewed at that time to determine if additional samples should be limited to the type of snubber which has failed the functional testing.

Figure 16.9-13-1 was developed using "Wald's Sequential Probability Ratio Plan" as described in "Quality Control and Industrial Statistics" by Acheson J. Duncan.

BASES (continued)

Permanent or other exemptions from the inspection program for individual snubbers may be granted by the Commission if a justifiable basis for exemption is presented and, if applicable, snubber life testing was performed to qualify the snubber for the applicable design conditions. Snubbers so exempted shall be listed in the list of individual snubbers indicating the extent of the exemptions.

The snubber testing program may remove snubbers from service and restore OPERABILITY of the snubber application by replacement with another like snubber. In this situation, if the removed snubber later fails to meet test acceptance criteria, the system Required Action is not applicable since the failed snubber component has no current required function; however, the engineering evaluation per the Functional Test Failure Analysis is still required to determine the failure cause and address transportability issues. During the allowed 72 hours to perform an engineering evaluation or at any other time, when conditions of the affected system(s) and component(s) are determined to no longer support a reasonable assurance of OPERABILITY, applicable Required Actions are to be entered immediately.

Functional Test Acceptance Criteria

The snubber functional test shall verify that:

1) Activation (restraining action) is achieved within the specified range in both tension and compression, except that inertia dependent, acceleration limiting mechanical snubbers may be tested to verify only that activation takes place in both directions of travel;

2) Snubber bleed, or release rate where required, is present in both tension and compression, within the specified range;

3) For mechanical snubbers, the force required to initiate or maintain motion of the snubber is within the specified range in both directions of travel; and

4) For snubbers specifically required not to displace under continuous load, the ability of the snubber to withstand load without displacement.

Testing methods may be used to measure parameters indirectly or parameters other than those specified if those results can be correlated to the specified parameters through established methods.

Functional Test Failure Analysis

An engineering evaluation shall be made of each failure to meet the functional test acceptance criteria to determine the cause of the failure. The

BASES (continued)

results of this evaluation shall be used, if applicable, in selecting snubbers to be tested in an effort to determine the OPERABILITY of other snubbers irrespective of type which may be subject to the same failure mode.

For the snubbers found inoperable, an engineering evaluation shall be performed on the components to which the inoperable snubbers are attached. The purpose of this engineering evaluation shall be to determine if the components to which the inoperable snubbers are attached were adversely affected by the inoperability of the snubbers in order to ensure that the component remains capable of meeting the designed service.

If any snubber selected for functional testing either fails to lock up or fails to move, i.e., frozen in place, the cause will be evaluated and, if caused by manufacturer or design deficiency, all snubbers of the same type subject to the same defect shall be functionally tested. This TESTING REQUIREMENT shall be independent of the requirements stated in TESTING REQUIREMENT 16.9-13-3 for snubbers not meeting the functional test acceptance criteria.

All snubbers that fail to meet the functional test criteria must be evaluated to determine the cause, and the potential for applicability of the failure mode to other snubbers. Likewise, an evaluation is required to determine if the attached components have been adversely affected by the functional failure of the snubber. It is noted that the evaluation is only required for snubbers that are inoperable due to a failure of the snubber itself to meet the functional requirements. A snubber that is inoperable due solely to being disconnected from the supported component does not necessitate a component or system evaluation, provided that the snubber itself meets the requirements of the functional test criteria. In this case, the only action required is that the snubber be completely restored and the cause of the disconnection determined and evaluated for generic implications.

Service Life

The service life of a snubber is established via manufacturer input and information through consideration of the snubber service conditions and associated installation and maintenance records (newly installed snubbers, seal replaced, spring replaced, in high radiation area, in high temperature area, etc.). The requirement to monitor the snubber service life is included to ensure that the snubbers periodically undergo a performance evaluation in view of their age and operating conditions. These records will provide statistical bases for future consideration of snubber service life.

If a service lifetime limit is associated (established) with any snubber (or critical part) based on manufacturer's information, qualification tests, or historical service results, then the service life shall be monitored to ensure that the service life is not exceeded between surveillance inspections.

BASES (continued)

Established snubber service life shall be extended or shortened based on monitored test results and failure history. The replacements (snubbers or critical parts) shall be documented and the documentation shall be retained. Records of the service lives of all hydraulic and mechanical snubbers, including the date at which the service life commences, and associated installation and maintenance records shall be retained for the duration of the unit operating license.

REFERENCES

1. Letter from W.R. McCollum, Jr. to NRC, Request for Relief 95-05, Snubber Inspection Interval for Unit 1, August 23, 1995.

2. Letter from W.R. McCollum, Jr. to NRC, Request for Relief 96-01, Snubber Inspection Interval for Unit 2, February 12, 1996.

3. Letter from NRC to W.R. McCollum, Request for Relief 95-05, January 11, 1996.

4. Letter from NRC to W.R. McCollum, Request for Relief 96-01, May 16, 1996.

5. Letter from NRC to Gary R. Peterson, Duke, Issuance of Improved Technical Specifications Amendments for Catawba, September 30, 1998.

6. Letter from M.S. Tuckman to NRC, Licensing Position Regarding Snubbers, May 20, 1999.

7. Letter from NRC to G.R. Peterson, Licensing Position Regarding Snubbers, July 7, 1999.

8. Technical Specifications Task Force (TSTF)-372-A, Revision 4, Addition of LCO 3.0.8, Inoperability of Snubbers.

9. TSTF-IG-05-03, Technical Specifications Task Force Implementation Guidance for TSTF-372-A, Revision 4, Addition of LCO 3.0.8, Inoperability of Snubbers.

10. Nuclear System Directive 415, Operational Risk Management (Modes 1-3) per 10CFR 50.65(a)(4).

11. Federal Register, 70FR23252, Notice of Availability of Model Application Concerning Technical Specification Improvement to Modify Requirements Regarding the Addition of Limiting Condition for Operation 3.0.8 on the Inoperability of Snubbers Using the Consolidated Line Item Improvement Process.

DUKE ENERGY CORPORATION
Catawba Nuclear Station
4800 Concord Road
York, SC 29745

803 831 3000

August 16, 2007

RE: Catawba Nuclear Station
Selected Licensee Commitments Manual
Revision Date 03/19/07

Attached are revisions to the Catawba Nuclear Station Selected Licensee Commitments Manual. Please remove and replace the following pages:

REMOVE	INSERT
LIST OF EFFECTIVE SECTIONS	
Pages 1 through 4 Revision 31	Pages 1 through 4 Revision 32
TAB 16.9	
16.9-13-1 through 16.9-13-14 Revision 0	16.9-13-1 through 16.9-13-21 Revision 1

If you have any questions concerning the contents of this package update, please contact Betty Aldridge at (803) 831-3758.

Randall D. Hart
Regulatory Compliance Manager

Attachments

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
TABLE OF CONTENTS	9	03/08/07
16.1	0	10/09/02
16.2	1	10/17/02
16.3	0	10/09/02
16.5-1	1	10/24/06
16.5-2	Deleted	
16.5-3	1	02/20/04
16.5-4	0	10/09/02
16.5-5	0	10/09/02
16.5-6	0	10/09/02
16.5-7	0	10/09/02
16.5-8	1	05/18/04
16.5-9	0	10/24/06
16.5-10	0	03/08/07
16.6-1	0	10/09/02
16.6-2	Deleted	
16.6-3	0	10/09/02
16.6-4	0	10/09/02
16.6-5	0	10/09/02
16.7-1	0	10/09/02
16.7-2	1	08/20/04
16.7-3	0	10/09/02
16.7-4	0	10/09/02
16.7-5	1	01/02/03

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.7-6	1	11/17/05
16.7-7	0	10/09/02
16.7-8	1	05/25/05
16.7-9	4	02/01/05
16.7-10	0	10/09/02
16.7-11	0	10/09/02
16.7-12	0	10/09/02
16.7-13	1	05/17/06
16.7-14	0	10/06/03
16.7-15	0	03/01/05
16.8-1	1	02/01/05
16.8-2	1	10/24/06
16.8-3	1	10/24/06
16.8-4	1	10/24/06
16.8-5	2	02/20/04
16.9-1	4	08/03/06
16.9-2	3	05/25/05
16.9-3	0	10/09/02
16.9-4	2	05/25/05
16.9-5	3	05/17/06
16.9-6	3	10/24/06
16.9-7	3	03/10/04
16.9-8	4	10/24/06
16.9-9	2	03/10/04

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.9-10	4	10/24/06
16.9-11	2	03/10/04
16.9-12	1	03/10/04
16.9-13	1	03/19/07
16.9-14	1	09/25/06
16.9-15	0	10/09/02
16.9-16	0	10/09/02
16.9-17	0	10/09/02
16.9-18	0	10/09/02
16.9-19	1	01/02/03
16.9-20	0	10/09/02
16.9-21	0	10/09/02
16.9-22	0	10/09/02
16.9-23	2	05/25/05
16.9-24	2	10/24/06
16.9-25	0	04/03/06
16.10-1	0	10/09/02
16.10-2	1	10/24/06
16.10-3	0	08/21/03
16.11-1	0	10/09/02
16.11-2	0	10/09/02
16.11-3	0	10/09/02
16.11-4	0	10/09/02
16.11-5	0	10/09/02

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.11-6	0	10/09/02
16.11-7	1	02/27/03
16.11-8	0	10/09/02
16.11-9	0	10/09/02
16.11-10	0	10/09/02
16.11-11	1	03/20/03
16.11-12	0	10/09/02
16.11-13	0	10/09/02
16.11-14	0	10/09/02
16.11-15	0	10/09/02
16.11-16	0	10/09/02
16.11-17	0	10/09/02
16.11-18	0	10/09/02
16.11-19	0	10/09/02
16.11-20	0	10/09/02
16.11-21	0	10/09/02
16.12-1	0	10/09/02
16.13-1	0	10/09/02
16.13-2	Deleted	
16.13-3	Deleted	
16.13-4	0	10/09/02

16.9 AUXILIARY SYSTEMS

16.9-13 Snubbers

COMMITMENT

----------NOTES----------

1. Snubbers installed on non-safety related systems may be excluded from these requirements provided their failure or the failure of the system on which they are installed would not have an adverse effect on any safety related system.

2. If a snubber does not support the OPERABILITY of a Technical Specification required system, or if the supported system is not required to be OPERABLE, then Limiting Condition for Operation (LCO) 3.0.8 is not utilized.

All snubbers shall be OPERABLE.

APPLICABILITY: Whenever the system supported by the snubber is required to be OPERABLE.

REMEDIAL ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. ----------NOTE---------- Only applicable to seismic snubbers which support the OPERABILITY of Technical Specification required systems. ----------	A.1 Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately upon determination of train inoperability OR 72 hours
	AND	
One or more snubber(s) associated with one train of multiple train system(s) inoperable. OR One or more snubber(s) associated with single train system(s) inoperable.	A.2 ----------NOTE---------- Only applicable when utilizing the 72 hour Completion Time of Required Action A.1. ---------- Verify at least one train of the Auxiliary Feedwater (AFW) System (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), is OPERABLE.	Immediately
	AND	
	A.3 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis.	Prior to restoring affected train to OPERABLE status OR 72 hours

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. ----------NOTE---------- Only applicable to seismic snubbers which support the OPERABILITY of Technical Specification required systems. ---------- One or more snubber(s) associated with more than one train of multiple train system(s) inoperable.	B.1 Verify at least one train of the AFW System (including a minimum set of supporting equipment required for its successful operation) or alternative cooling method not associated with the inoperable snubber(s), is OPERABLE.	Immediately
	AND	
	B.2 Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately upon inoperability of all AFW System trains and all alternative cooling methods OR 12 hours
	AND	
	B.3 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis.	Prior to restoring affected train(s) to OPERABLE status OR 12 hours

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. ----------NOTE---------- Only applicable to seismic snubbers which support the OPERABILITY of Technical Specification required systems. ----------	C.1 Verify at least one train of the AFW System (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), is OPERABLE.	Immediately
One or more snubber(s) associated with one train of multiple train system(s) inoperable.	AND	
AND	C.2 Perform a qualitative risk assessment of the resulting configuration.	Immediately
Opposite train of associated system(s) inoperable for reasons other than inoperable snubber(s).	AND	
	C.3 Enter the applicable Conditions and Required Actions for the affected train(s) of multiple train system(s) that contain the inoperable snubber(s).	Immediately upon inoperability of all AFW System trains OR 72 hours
	AND	
	C.4 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ----------	
	Perform engineering evaluation per the Functional Test Failure Analysis.	Prior to restoring affected train(s) to OPERABLE status OR 72 hours

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. ----------NOTE---------- Only applicable to non-seismic snubbers which support the OPERABILITY of Technical Specification required systems. ---------- One or more snubber(s) inoperable.	D.1 Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately
	AND	
	D.2 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis.	Immediately

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. One or more snubber(s) inoperable. AND Prior system OPERABILITY evaluation performed.	E.1 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis to determine impact on prior system OPERABILITY evaluation.	Immediately
	AND	
	E.2 ----------NOTE---------- Only applicable if prior system OPERABILITY evaluation is invalidated. ---------- Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately

TESTING REQUIREMENTS

----------NOTES----------

1. Each snubber shall be demonstrated OPERABLE by performance of the following augmented inservice inspection program.

2. Snubbers which fail the visual inspection or the functional test acceptance criteria shall be repaired or replaced. Replacement snubbers and snubbers which have repairs which might affect the functional test results shall be tested to meet the functional test criteria before installation in the unit. Mechanical snubbers shall have met the acceptance criteria subsequent to their most recent service, and the freedom of motion test shall have been performed within 12 months before being installed in the unit.

3. As used in this SLC, "type of snubber" shall mean snubbers of the same design and manufacturer, irrespective of capacity.

	TEST	FREQUENCY
TR 16.9-13-1	----------NOTE---------- Snubbers are categorized as inaccessible or accessible during reactor operation and may be inspected independently according to the schedule determined by Table 16.9-13-1. The first inspection interval using Table 16.9-13-1 shall be based upon the previous inspection interval as established by the requirements in effect before Technical Specification Amendment 88 (Unit 1) and 82 (Unit 2). ---------- Perform a visual inspection for each category of snubber.	In accordance with Table 16.9-13-1
TR 16.9-13-2	----------NOTE---------- In case of a severe dynamic event, mechanical snubbers in the system which experienced the event shall be inspected during the refueling outage to assure that they have freedom of movement and are not frozen up. ---------- Perform an inspection, during shutdown, to determine if there has been a severe dynamic event for systems which have the potential for a severe dynamic event.	18 months

(continued)

TESTING REQUIREMENTS (continued)

	TEST	FREQUENCY
TR 16.9-13-3	----------NOTE---------- The large-bore steam generator hydraulic snubbers shall be treated as a separate population for functional test purposes and shall be functionally tested under Sample Plan 1. ---------- Perform, during shutdown, snubber functional testing on a representative sample of each type of snubber in accordance with one of the following three Sample Plans: 1. Functionally test 10% of a type of snubber with an additional 10% tested for each functional testing failure, or 2. Functionally test a sample size and determine sample acceptance or continue testing using Figure 16.9-13-1, or 3. Functionally test a representative sample size and determine sample acceptance or rejection using the stated equation.	18 months
TR 16.9-13-4	----------NOTE---------- Service life records shall be documented and the documentation retained for the duration of the unit operating license. ---------- Verify that the service life of all snubbers has not been exceeded or will not be exceeded prior to the next scheduled surveillance inspection.	18 months

Table 16.9-13-1

Snubber Visual Inspection Interval (page 1 of 2)

POPULATION OR CATEGORY (NOTES 1 AND 2)	NUMBER OF UNACCEPTABLE SNUBBERS		
	COLUMN A EXTEND INTERVAL (NOTES 3 AND 6)	COLUMN B REPEAT INTERVAL (NOTES 4 AND 6)	COLUMN C REDUCE INTERVAL (NOTES 5 AND 6)
1	0	0	1
80	0	0	2
100	0	1	4
150	0	3	8
200	2	5	13
300	5	12	25
400	8	18	36
500	12	24	48
750	20	40	78
≥ 1000	29	56	109

Note 1: The next visual inspection interval for a snubber population or category size shall be determined based upon the previous inspection interval and the number of unacceptable snubbers found during that interval. Snubbers may be categorized, based upon their accessibility during power operation, as accessible or inaccessible. These categories may be examined separately or jointly. However, the licensee must make and document that decision before any inspection and shall use that decision as the basis upon which to determine the next inspection interval for that category.

Note 2: Interpolation between population or category sizes and the number of unacceptable snubbers is permissible. Use next lower integer for the value of the limit for Columns A, B, or C if that integer includes a fractional value of unacceptable snubbers as determined by interpolation.

Note 3: If the number of unacceptable snubbers is equal to or less than the number in Column A, the next inspection interval may be twice the previous interval but not greater than 48 months.

Note 4: If the number of unacceptable snubbers is equal to or less than the number in Column B but greater than the number in Column A, the next inspection interval shall be the same as the previous interval.

Note 5: If the number of unacceptable snubbers is equal to or greater than the number in Column C, the next inspection interval shall be two-thirds of the previous interval. However, if the number of unacceptable snubbers is less than the number in Column C but greater than the number in Column B, the

Table 16.9-13-1

Snubber Visual Inspection Interval (page 2 of 2)

next interval shall be reduced proportionally by interpolation, that is, the previous interval shall be reduced by a factor that is one-third of the ratio of the difference between the number of unacceptable snubbers found during the previous interval and the number in Column B to the difference in the numbers in Columns B and C.

Note 6: The provisions of SLC 16.2.6 are applicable for all inspection intervals up to and including 48 months.

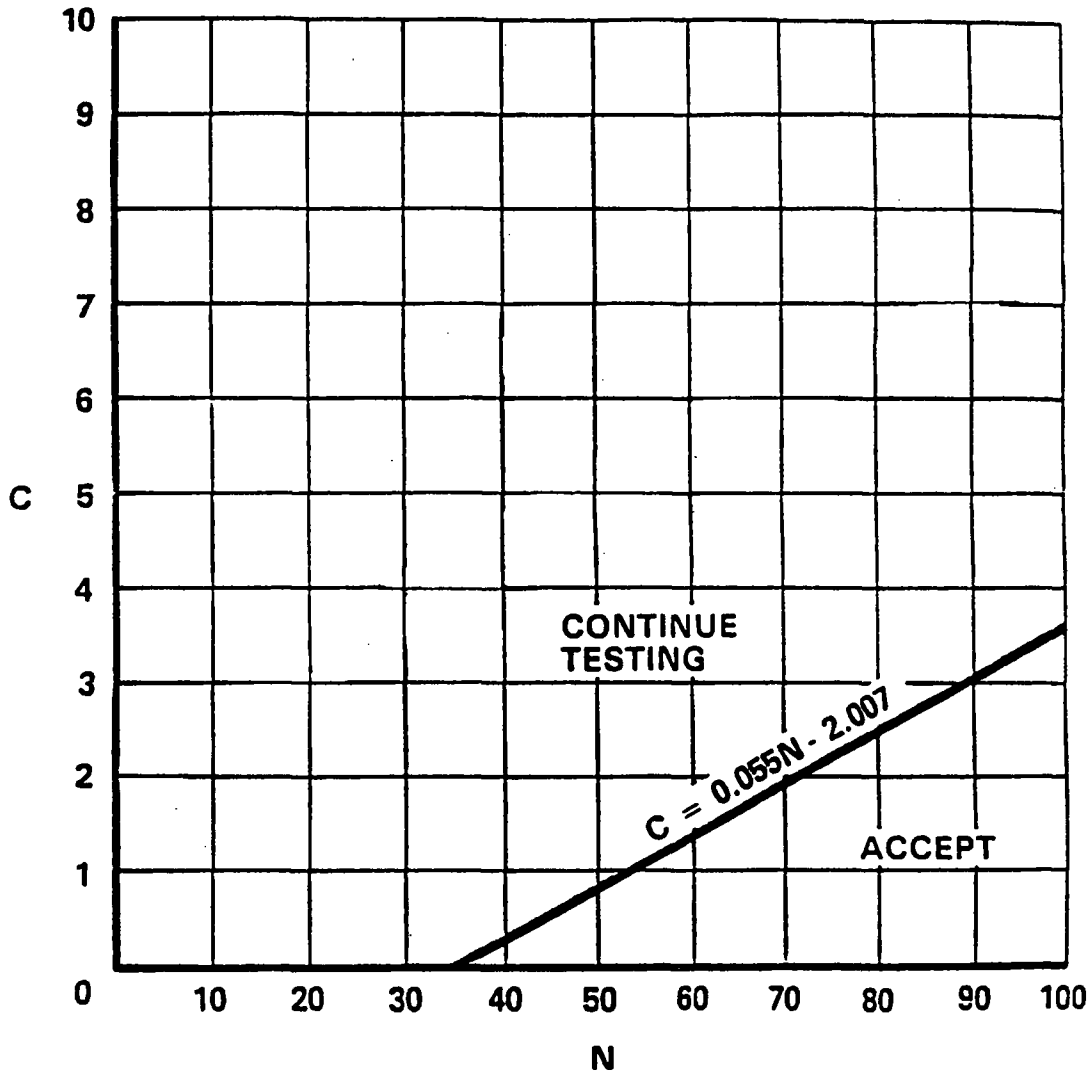

Figure 16.9-13-1

Sample Plan 2 for Snubber Functional Test

BASES

All 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 event initiating dynamic loads.

The snubber requirements of SLC 16.9-13 were originally located in the Technical Specifications. The Nuclear Regulatory Commission (NRC) authorized the use of these requirements, while located in Technical Specifications, as an acceptable alternative to the requirements of the ASME Code, 1989 Edition, Section XI, Article IWF-5000 (References 3, 4). Any revision to these snubber visual inspection and functional test requirements shall consider the basis for the granted relief from the ASME Code requirements and any resulting requirement for NRC review and approval.

Snubbers are classified and grouped by design and manufacturer but not by size. For example, mechanical snubbers utilizing the same design features of the 2-kip, 10-kip, and 100-kip capacity manufactured by Company "A" are of the same type. The same design mechanical snubbers manufactured by Company "B" for the purposes of this SLC would be of a different type, as would hydraulic snubbers from either manufacturer.

A list of individual snubbers with detailed information of snubber location and size and of system affected shall be available at the plant in accordance with Section 50.71(c) of 10 CFR Part 50. The addition or deletion of any hydraulic or mechanical snubber shall be made in accordance with Section 50.59 of 10 CFR Part 50.

The OPERABILITY requirements for snubbers which mitigate significant seismic or non-seismic loads do not meet the criteria in 10 CFR 50.36(c)(2)(ii) for inclusion in plant Technical Specifications; therefore, these requirements are contained in this SLC. The programmatic requirements for the visual inspection and functional testing of these snubbers also do not meet the criteria in 10 CFR 50.36(c)(2)(ii) for inclusion in plant Technical Specifications and, as such, are appropriate for control by this SLC and are the same for both categories of snubbers.

Seismic Snubbers

Seismic snubbers are installed primarily to mitigate loads resulting from a seismic event. However, some seismic snubbers also mitigate other non-seismic loads. If these non-seismic loads have been determined to have no effect on the OPERABILITY of the associated Technical Specification supported system(s) while the snubber(s) are inoperable (as determined by Engineering), then Technical Specification LCO 3.0.8 governs the OPERABILITY requirements for these snubbers.

LCO 3.0.8 establishes conditions under which Technical Specification supported systems are considered to remain OPERABLE when associated seismic snubbers are not capable of providing their associated support function(s). This LCO states that the supported system is not considered to

BASES (continued)

be inoperable solely due to one or more of these snubbers not being capable of performing their associated support function(s). Thus, any affected supported system LCO(s) are not required to be declared not met solely for this reason, if risk is assessed and managed. This is appropriate because: (1) a limited length of time is allowed for inspection, testing, maintenance, or repair of one or more of these snubbers not capable of performing their associated support function(s); (2) REMEDIAL ACTIONS are specified in this SLC; (3) there is a low probability of a seismic event concurrent with an event that would require operation of the supported system while the snubber(s) are not capable of performing their associated support function; and (4) the redundant train of the supported system is normally available. LCO 3.0.8 represents an allowance that does not have to be utilized. It is always acceptable to either wait until the supported system LCO(s) are not applicable or declare the Technical Specification supported system(s) inoperable.

If the allowed time expires and the seismic snubber(s) are unable to perform their associated support function(s), the affected supported system LCO(s) must be declared not met and the Conditions and Required Actions entered in accordance with LCO 3.0.2.

Snubbers with Both Seismic and Significant Non-Seismic Loads

If the affected snubber(s) have more than one function, one of which is the mitigation of seismic loads, than LCO 3.0.8 may be utilized. However, there must be a deterministic analysis that demonstrates that the Technical Specification supported system(s) can still perform their functions in spite of the non-seismic loads. For example, if the affected snubber(s) mitigate both seismic loads and accident loads (i.e., blowdown loads), then only the accident loads are considered deterministically to determine if the supported system(s) are OPERABLE. If the Technical Specification supported system(s) are OPERABLE for the non-seismic loads, then LCO 3.0.8 may be utilized for the seismic loads. Otherwise, LCO 3.0.8 cannot be utilized.

Snubbers with Significant Non-Seismic Loads

LCO 3.0.8 may not be utilized for snubbers with significant non-seismic loads that impact the OPERABILITY of Technical Specification supported system(s).

REMEDIAL ACTIONS

When one or more installed snubbers are discovered to be inoperable by means of routine walk down or observation, the applicable REMEDIAL ACTIONS for any affected system(s) and component(s) must be entered immediately and an engineering evaluation per the Functional Test Failure Analysis must be performed. The purpose of the evaluation is to determine

BASES (continued)

the cause of failure and to address transportability issues.

For snubbers that are removed for testing or maintenance activities, it is possible that a prior evaluation of the system may verify the continued operability of the system with the snubber(s) removed. In these cases, it is not necessary to enter into the system REMEDIAL ACTIONS as long as the conditions of the prior evaluation are met.

Should one or more snubbers fail to meet testing acceptance criteria or be discovered in a condition where failure is apparent, an engineering evaluation is to be performed within the prescribed time frame, as described in the Functional Test Failure Analysis.

Condition A applies when one or more seismic snubber(s) associated with one train of multiple train system(s) are inoperable or when one or more seismic snubber(s) associated with single train system(s) are inoperable, and thus are not capable of providing their associated support function(s). If the LCO 3.0.8 a. allowance is utilized, the SLC allows up to 72 hours to restore the seismic snubber(s) before declaring the supported system(s) inoperable. Also, there must be an immediate verification that at least one train of the AFW System is OPERABLE (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s). The 72 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported system while the seismic snubber(s) are not capable of performing their associated support function, and the fact that the redundant train of the supported system is normally available. At the end of the specified 72 hour period, the required seismic snubber(s) must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met. A seismic snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified.

Condition B applies when one or more seismic snubber(s) associated with more than one train of multiple train system(s) are inoperable, and thus are not capable of providing their associated support function(s). If the LCO 3.0.8 b. allowance is utilized, the SLC allows up to 12 hours to restore the seismic snubber(s) before declaring the supported system(s) inoperable, provided there is an immediate verification that at least one train of the AFW System is OPERABLE (including a minimum set of supporting equipment required for its successful operation) or an alternative cooling method not associated with the inoperable snubber(s). The alternative cooling method may include, but is not limited to, feed and bleed, fire water system, or aggressive secondary cooldown using the steam generators. The 12 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported

BASES (continued)

system while the seismic snubber(s) are not capable of performing their associated support function. At the end of the specified 12 hour period, the required seismic snubber(s) must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met. The affected supported system LCO(s) shall also be immediately declared not met upon the inoperability of all AFW System trains and all alternative cooling methods. A seismic snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified.

Condition C applies when one or more seismic snubber(s) associated with one train of multiple train system(s) are inoperable and the opposite train of the associated system(s) is also inoperable for reasons other than inoperable snubber(s). The SLC allows up to 72 hours to restore the seismic snubber(s) before declaring the supported system(s) inoperable, provided there is: (1) an immediate verification that at least one train of the AFW System is OPERABLE (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), and (2) an immediate performance of a qualitative risk assessment of the resulting configuration. The 72 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported system while the seismic snubber(s) are not capable of performing their associated support function and the opposite train of the associated system(s) is inoperable. At the end of the specified 72 hour period, the required seismic snubber(s) must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met. The affected supported system LCO(s) shall also be immediately declared not met upon the inoperability of all AFW System trains. A seismic snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified.

Condition D applies when one or more non-seismic snubber(s) are inoperable. In this case, the affected supported system LCO(s) shall be immediately declared not met, as LCO 3.0.8 does not apply to non-seismic snubbers. A snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified. For those inoperable snubbers that mitigate both seismic and non-seismic loads, if the supported system(s) remain operable (as determined via engineering analysis) when subjected to the non-seismic loads, then the provisions of LCO 3.0.8 may be applied for these snubbers.

BASES (continued)

Condition E applies when one or more snubber(s) are inoperable and a prior system OPERABILITY evaluation has been performed. In this case, an engineering evaluation is to be immediately performed per the Functional Test Failure Analysis to determine if the prior evaluation remains valid. If the prior evaluation is invalidated, then the affected supported system LCO(s) shall be immediately declared not met.

This SLC requires that risk be assessed and managed when utilizing the allowances of LCO 3.0.8. Industry and NRC guidance regarding the implementation of 10 CFR 50.65(a)(4) (the Maintenance Rule) does not address seismic risk. However, the use of this SLC should be considered with respect to other plant maintenance activities, and integrated into the existing Maintenance Rule process so that maintenance on any unaffected train or subsystem is properly controlled, and emergent issues are properly addressed. The risk assessment required to utilize LCO 3.0.8 need not be quantified, but may be a qualitative awareness of the vulnerability of systems and components when one or more snubber(s) are not able to perform their associated support function(s).

Visual Inspections

The visual inspection frequency is based upon maintaining a constant level of snubber protection during an earthquake or severe transient. Therefore, the required inspection interval varies inversely with the observed snubber failures and is determined by the number of inoperable snubbers found during an inspection. In order to establish the inspection frequency for each type of snubber, it was assumed that the frequency of snubber failures and initiating events are constant with time and that the failure of any snubber on that system could cause the system to be unprotected and to result in failure during an assumed initiating event. Inspections performed before that interval has elapsed may be used as a new reference point to determine the next inspection. However, the results of such early inspections performed before the original required time interval has elapsed (nominal time less 25%) may not be used to lengthen the required inspection interval. Any inspection whose results require a shorter inspection interval will override the previous schedule. The acceptance criteria are to be used in the visual inspection to determine OPERABILITY of the snubbers.

Visual inspections shall verify that: (1) the snubber has no visible indications of damage or impaired OPERABILITY, (2) attachments to the foundation or supporting structure are functional, and (3) fasteners for the attachment of the snubber to the component and to the snubber anchorage are functional. Snubbers which appear inoperable as a result of visual inspections shall be classified as unacceptable and may be reclassified acceptable for the purpose of establishing the next visual inspection interval, provided that: (i) the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers irrespective of type that may be generically susceptible; and (ii) the affected snubber is functionally tested in

BASES (continued)

the as-found condition and determined OPERABLE. All snubbers found connected to an inoperable common hydraulic fluid reservoir shall be counted as unacceptable and may be reclassified as acceptable for determining the next inspection interval provided that criterion (i) and (ii) above are met. A review and evaluation shall be performed and documented to justify continued operation with an unacceptable snubber. If continued operation cannot be justified, the snubber shall be declared inoperable and the REMEDIAL ACTION requirements shall be met.

Refueling Outage Inspections

At each refueling, the systems which have the potential for a severe dynamic event, specifically, the main steam system (upstream of the main steam isolation valves), the main steam safety and power operated relief valves and piping, auxiliary feedwater system, main steam supply to the auxiliary feedwater pump turbine, and the letdown and charging portion of the chemical and volume control system shall be inspected to determine if there has been a severe dynamic event. In the case of a severe dynamic event, mechanical snubbers in that system which experienced the event shall be inspected during the refueling outage to assure that the mechanical snubbers have freedom of movement and are not frozen up. The inspection shall consist of verifying freedom of motion using one of the following: (1) manually induced snubber movement, or (2) evaluation of in-place snubber piston setting, or (3) stroking the mechanical snubber through its full range of travel. If one or more mechanical snubbers are found to be frozen up during this inspection, those snubbers shall be replaced or repaired before returning to power. The requirements of TESTING REQUIREMENT 16.9-13-1 are independent of the requirements of this item.

Functional Testing

At least once per 18 months during shutdown, a representative sample of snubbers of each type shall be tested using one of the following Sample Plans. The large-bore steam generator hydraulic snubbers shall be treated as a separate type (population) for functional test purposes. A 10% random sample shall be tested at least once per 18 months during refueling with continued testing based on a failure evaluation. The Sample Plan shall be selected prior to the test period and cannot be changed during the test period. The NRC shall be notified in writing of the Sample Plan selected for each snubber type prior to the test period or the Sample Plan used in the prior test period shall be implemented:

1) At least 10% of all snubbers shall be functionally tested either in-place or in a bench test. For each snubber of a type that does not meet the functional test acceptance criteria, an additional 10% of all snubbers shall be functionally tested until no more failures are found or until all snubbers have been functionally tested; or

BASES (continued)

2) A representative sample of all snubbers shall be functionally tested in accordance with Figure 16.9-13-1. "C" is the total number of snubbers of a type found not meeting the acceptance requirements. The cumulative number of snubbers tested is denoted by "N". At the end of each day's testing, the new values of "N" and "C" (previous day's total plus current day's increments) shall be plotted on Figure 16.9-13-1. If at any time the point plotted falls in the "Accept" region, testing of snubbers of that type may be terminated. When the point plotted lies in the "Continue Testing" region, additional snubbers of that type shall be tested until the point falls in the "Accept" region or all the snubbers of that type have been tested; or

3) An initial representative sample of 55 snubbers shall be functionally tested. For each snubber type which does not meet the functional test acceptance criteria, another sample of at least one-half the size of the initial sample shall be tested until the total number tested is equal to the initial sample size multiplied by the factor, 1 + C/2, where "C" is the number of snubbers found which do not meet the functional test acceptance criteria. The results from this Sample Plan shall be plotted using an "Accept" line which follows the equation N = 55(1 + C/2). Each snubber point should be plotted as soon as the snubber is tested. If the point plotted falls on or below the "Accept" line, testing may be terminated. If the point plotted falls above the "Accept" line, testing must continue until the point falls in the "Accept" region or all the snubbers of that type have been tested.

Testing equipment failure during functional testing may invalidate that day's testing and allow that day's testing to resume anew at a later time provided all snubbers tested with the failed equipment during the day of equipment failure are retested. The representative sample selected for the functional test Sample Plans shall be randomly selected from all snubbers and reviewed before beginning the testing. The review shall ensure, as far as practicable, that they are representative of the various configurations, operating environments, range of size, and capacity of snubbers. Snubbers placed in the same location as snubbers which failed the previous functional test shall be retested at the time of the next functional test but shall not be included in the Sample Plan. If during the functional testing, additional sampling is required due to failure of only one type of snubber, the functional test results shall be reviewed at that time to determine if additional samples should be limited to the type of snubber which has failed the functional testing.

Figure 16.9-13-1 was developed using "Wald's Sequential Probability Ratio Plan" as described in "Quality Control and Industrial Statistics" by Acheson J. Duncan.

BASES (continued)

Permanent or other exemptions from the inspection program for individual snubbers may be granted by the Commission if a justifiable basis for exemption is presented and; if applicable, snubber life testing was performed to qualify the snubber for the applicable design conditions. Snubbers so exempted shall be listed in the list of individual snubbers indicating the extent of the exemptions.

The snubber testing program may remove snubbers from service and restore OPERABILITY of the snubber application by replacement with another like snubber. In this situation, if the removed snubber later fails to meet test acceptance criteria, the system Required Action is not applicable since the failed snubber component has no current required function; however, the engineering evaluation per the Functional Test Failure Analysis is still required to determine the failure cause and address transportability issues. During the allowed 72 hours to perform an engineering evaluation or at any other time, when conditions of the affected system(s) and component(s) are determined to no longer support a reasonable assurance of OPERABILITY, applicable Required Actions are to be entered immediately.

Functional Test Acceptance Criteria

The snubber functional test shall verify that:

1) Activation (restraining action) is achieved within the specified range in both tension and compression, except that inertia dependent, acceleration limiting mechanical snubbers may be tested to verify only that activation takes place in both directions of travel;

2) Snubber bleed, or release rate where required, is present in both tension and compression, within the specified range;

3) For mechanical snubbers, the force required to initiate or maintain motion of the snubber is within the specified range in both directions of travel; and

4) For snubbers specifically required not to displace under continuous load, the ability of the snubber to withstand load without displacement.

Testing methods may be used to measure parameters indirectly or parameters other than those specified if those results can be correlated to the specified parameters through established methods.

Functional Test Failure Analysis

An engineering evaluation shall be made of each failure to meet the functional test acceptance criteria to determine the cause of the failure. The

BASES (continued)

results of this evaluation shall be used, if applicable, in selecting snubbers to be tested in an effort to determine the OPERABILITY of other snubbers irrespective of type which may be subject to the same failure mode.

For the snubbers found inoperable, an engineering evaluation shall be performed on the components to which the inoperable snubbers are attached. The purpose of this engineering evaluation shall be to determine if the components to which the inoperable snubbers are attached were adversely affected by the inoperability of the snubbers in order to ensure that the component remains capable of meeting the designed service.

If any snubber selected for functional testing either fails to lock up or fails to move, i.e., frozen in place, the cause will be evaluated and, if caused by manufacturer or design deficiency, all snubbers of the same type subject to the same defect shall be functionally tested. This TESTING REQUIREMENT shall be independent of the requirements stated in TESTING REQUIREMENT 16.9-13-3 for snubbers not meeting the functional test acceptance criteria.

All snubbers that fail to meet the functional test criteria must be evaluated to determine the cause, and the potential for applicability of the failure mode to other snubbers. Likewise, an evaluation is required to determine if the attached components have been adversely affected by the functional failure of the snubber. It is noted that the evaluation is only required for snubbers that are inoperable due to a failure of the snubber itself to meet the functional requirements. A snubber that is inoperable due solely to being disconnected from the supported component does not necessitate a component or system evaluation, provided that the snubber itself meets the requirements of the functional test criteria. In this case, the only action required is that the snubber be completely restored and the cause of the disconnection determined and evaluated for generic implications.

Service Life

The service life of a snubber is established via manufacturer input and information through consideration of the snubber service conditions and associated installation and maintenance records (newly installed snubbers, seal replaced, spring replaced, in high radiation area, in high temperature area, etc.). The requirement to monitor the snubber service life is included to ensure that the snubbers periodically undergo a performance evaluation in view of their age and operating conditions. These records will provide statistical bases for future consideration of snubber service life.

If a service lifetime limit is associated (established) with any snubber (or critical part) based on manufacturer's information, qualification tests, or historical service results, then the service life shall be monitored to ensure that the service life is not exceeded between surveillance inspections.

BASES (continued)

Established snubber service life shall be extended or shortened based on monitored test results and failure history. The replacements (snubbers or critical parts) shall be documented and the documentation shall be retained. Records of the service lives of all hydraulic and mechanical snubbers, including the date at which the service life commences, and associated installation and maintenance records shall be retained for the duration of the unit operating license.

REFERENCES

1. Letter from W.R. McCollum, Jr. to NRC, Request for Relief 95-05, Snubber Inspection Interval for Unit 1, August 23, 1995.

2. Letter from W.R. McCollum, Jr. to NRC, Request for Relief 96-01, Snubber Inspection Interval for Unit 2, February 12, 1996.

3. Letter from NRC to W.R. McCollum, Request for Relief 95-05, January 11, 1996.

4. Letter from NRC to W.R. McCollum, Request for Relief 96-01, May 16, 1996.

5. Letter from NRC to Gary R. Peterson, Duke, Issuance of Improved Technical Specifications Amendments for Catawba, September 30, 1998.

6. Letter from M.S. Tuckman to NRC, Licensing Position Regarding Snubbers, May 20, 1999.

7. Letter from NRC to G.R. Peterson, Licensing Position Regarding Snubbers, July 7, 1999.

8. Technical Specifications Task Force (TSTF)-372-A, Revision 4, Addition of LCO 3.0.8, Inoperability of Snubbers.

9. TSTF-IG-05-03, Technical Specifications Task Force Implementation Guidance for TSTF-372-A, Revision 4, Addition of LCO 3.0.8, Inoperability of Snubbers.

10. Nuclear System Directive 415, Operational Risk Management (Modes 1-3) per 10CFR 50.65(a)(4).

11. Federal Register, 70FR23252, Notice of Availability of Model Application Concerning Technical Specification Improvement to Modify Requirements Regarding the Addition of Limiting Condition for Operation 3.0.8 on the Inoperability of Snubbers Using the Consolidated Line Item Improvement Process.

DUKE ENERGY CORPORATION
Catawba Nuclear Station
4800 Concord Road
York, SC 29745

803 831 3000

August 16, 2007

RE: Catawba Nuclear Station
Selected Licensee Commitments Manual
Revision Date 03/19/07

Attached are revisions to the Catawba Nuclear Station Selected Licensee Commitments Manual. Please remove and replace the following pages:

REMOVE	INSERT
LIST OF EFFECTIVE SECTIONS	
Pages 1 through 4 Revision 31	Pages 1 through 4 Revision 32
TAB 16.9	
16.9-13-1 through 16.9-13-14 Revision 0	16.9-13-1 through 16.9-13-21 Revision 1

If you have any questions concerning the contents of this package update, please contact Betty Aldridge at (803) 831-3758.

Randall D. Hart
Regulatory Compliance Manager

Attachments

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
TABLE OF CONTENTS	9	03/08/07
16.1	0	10/09/02
16.2	1	10/17/02
16.3	0	10/09/02
16.5-1	1	10/24/06
16.5-2	Deleted	
16.5-3	1	02/20/04
16.5-4	0	10/09/02
16.5-5	0	10/09/02
16.5-6	0	10/09/02
16.5-7	0	10/09/02
16.5-8	1	05/18/04
16.5-9	0	10/24/06
16.5-10	0	03/08/07
16.6-1	0	10/09/02
16.6-2	Deleted	
16.6-3	0	10/09/02
16.6-4	0	10/09/02
16.6-5	0	10/09/02
16.7-1	0	10/09/02
16.7-2	1	08/20/04
16.7-3	0	10/09/02
16.7-4	0	10/09/02
16.7-5	1	01/02/03

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.7-6	1	11/17/05
16.7-7	0	10/09/02
16.7-8	1	05/25/05
16.7-9	4	02/01/05
16.7-10	0	10/09/02
16.7-11	0	10/09/02
16.7-12	0	10/09/02
16.7-13	1	05/17/06
16.7-14	0	10/06/03
16.7-15	0	03/01/05
16.8-1	1	02/01/05
16.8-2	1	10/24/06
16.8-3	1	10/24/06
16.8-4	1	10/24/06
16.8-5	2	02/20/04
16.9-1	4	08/03/06
16.9-2	3	05/25/05
16.9-3	0	10/09/02
16.9-4	2	05/25/05
16.9-5	3	05/17/06
16.9-6	3	10/24/06
16.9-7	3	03/10/04
16.9-8	4	10/24/06
16.9-9	2	03/10/04

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.9-10	4	10/24/06
16.9-11	2	03/10/04
16.9-12	1	03/10/04
16.9-13	1	03/19/07
16.9-14	1	09/25/06
16.9-15	0	10/09/02
16.9-16	0	10/09/02
16.9-17	0	10/09/02
16.9-18	0	10/09/02
16.9-19	1	01/02/03
16.9-20	0	10/09/02
16.9-21	0	10/09/02
16.9-22	0	10/09/02
16.9-23	2	05/25/05
16.9-24	2	10/24/06
16.9-25	0	04/03/06
16.10-1	0	10/09/02
16.10-2	1	10/24/06
16.10-3	0	08/21/03
16.11-1	0	10/09/02
16.11-2	0	10/09/02
16.11-3	0	10/09/02
16.11-4	0	10/09/02
16.11-5	0	10/09/02

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.11-6	0	10/09/02
16.11-7	1	02/27/03
16.11-8	0	10/09/02
16.11-9	0	10/09/02
16.11-10	0	10/09/02
16.11-11	1	03/20/03
16.11-12	0	10/09/02
16.11-13	0	10/09/02
16.11-14	0	10/09/02
16.11-15	0	10/09/02
16.11-16	0	10/09/02
16.11-17	0	10/09/02
16.11-18	0	10/09/02
16.11-19	0	10/09/02
16.11-20	0	10/09/02
16.11-21	0	10/09/02
16.12-1	0	10/09/02
16.13-1	0	10/09/02
16.13-2	Deleted	
16.13-3	Deleted	
16.13-4	0	10/09/02

16.9 AUXILIARY SYSTEMS

16.9-13 Snubbers

COMMITMENT

----------NOTES----------

1. Snubbers installed on non-safety related systems may be excluded from these requirements provided their failure or the failure of the system on which they are installed would not have an adverse effect on any safety related system.

2. If a snubber does not support the OPERABILITY of a Technical Specification required system, or if the supported system is not required to be OPERABLE, then Limiting Condition for Operation (LCO) 3.0.8 is not utilized.

All snubbers shall be OPERABLE.

APPLICABILITY: Whenever the system supported by the snubber is required to be OPERABLE.

REMEDIAL ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. ----------NOTE---------- Only applicable to seismic snubbers which support the OPERABILITY of Technical Specification required systems. ----------	A.1 Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately upon determination of train inoperability OR 72 hours
	AND	
One or more snubber(s) associated with one train of multiple train system(s) inoperable. OR One or more snubber(s) associated with single train system(s) inoperable.	A.2 ----------NOTE---------- Only applicable when utilizing the 72 hour Completion Time of Required Action A.1. ---------- Verify at least one train of the Auxiliary Feedwater (AFW) System (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), is OPERABLE.	Immediately
	AND	
	A.3 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis.	Prior to restoring affected train to OPERABLE status OR 72 hours

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. ----------NOTE---------- Only applicable to seismic snubbers which support the OPERABILITY of Technical Specification required systems. ---------- One or more snubber(s) associated with more than one train of multiple train system(s) inoperable.	B.1 Verify at least one train of the AFW System (including a minimum set of supporting equipment required for its successful operation) or alternative cooling method not associated with the inoperable snubber(s), is OPERABLE.	Immediately
	AND	
	B.2 Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately upon inoperability of all AFW System trains and all alternative cooling methods OR 12 hours
	AND	
	B.3 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis.	Prior to restoring affected train(s) to OPERABLE status OR 12 hours

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. ----------NOTE---------- Only applicable to seismic snubbers which support the OPERABILITY of Technical Specification required systems. ----------	C.1 Verify at least one train of the AFW System (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), is OPERABLE.	Immediately
One or more snubber(s) associated with one train of multiple train system(s) inoperable.	AND	
AND	C.2 Perform a qualitative risk assessment of the resulting configuration.	Immediately
Opposite train of associated system(s) inoperable for reasons other than inoperable snubber(s).	AND	
	C.3 Enter the applicable Conditions and Required Actions for the affected train(s) of multiple train system(s) that contain the inoperable snubber(s).	Immediately upon inoperability of all AFW System trains OR 72 hours
	AND	
	C.4 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ----------	
	Perform engineering evaluation per the Functional Test Failure Analysis.	Prior to restoring affected train(s) to OPERABLE status OR 72 hours

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. ----------NOTE---------- Only applicable to non-seismic snubbers which support the OPERABILITY of Technical Specification required systems. ---------- One or more snubber(s) inoperable.	D.1 Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately
	AND	
	D.2 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis.	Immediately

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. One or more snubber(s) inoperable. AND Prior system OPERABILITY evaluation performed.	E.1 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis to determine impact on prior system OPERABILITY evaluation.	Immediately
	AND	
	E.2 ----------NOTE---------- Only applicable if prior system OPERABILITY evaluation is invalidated. ---------- Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately

TESTING REQUIREMENTS

----------NOTES----------

1. Each snubber shall be demonstrated OPERABLE by performance of the following augmented inservice inspection program.

2. Snubbers which fail the visual inspection or the functional test acceptance criteria shall be repaired or replaced. Replacement snubbers and snubbers which have repairs which might affect the functional test results shall be tested to meet the functional test criteria before installation in the unit. Mechanical snubbers shall have met the acceptance criteria subsequent to their most recent service, and the freedom of motion test shall have been performed within 12 months before being installed in the unit.

3. As used in this SLC, "type of snubber" shall mean snubbers of the same design and manufacturer, irrespective of capacity.

	TEST	FREQUENCY
TR 16.9-13-1	----------NOTE---------- Snubbers are categorized as inaccessible or accessible during reactor operation and may be inspected independently according to the schedule determined by Table 16.9-13-1. The first inspection interval using Table 16.9-13-1 shall be based upon the previous inspection interval as established by the requirements in effect before Technical Specification Amendment 88 (Unit 1) and 82 (Unit 2). ----------	
	Perform a visual inspection for each category of snubber.	In accordance with Table 16.9-13-1
TR 16.9-13-2	----------NOTE---------- In case of a severe dynamic event, mechanical snubbers in the system which experienced the event shall be inspected during the refueling outage to assure that they have freedom of movement and are not frozen up. ----------	
	Perform an inspection, during shutdown, to determine if there has been a severe dynamic event for systems which have the potential for a severe dynamic event.	18 months

(continued)

TESTING REQUIREMENTS (continued)

	TEST	FREQUENCY
TR 16.9-13-3	----------NOTE---------- The large-bore steam generator hydraulic snubbers shall be treated as a separate population for functional test purposes and shall be functionally tested under Sample Plan 1. ---------- Perform, during shutdown, snubber functional testing on a representative sample of each type of snubber in accordance with one of the following three Sample Plans: 1. Functionally test 10% of a type of snubber with an additional 10% tested for each functional testing failure, or 2. Functionally test a sample size and determine sample acceptance or continue testing using Figure 16.9-13-1, or 3. Functionally test a representative sample size and determine sample acceptance or rejection using the stated equation.	18 months
TR 16.9-13-4	----------NOTE---------- Service life records shall be documented and the documentation retained for the duration of the unit operating license. ---------- Verify that the service life of all snubbers has not been exceeded or will not be exceeded prior to the next scheduled surveillance inspection.	18 months

Table 16.9-13-1

Snubber Visual Inspection Interval (page 1 of 2)

POPULATION OR CATEGORY (NOTES 1 AND 2)	NUMBER OF UNACCEPTABLE SNUBBERS		
	COLUMN A EXTEND INTERVAL (NOTES 3 AND 6)	COLUMN B REPEAT INTERVAL (NOTES 4 AND 6)	COLUMN C REDUCE INTERVAL (NOTES 5 AND 6)
1	0	0	1
80	0	0	2
100	0	1	4
150	0	3	8
200	2	5	13
300	5	12	25
400	8	18	36
500	12	24	48
750	20	40	78
≥ 1000	29	56	109

Note 1: The next visual inspection interval for a snubber population or category size shall be determined based upon the previous inspection interval and the number of unacceptable snubbers found during that interval. Snubbers may be categorized, based upon their accessibility during power operation, as accessible or inaccessible. These categories may be examined separately or jointly. However, the licensee must make and document that decision before any inspection and shall use that decision as the basis upon which to determine the next inspection interval for that category.

Note 2: Interpolation between population or category sizes and the number of unacceptable snubbers is permissible. Use next lower integer for the value of the limit for Columns A, B, or C if that integer includes a fractional value of unacceptable snubbers as determined by interpolation.

Note 3: If the number of unacceptable snubbers is equal to or less than the number in Column A, the next inspection interval may be twice the previous interval but not greater than 48 months.

Note 4: If the number of unacceptable snubbers is equal to or less than the number in Column B but greater than the number in Column A, the next inspection interval shall be the same as the previous interval.

Note 5: If the number of unacceptable snubbers is equal to or greater than the number in Column C, the next inspection interval shall be two-thirds of the previous interval. However, if the number of unacceptable snubbers is less than the number in Column C but greater than the number in Column B, the

Table 16.9-13-1

Snubber Visual Inspection Interval (page 2 of 2)

next interval shall be reduced proportionally by interpolation, that is, the previous interval shall be reduced by a factor that is one-third of the ratio of the difference between the number of unacceptable snubbers found during the previous interval and the number in Column B to the difference in the numbers in Columns B and C.

Note 6: The provisions of SLC 16.2.6 are applicable for all inspection intervals up to and including 48 months.

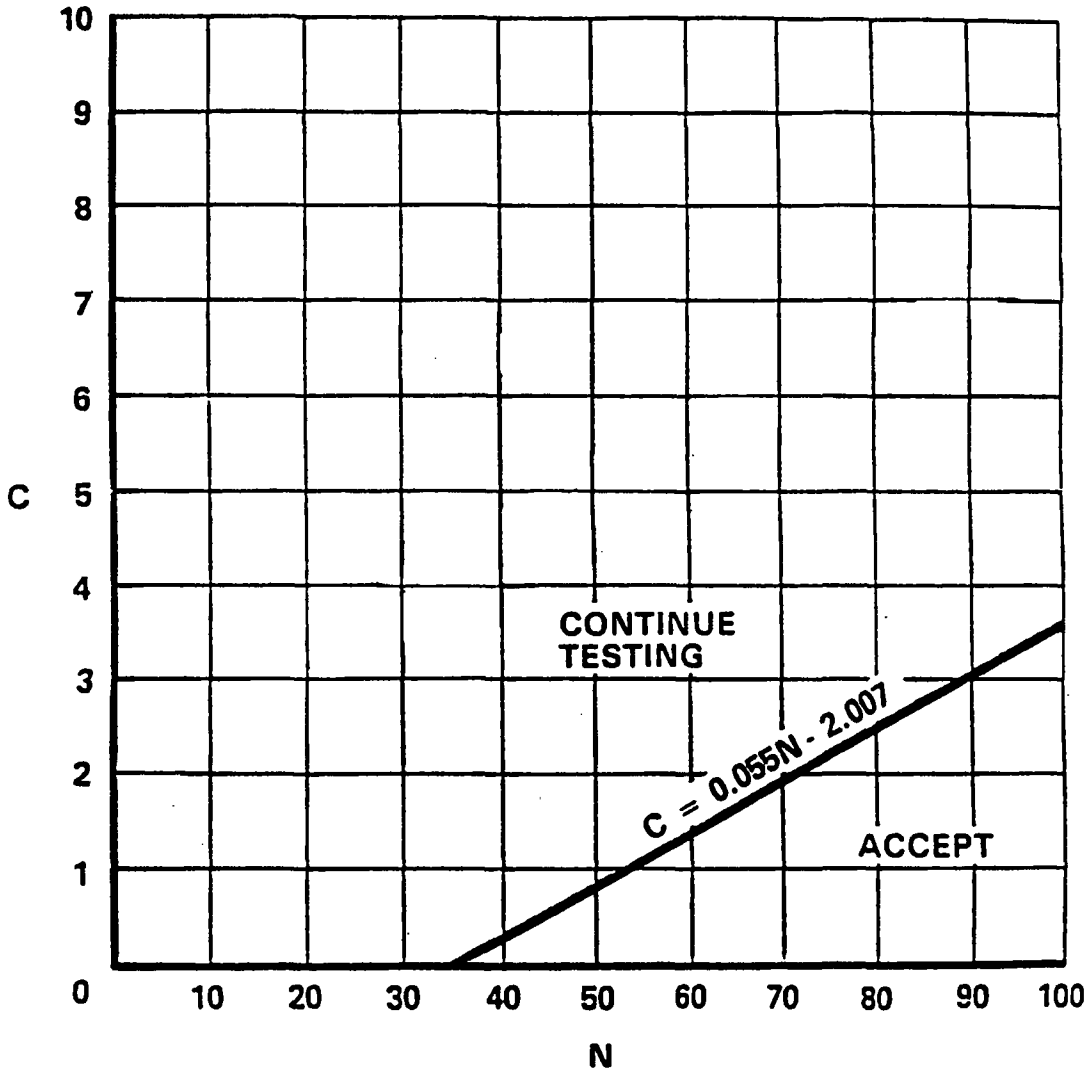

Figure 16.9-13-1

Sample Plan 2 for Snubber Functional Test

BASES

All 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 event initiating dynamic loads.

The snubber requirements of SLC 16.9-13 were originally located in the Technical Specifications. The Nuclear Regulatory Commission (NRC) authorized the use of these requirements, while located in Technical Specifications, as an acceptable alternative to the requirements of the ASME Code, 1989 Edition, Section XI, Article IWF-5000 (References 3, 4). Any revision to these snubber visual inspection and functional test requirements shall consider the basis for the granted relief from the ASME Code requirements and any resulting requirement for NRC review and approval.

Snubbers are classified and grouped by design and manufacturer but not by size. For example, mechanical snubbers utilizing the same design features of the 2-kip, 10-kip, and 100-kip capacity manufactured by Company "A" are of the same type. The same design mechanical snubbers manufactured by Company "B" for the purposes of this SLC would be of a different type, as would hydraulic snubbers from either manufacturer.

A list of individual snubbers with detailed information of snubber location and size and of system affected shall be available at the plant in accordance with Section 50.71(c) of 10 CFR Part 50. The addition or deletion of any hydraulic or mechanical snubber shall be made in accordance with Section 50.59 of 10 CFR Part 50.

The OPERABILITY requirements for snubbers which mitigate significant seismic or non-seismic loads do not meet the criteria in 10 CFR 50.36(c)(2)(ii) for inclusion in plant Technical Specifications; therefore, these requirements are contained in this SLC. The programmatic requirements for the visual inspection and functional testing of these snubbers also do not meet the criteria in 10 CFR 50.36(c)(2)(ii) for inclusion in plant Technical Specifications and, as such, are appropriate for control by this SLC and are the same for both categories of snubbers.

Seismic Snubbers

Seismic snubbers are installed primarily to mitigate loads resulting from a seismic event. However, some seismic snubbers also mitigate other non-seismic loads. If these non-seismic loads have been determined to have no effect on the OPERABILITY of the associated Technical Specification supported system(s) while the snubber(s) are inoperable (as determined by Engineering), then Technical Specification LCO 3.0.8 governs the OPERABILITY requirements for these snubbers.

LCO 3.0.8 establishes conditions under which Technical Specification supported systems are considered to remain OPERABLE when associated seismic snubbers are not capable of providing their associated support function(s). This LCO states that the supported system is not considered to

BASES (continued)

be inoperable solely due to one or more of these snubbers not being capable of performing their associated support function(s). Thus, any affected supported system LCO(s) are not required to be declared not met solely for this reason, if risk is assessed and managed. This is appropriate because: (1) a limited length of time is allowed for inspection, testing, maintenance, or repair of one or more of these snubbers not capable of performing their associated support function(s); (2) REMEDIAL ACTIONS are specified in this SLC; (3) there is a low probability of a seismic event concurrent with an event that would require operation of the supported system while the snubber(s) are not capable of performing their associated support function; and (4) the redundant train of the supported system is normally available. LCO 3.0.8 represents an allowance that does not have to be utilized. It is always acceptable to either wait until the supported system LCO(s) are not applicable or declare the Technical Specification supported system(s) inoperable.

If the allowed time expires and the seismic snubber(s) are unable to perform their associated support function(s), the affected supported system LCO(s) must be declared not met and the Conditions and Required Actions entered in accordance with LCO 3.0.2.

Snubbers with Both Seismic and Significant Non-Seismic Loads

If the affected snubber(s) have more than one function, one of which is the mitigation of seismic loads, than LCO 3.0.8 may be utilized. However, there must be a deterministic analysis that demonstrates that the Technical Specification supported system(s) can still perform their functions in spite of the non-seismic loads. For example, if the affected snubber(s) mitigate both seismic loads and accident loads (i.e., blowdown loads), then only the accident loads are considered deterministically to determine if the supported system(s) are OPERABLE. If the Technical Specification supported system(s) are OPERABLE for the non-seismic loads, then LCO 3.0.8 may be utilized for the seismic loads. Otherwise, LCO 3.0.8 cannot be utilized.

Snubbers with Significant Non-Seismic Loads

LCO 3.0.8 may not be utilized for snubbers with significant non-seismic loads that impact the OPERABILITY of Technical Specification supported system(s).

REMEDIAL ACTIONS

When one or more installed snubbers are discovered to be inoperable by means of routine walk down or observation, the applicable REMEDIAL ACTIONS for any affected system(s) and component(s) must be entered immediately and an engineering evaluation per the Functional Test Failure Analysis must be performed. The purpose of the evaluation is to determine

BASES (continued)

the cause of failure and to address transportability issues.

For snubbers that are removed for testing or maintenance activities, it is possible that a prior evaluation of the system may verify the continued operability of the system with the snubber(s) removed. In these cases, it is not necessary to enter into the system REMEDIAL ACTIONS as long as the conditions of the prior evaluation are met.

Should one or more snubbers fail to meet testing acceptance criteria or be discovered in a condition where failure is apparent, an engineering evaluation is to be performed within the prescribed time frame, as described in the Functional Test Failure Analysis.

Condition A applies when one or more seismic snubber(s) associated with one train of multiple train system(s) are inoperable or when one or more seismic snubber(s) associated with single train system(s) are inoperable, and thus are not capable of providing their associated support function(s). If the LCO 3.0.8 a. allowance is utilized, the SLC allows up to 72 hours to restore the seismic snubber(s) before declaring the supported system(s) inoperable. Also, there must be an immediate verification that at least one train of the AFW System is OPERABLE (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s). The 72 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported system while the seismic snubber(s) are not capable of performing their associated support function, and the fact that the redundant train of the supported system is normally available. At the end of the specified 72 hour period, the required seismic snubber(s) must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met. A seismic snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified.

Condition B applies when one or more seismic snubber(s) associated with more than one train of multiple train system(s) are inoperable, and thus are not capable of providing their associated support function(s). If the LCO 3.0.8 b. allowance is utilized, the SLC allows up to 12 hours to restore the seismic snubber(s) before declaring the supported system(s) inoperable, provided there is an immediate verification that at least one train of the AFW System is OPERABLE (including a minimum set of supporting equipment required for its successful operation) or an alternative cooling method not associated with the inoperable snubber(s). The alternative cooling method may include, but is not limited to, feed and bleed, fire water system, or aggressive secondary cooldown using the steam generators. The 12 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported

BASES (continued)

system while the seismic snubber(s) are not capable of performing their associated support function. At the end of the specified 12 hour period, the required seismic snubber(s) must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met. The affected supported system LCO(s) shall also be immediately declared not met upon the inoperability of all AFW System trains and all alternative cooling methods. A seismic snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified.

Condition C applies when one or more seismic snubber(s) associated with one train of multiple train system(s) are inoperable and the opposite train of the associated system(s) is also inoperable for reasons other than inoperable snubber(s). The SLC allows up to 72 hours to restore the seismic snubber(s) before declaring the supported system(s) inoperable, provided there is: (1) an immediate verification that at least one train of the AFW System is OPERABLE (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), and (2) an immediate performance of a qualitative risk assessment of the resulting configuration. The 72 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported system while the seismic snubber(s) are not capable of performing their associated support function and the opposite train of the associated system(s) is inoperable. At the end of the specified 72 hour period, the required seismic snubber(s) must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met. The affected supported system LCO(s) shall also be immediately declared not met upon the inoperability of all AFW System trains. A seismic snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified.

Condition D applies when one or more non-seismic snubber(s) are inoperable. In this case, the affected supported system LCO(s) shall be immediately declared not met, as LCO 3.0.8 does not apply to non-seismic snubbers. A snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified. For those inoperable snubbers that mitigate both seismic and non-seismic loads, if the supported system(s) remain operable (as determined via engineering analysis) when subjected to the non-seismic loads, then the provisions of LCO 3.0.8 may be applied for these snubbers.

BASES (continued)

Condition E applies when one or more snubber(s) are inoperable and a prior system OPERABILITY evaluation has been performed. In this case, an engineering evaluation is to be immediately performed per the Functional Test Failure Analysis to determine if the prior evaluation remains valid. If the prior evaluation is invalidated, then the affected supported system LCO(s) shall be immediately declared not met.

This SLC requires that risk be assessed and managed when utilizing the allowances of LCO 3.0.8. Industry and NRC guidance regarding the implementation of 10 CFR 50.65(a)(4) (the Maintenance Rule) does not address seismic risk. However, the use of this SLC should be considered with respect to other plant maintenance activities, and integrated into the existing Maintenance Rule process so that maintenance on any unaffected train or subsystem is properly controlled, and emergent issues are properly addressed. The risk assessment required to utilize LCO 3.0.8 need not be quantified, but may be a qualitative awareness of the vulnerability of systems and components when one or more snubber(s) are not able to perform their associated support function(s).

Visual Inspections

The visual inspection frequency is based upon maintaining a constant level of snubber protection during an earthquake or severe transient. Therefore, the required inspection interval varies inversely with the observed snubber failures and is determined by the number of inoperable snubbers found during an inspection. In order to establish the inspection frequency for each type of snubber, it was assumed that the frequency of snubber failures and initiating events are constant with time and that the failure of any snubber on that system could cause the system to be unprotected and to result in failure during an assumed initiating event. Inspections performed before that interval has elapsed may be used as a new reference point to determine the next inspection. However, the results of such early inspections performed before the original required time interval has elapsed (nominal time less 25%) may not be used to lengthen the required inspection interval. Any inspection whose results require a shorter inspection interval will override the previous schedule. The acceptance criteria are to be used in the visual inspection to determine OPERABILITY of the snubbers.

Visual inspections shall verify that: (1) the snubber has no visible indications of damage or impaired OPERABILITY, (2) attachments to the foundation or supporting structure are functional, and (3) fasteners for the attachment of the snubber to the component and to the snubber anchorage are functional. Snubbers which appear inoperable as a result of visual inspections shall be classified as unacceptable and may be reclassified acceptable for the purpose of establishing the next visual inspection interval, provided that: (i) the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers irrespective of type that may be generically susceptible; and (ii) the affected snubber is functionally tested in

BASES (continued)

the as-found condition and determined OPERABLE. All snubbers found connected to an inoperable common hydraulic fluid reservoir shall be counted as unacceptable and may be reclassified as acceptable for determining the next inspection interval provided that criterion (i) and (ii) above are met. A review and evaluation shall be performed and documented to justify continued operation with an unacceptable snubber. If continued operation cannot be justified, the snubber shall be declared inoperable and the REMEDIAL ACTION requirements shall be met.

Refueling Outage Inspections

At each refueling, the systems which have the potential for a severe dynamic event, specifically, the main steam system (upstream of the main steam isolation valves), the main steam safety and power operated relief valves and piping, auxiliary feedwater system, main steam supply to the auxiliary feedwater pump turbine, and the letdown and charging portion of the chemical and volume control system shall be inspected to determine if there has been a severe dynamic event. In the case of a severe dynamic event, mechanical snubbers in that system which experienced the event shall be inspected during the refueling outage to assure that the mechanical snubbers have freedom of movement and are not frozen up. The inspection shall consist of verifying freedom of motion using one of the following: (1) manually induced snubber movement, or (2) evaluation of in-place snubber piston setting, or (3) stroking the mechanical snubber through its full range of travel. If one or more mechanical snubbers are found to be frozen up during this inspection, those snubbers shall be replaced or repaired before returning to power. The requirements of TESTING REQUIREMENT 16.9-13-1 are independent of the requirements of this item.

Functional Testing

At least once per 18 months during shutdown, a representative sample of snubbers of each type shall be tested using one of the following Sample Plans. The large-bore steam generator hydraulic snubbers shall be treated as a separate type (population) for functional test purposes. A 10% random sample shall be tested at least once per 18 months during refueling with continued testing based on a failure evaluation. The Sample Plan shall be selected prior to the test period and cannot be changed during the test period. The NRC shall be notified in writing of the Sample Plan selected for each snubber type prior to the test period or the Sample Plan used in the prior test period shall be implemented:

1) At least 10% of all snubbers shall be functionally tested either in-place or in a bench test. For each snubber of a type that does not meet the functional test acceptance criteria, an additional 10% of all snubbers shall be functionally tested until no more failures are found or until all snubbers have been functionally tested; or

BASES (continued)

2) A representative sample of all snubbers shall be functionally tested in accordance with Figure 16.9-13-1. "C" is the total number of snubbers of a type found not meeting the acceptance requirements. The cumulative number of snubbers tested is denoted by "N". At the end of each day's testing, the new values of "N" and "C" (previous day's total plus current day's increments) shall be plotted on Figure 16.9-13-1. If at any time the point plotted falls in the "Accept" region, testing of snubbers of that type may be terminated. When the point plotted lies in the "Continue Testing" region, additional snubbers of that type shall be tested until the point falls in the "Accept" region or all the snubbers of that type have been tested; or

3) An initial representative sample of 55 snubbers shall be functionally tested. For each snubber type which does not meet the functional test acceptance criteria, another sample of at least one-half the size of the initial sample shall be tested until the total number tested is equal to the initial sample size multiplied by the factor, 1 + C/2, where "C" is the number of snubbers found which do not meet the functional test acceptance criteria. The results from this Sample Plan shall be plotted using an "Accept" line which follows the equation N = 55(1 + C/2). Each snubber point should be plotted as soon as the snubber is tested. If the point plotted falls on or below the "Accept" line, testing may be terminated. If the point plotted falls above the "Accept" line, testing must continue until the point falls in the "Accept" region or all the snubbers of that type have been tested.

Testing equipment failure during functional testing may invalidate that day's testing and allow that day's testing to resume anew at a later time provided all snubbers tested with the failed equipment during the day of equipment failure are retested. The representative sample selected for the functional test Sample Plans shall be randomly selected from all snubbers and reviewed before beginning the testing. The review shall ensure, as far as practicable, that they are representative of the various configurations, operating environments, range of size, and capacity of snubbers. Snubbers placed in the same location as snubbers which failed the previous functional test shall be retested at the time of the next functional test but shall not be included in the Sample Plan. If during the functional testing, additional sampling is required due to failure of only one type of snubber, the functional test results shall be reviewed at that time to determine if additional samples should be limited to the type of snubber which has failed the functional testing.

Figure 16.9-13-1 was developed using "Wald's Sequential Probability Ratio Plan" as described in "Quality Control and Industrial Statistics" by Acheson J. Duncan.

BASES (continued)

Permanent or other exemptions from the inspection program for individual snubbers may be granted by the Commission if a justifiable basis for exemption is presented and, if applicable, snubber life testing was performed to qualify the snubber for the applicable design conditions. Snubbers so exempted shall be listed in the list of individual snubbers indicating the extent of the exemptions.

The snubber testing program may remove snubbers from service and restore OPERABILITY of the snubber application by replacement with another like snubber. In this situation, if the removed snubber later fails to meet test acceptance criteria, the system Required Action is not applicable since the failed snubber component has no current required function; however, the engineering evaluation per the Functional Test Failure Analysis is still required to determine the failure cause and address transportability issues. During the allowed 72 hours to perform an engineering evaluation or at any other time, when conditions of the affected system(s) and component(s) are determined to no longer support a reasonable assurance of OPERABILITY, applicable Required Actions are to be entered immediately.

Functional Test Acceptance Criteria

The snubber functional test shall verify that:

1) Activation (restraining action) is achieved within the specified range in both tension and compression, except that inertia dependent, acceleration limiting mechanical snubbers may be tested to verify only that activation takes place in both directions of travel;

2) Snubber bleed, or release rate where required, is present in both tension and compression, within the specified range;

3) For mechanical snubbers, the force required to initiate or maintain motion of the snubber is within the specified range in both directions of travel; and

4) For snubbers specifically required not to displace under continuous load, the ability of the snubber to withstand load without displacement.

Testing methods may be used to measure parameters indirectly or parameters other than those specified if those results can be correlated to the specified parameters through established methods.

Functional Test Failure Analysis

An engineering evaluation shall be made of each failure to meet the functional test acceptance criteria to determine the cause of the failure. The

BASES (continued)

results of this evaluation shall be used, if applicable, in selecting snubbers to be tested in an effort to determine the OPERABILITY of other snubbers irrespective of type which may be subject to the same failure mode.

For the snubbers found inoperable, an engineering evaluation shall be performed on the components to which the inoperable snubbers are attached. The purpose of this engineering evaluation shall be to determine if the components to which the inoperable snubbers are attached were adversely affected by the inoperability of the snubbers in order to ensure that the component remains capable of meeting the designed service.

If any snubber selected for functional testing either fails to lock up or fails to move, i.e., frozen in place, the cause will be evaluated and, if caused by manufacturer or design deficiency, all snubbers of the same type subject to the same defect shall be functionally tested. This TESTING REQUIREMENT shall be independent of the requirements stated in TESTING REQUIREMENT 16.9-13-3 for snubbers not meeting the functional test acceptance criteria.

All snubbers that fail to meet the functional test criteria must be evaluated to determine the cause, and the potential for applicability of the failure mode to other snubbers. Likewise, an evaluation is required to determine if the attached components have been adversely affected by the functional failure of the snubber. It is noted that the evaluation is only required for snubbers that are inoperable due to a failure of the snubber itself to meet the functional requirements. A snubber that is inoperable due solely to being disconnected from the supported component does not necessitate a component or system evaluation, provided that the snubber itself meets the requirements of the functional test criteria. In this case, the only action required is that the snubber be completely restored and the cause of the disconnection determined and evaluated for generic implications.

Service Life

The service life of a snubber is established via manufacturer input and information through consideration of the snubber service conditions and associated installation and maintenance records (newly installed snubbers, seal replaced, spring replaced, in high radiation area, in high temperature area, etc.). The requirement to monitor the snubber service life is included to ensure that the snubbers periodically undergo a performance evaluation in view of their age and operating conditions. These records will provide statistical bases for future consideration of snubber service life.

If a service lifetime limit is associated (established) with any snubber (or critical part) based on manufacturer's information, qualification tests, or historical service results, then the service life shall be monitored to ensure that the service life is not exceeded between surveillance inspections.

BASES (continued)

Established snubber service life shall be extended or shortened based on monitored test results and failure history. The replacements (snubbers or critical parts) shall be documented and the documentation shall be retained. Records of the service lives of all hydraulic and mechanical snubbers, including the date at which the service life commences, and associated installation and maintenance records shall be retained for the duration of the unit operating license.

REFERENCES

1. Letter from W.R. McCollum, Jr. to NRC, Request for Relief 95-05, Snubber Inspection Interval for Unit 1, August 23, 1995.

2. Letter from W.R. McCollum, Jr. to NRC, Request for Relief 96-01, Snubber Inspection Interval for Unit 2, February 12, 1996.

3. Letter from NRC to W.R. McCollum, Request for Relief 95-05, January 11, 1996.

4. Letter from NRC to W.R. McCollum, Request for Relief 96-01, May 16, 1996.

5. Letter from NRC to Gary R. Peterson, Duke, Issuance of Improved Technical Specifications Amendments for Catawba, September 30, 1998.

6. Letter from M.S. Tuckman to NRC, Licensing Position Regarding Snubbers, May 20, 1999.

7. Letter from NRC to G.R. Peterson, Licensing Position Regarding Snubbers, July 7, 1999.

8. Technical Specifications Task Force (TSTF)-372-A, Revision 4, Addition of LCO 3.0.8, Inoperability of Snubbers.

9. TSTF-IG-05-03, Technical Specifications Task Force Implementation Guidance for TSTF-372-A, Revision 4, Addition of LCO 3.0.8, Inoperability of Snubbers.

10. Nuclear System Directive 415, Operational Risk Management (Modes 1-3) per 10CFR 50.65(a)(4).

11. Federal Register, 70FR23252, Notice of Availability of Model Application Concerning Technical Specification Improvement to Modify Requirements Regarding the Addition of Limiting Condition for Operation 3.0.8 on the Inoperability of Snubbers Using the Consolidated Line Item Improvement Process.

DUKE ENERGY CORPORATION
Catawba Nuclear Station
4800 Concord Road
York, SC 29745

803 831 3000

August 16, 2007

RE: Catawba Nuclear Station
Selected Licensee Commitments Manual
Revision Date 03/19/07

Attached are revisions to the Catawba Nuclear Station Selected Licensee Commitments Manual. Please remove and replace the following pages:

REMOVE	INSERT
LIST OF EFFECTIVE SECTIONS	
Pages 1 through 4 Revision 31	Pages 1 through 4 Revision 32
TAB 16.9	
16.9-13-1 through 16.9-13-14 Revision 0	16.9-13-1 through 16.9-13-21 Revision 1

If you have any questions concerning the contents of this package update, please contact Betty Aldridge at (803) 831-3758.

Randall D. Hart
Regulatory Compliance Manager

Attachments

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
TABLE OF CONTENTS	9	03/08/07
16.1	0	10/09/02
16.2	1	10/17/02
16.3	0	10/09/02
16.5-1	1	10/24/06
16.5-2	Deleted	
16.5-3	1	02/20/04
16.5-4	0	10/09/02
16.5-5	0	10/09/02
16.5-6	0	10/09/02
16.5-7	0	10/09/02
16.5-8	1	05/18/04
16.5-9	0	10/24/06
16.5-10	0	03/08/07
16.6-1	0	10/09/02
16.6-2	Deleted	
16.6-3	0	10/09/02
16.6-4	0	10/09/02
16.6-5	0	10/09/02
16.7-1	0	10/09/02
16.7-2	1	08/20/04
16.7-3	0	10/09/02
16.7-4	0	10/09/02
16.7-5	1	01/02/03

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.7-6	1	11/17/05
16.7-7	0	10/09/02
16.7-8	1	05/25/05
16.7-9	4	02/01/05
16.7-10	0	10/09/02
16.7-11	0	10/09/02
16.7-12	0	10/09/02
16.7-13	1	05/17/06
16.7-14	0	10/06/03
16.7-15	0	03/01/05
16.8-1	1	02/01/05
16.8-2	1	10/24/06
16.8-3	1	10/24/06
16.8-4	1	10/24/06
16.8-5	2	02/20/04
16.9-1	4	08/03/06
16.9-2	3	05/25/05
16.9-3	0	10/09/02
16.9-4	2	05/25/05
16.9-5	3	05/17/06
16.9-6	3	10/24/06
16.9-7	3	03/10/04
16.9-8	4	10/24/06
16.9-9	2	03/10/04

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.9-10	4	10/24/06
16.9-11	2	03/10/04
16.9-12	1	03/10/04
16.9-13	1	03/19/07
16.9-14	1	09/25/06
16.9-15	0	10/09/02
16.9-16	0	10/09/02
16.9-17	0	10/09/02
16.9-18	0	10/09/02
16.9-19	1	01/02/03
16.9-20	0	10/09/02
16.9-21	0	10/09/02
16.9-22	0	10/09/02
16.9-23	2	05/25/05
16.9-24	2	10/24/06
16.9-25	0	04/03/06
16.10-1	0	10/09/02
16.10-2	1	10/24/06
16.10-3	0	08/21/03
16.11-1	0	10/09/02
16.11-2	0	10/09/02
16.11-3	0	10/09/02
16.11-4	0	10/09/02
16.11-5	0	10/09/02

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.11-6	0	10/09/02
16.11-7	1	02/27/03
16.11-8	0	10/09/02
16.11-9	0	10/09/02
16.11-10	0	10/09/02
16.11-11	1	03/20/03
16.11-12	0	10/09/02
16.11-13	0	10/09/02
16.11-14	0	10/09/02
16.11-15	0	10/09/02
16.11-16	0	10/09/02
16.11-17	0	10/09/02
16.11-18	0	10/09/02
16.11-19	0	10/09/02
16.11-20	0	10/09/02
16.11-21	0	10/09/02
16.12-1	0	10/09/02
16.13-1	0	10/09/02
16.13-2	Deleted	
16.13-3	Deleted	
16.13-4	0	10/09/02

16.9 AUXILIARY SYSTEMS

16.9-13 Snubbers

COMMITMENT

----------NOTES----------

1. Snubbers installed on non-safety related systems may be excluded from these requirements provided their failure or the failure of the system on which they are installed would not have an adverse effect on any safety related system.

2. If a snubber does not support the OPERABILITY of a Technical Specification required system, or if the supported system is not required to be OPERABLE, then Limiting Condition for Operation (LCO) 3.0.8 is not utilized.

All snubbers shall be OPERABLE.

APPLICABILITY: Whenever the system supported by the snubber is required to be OPERABLE.

REMEDIAL ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. ----------NOTE---------- Only applicable to seismic snubbers which support the OPERABILITY of Technical Specification required systems. ----------	A.1 Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately upon determination of train inoperability OR 72 hours
	AND	
One or more snubber(s) associated with one train of multiple train system(s) inoperable. OR One or more snubber(s) associated with single train system(s) inoperable.	A.2 ----------NOTE---------- Only applicable when utilizing the 72 hour Completion Time of Required Action A.1. ---------- Verify at least one train of the Auxiliary Feedwater (AFW) System (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), is OPERABLE.	Immediately
	AND	
	A.3 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis.	Prior to restoring affected train to OPERABLE status OR 72 hours

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. ----------NOTE---------- Only applicable to seismic snubbers which support the OPERABILITY of Technical Specification required systems. ---------- One or more snubber(s) associated with more than one train of multiple train system(s) inoperable.	B.1 Verify at least one train of the AFW System (including a minimum set of supporting equipment required for its successful operation) or alternative cooling method not associated with the inoperable snubber(s), is OPERABLE.	Immediately
	AND	
	B.2 Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately upon inoperability of all AFW System trains and all alternative cooling methods OR 12 hours
	AND	
	B.3 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis.	Prior to restoring affected train(s) to OPERABLE status OR 12 hours

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. ----------NOTE---------- Only applicable to seismic snubbers which support the OPERABILITY of Technical Specification required systems. ----------	C.1 Verify at least one train of the AFW System (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), is OPERABLE.	Immediately
One or more snubber(s) associated with one train of multiple train system(s) inoperable.	AND	
AND	C.2 Perform a qualitative risk assessment of the resulting configuration.	Immediately
Opposite train of associated system(s) inoperable for reasons other than inoperable snubber(s).	AND	
	C.3 Enter the applicable Conditions and Required Actions for the affected train(s) of multiple train system(s) that contain the inoperable snubber(s).	Immediately upon inoperability of all AFW System trains OR 72 hours
	AND	
	C.4 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ----------	
	Perform engineering evaluation per the Functional Test Failure Analysis.	Prior to restoring affected train(s) to OPERABLE status OR 72 hours

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. ----------NOTE---------- Only applicable to non-seismic snubbers which support the OPERABILITY of Technical Specification required systems. ---------- One or more snubber(s) inoperable.	D.1 Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately
	AND	
	D.2 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis.	Immediately

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. One or more snubber(s) inoperable. AND Prior system OPERABILITY evaluation performed.	E.1 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis to determine impact on prior system OPERABILITY evaluation.	Immediately
	AND	
	E.2 ----------NOTE---------- Only applicable if prior system OPERABILITY evaluation is invalidated. ---------- Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately

TESTING REQUIREMENTS

----------NOTES----------

1. Each snubber shall be demonstrated OPERABLE by performance of the following augmented inservice inspection program.

2. Snubbers which fail the visual inspection or the functional test acceptance criteria shall be repaired or replaced. Replacement snubbers and snubbers which have repairs which might affect the functional test results shall be tested to meet the functional test criteria before installation in the unit. Mechanical snubbers shall have met the acceptance criteria subsequent to their most recent service, and the freedom of motion test shall have been performed within 12 months before being installed in the unit.

3. As used in this SLC, "type of snubber" shall mean snubbers of the same design and manufacturer, irrespective of capacity.

	TEST	FREQUENCY
TR 16.9-13-1	----------NOTE---------- Snubbers are categorized as inaccessible or accessible during reactor operation and may be inspected independently according to the schedule determined by Table 16.9-13-1. The first inspection interval using Table 16.9-13-1 shall be based upon the previous inspection interval as established by the requirements in effect before Technical Specification Amendment 88 (Unit 1) and 82 (Unit 2). ----------	
	Perform a visual inspection for each category of snubber.	In accordance with Table 16.9-13-1
TR 16.9-13-2	----------NOTE---------- In case of a severe dynamic event, mechanical snubbers in the system which experienced the event shall be inspected during the refueling outage to assure that they have freedom of movement and are not frozen up. ----------	
	Perform an inspection, during shutdown, to determine if there has been a severe dynamic event for systems which have the potential for a severe dynamic event.	18 months

(continued)

TESTING REQUIREMENTS (continued)

	TEST	FREQUENCY
TR 16.9-13-3	----------NOTE---------- The large-bore steam generator hydraulic snubbers shall be treated as a separate population for functional test purposes and shall be functionally tested under Sample Plan 1. ---------- Perform, during shutdown, snubber functional testing on a representative sample of each type of snubber in accordance with one of the following three Sample Plans: 1. Functionally test 10% of a type of snubber with an additional 10% tested for each functional testing failure, or 2. Functionally test a sample size and determine sample acceptance or continue testing using Figure 16.9-13-1, or 3. Functionally test a representative sample size and determine sample acceptance or rejection using the stated equation.	18 months
TR 16.9-13-4	----------NOTE---------- Service life records shall be documented and the documentation retained for the duration of the unit operating license. ---------- Verify that the service life of all snubbers has not been exceeded or will not be exceeded prior to the next scheduled surveillance inspection.	18 months

Table 16.9-13-1

Snubber Visual Inspection Interval (page 1 of 2)

POPULATION OR CATEGORY (NOTES 1 AND 2)	NUMBER OF UNACCEPTABLE SNUBBERS		
	COLUMN A EXTEND INTERVAL (NOTES 3 AND 6)	COLUMN B REPEAT INTERVAL (NOTES 4 AND 6)	COLUMN C REDUCE INTERVAL (NOTES 5 AND 6)
1	0	0	1
80	0	0	2
100	0	1	4
150	0	3	8
200	2	5	13
300	5	12	25
400	8	18	36
500	12	24	48
750	20	40	78
≥ 1000	29	56	109

Note 1: The next visual inspection interval for a snubber population or category size shall be determined based upon the previous inspection interval and the number of unacceptable snubbers found during that interval. Snubbers may be categorized, based upon their accessibility during power operation, as accessible or inaccessible. These categories may be examined separately or jointly. However, the licensee must make and document that decision before any inspection and shall use that decision as the basis upon which to determine the next inspection interval for that category.

Note 2: Interpolation between population or category sizes and the number of unacceptable snubbers is permissible. Use next lower integer for the value of the limit for Columns A, B, or C if that integer includes a fractional value of unacceptable snubbers as determined by interpolation.

Note 3: If the number of unacceptable snubbers is equal to or less than the number in Column A, the next inspection interval may be twice the previous interval but not greater than 48 months.

Note 4: If the number of unacceptable snubbers is equal to or less than the number in Column B but greater than the number in Column A, the next inspection interval shall be the same as the previous interval.

Note 5: If the number of unacceptable snubbers is equal to or greater than the number in Column C, the next inspection interval shall be two-thirds of the previous interval. However, if the number of unacceptable snubbers is less than the number in Column C but greater than the number in Column B, the

Table 16.9-13-1

Snubber Visual Inspection Interval (page 2 of 2)

next interval shall be reduced proportionally by interpolation, that is, the previous interval shall be reduced by a factor that is one-third of the ratio of the difference between the number of unacceptable snubbers found during the previous interval and the number in Column B to the difference in the numbers in Columns B and C.

Note 6: The provisions of SLC 16.2.6 are applicable for all inspection intervals up to and including 48 months.

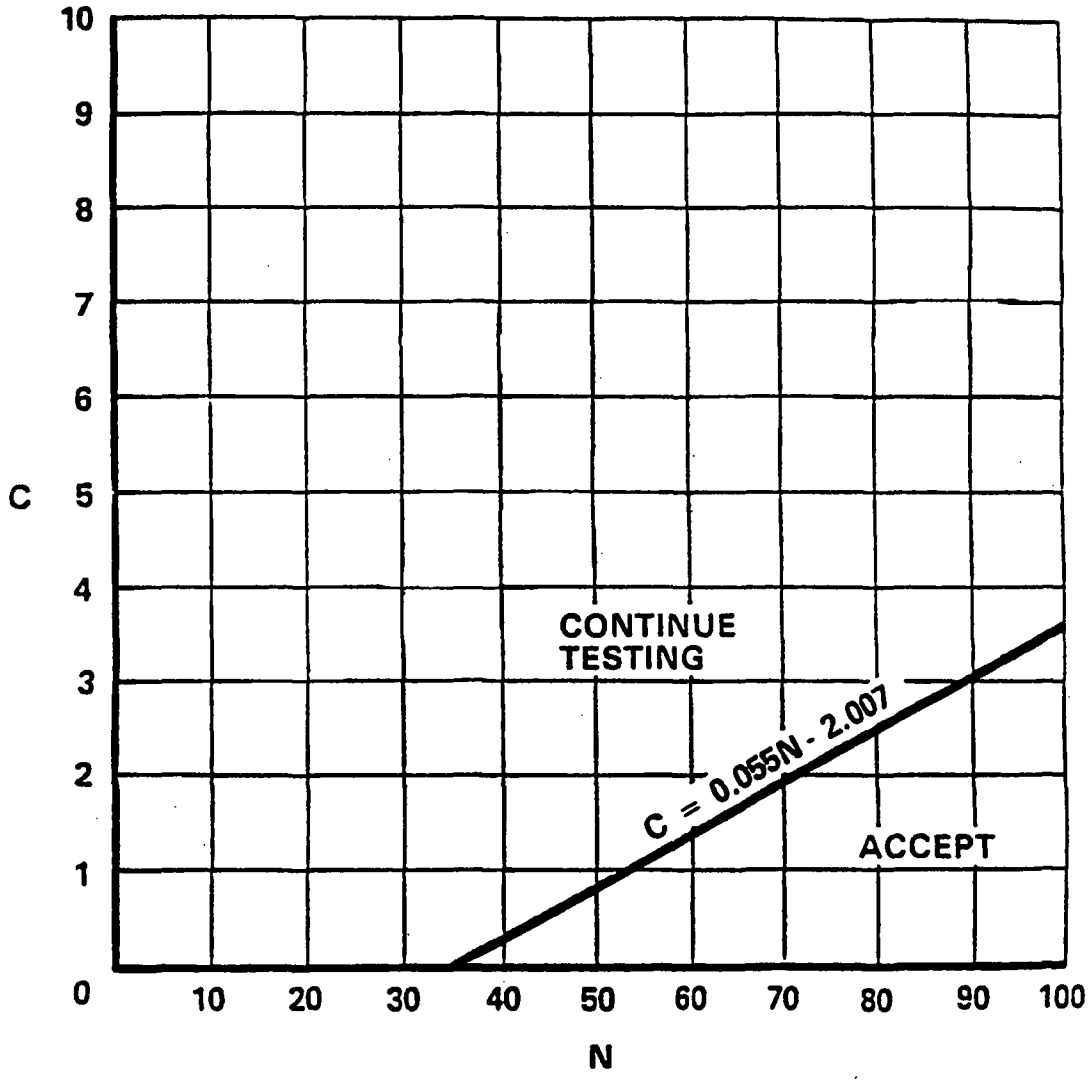

Figure 16.9-13-1

Sample Plan 2 for Snubber Functional Test

BASES

All 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 event initiating dynamic loads.

The snubber requirements of SLC 16.9-13 were originally located in the Technical Specifications. The Nuclear Regulatory Commission (NRC) authorized the use of these requirements, while located in Technical Specifications, as an acceptable alternative to the requirements of the ASME Code, 1989 Edition, Section XI, Article IWF-5000 (References 3, 4). Any revision to these snubber visual inspection and functional test requirements shall consider the basis for the granted relief from the ASME Code requirements and any resulting requirement for NRC review and approval.

Snubbers are classified and grouped by design and manufacturer but not by size. For example, mechanical snubbers utilizing the same design features of the 2-kip, 10-kip, and 100-kip capacity manufactured by Company "A" are of the same type. The same design mechanical snubbers manufactured by Company "B" for the purposes of this SLC would be of a different type, as would hydraulic snubbers from either manufacturer.

A list of individual snubbers with detailed information of snubber location and size and of system affected shall be available at the plant in accordance with Section 50.71(c) of 10 CFR Part 50. The addition or deletion of any hydraulic or mechanical snubber shall be made in accordance with Section 50.59 of 10 CFR Part 50.

The OPERABILITY requirements for snubbers which mitigate significant seismic or non-seismic loads do not meet the criteria in 10 CFR 50.36(c)(2)(ii) for inclusion in plant Technical Specifications; therefore, these requirements are contained in this SLC. The programmatic requirements for the visual inspection and functional testing of these snubbers also do not meet the criteria in 10 CFR 50.36(c)(2)(ii) for inclusion in plant Technical Specifications and, as such, are appropriate for control by this SLC and are the same for both categories of snubbers.

Seismic Snubbers

Seismic snubbers are installed primarily to mitigate loads resulting from a seismic event. However, some seismic snubbers also mitigate other non-seismic loads. If these non-seismic loads have been determined to have no effect on the OPERABILITY of the associated Technical Specification supported system(s) while the snubber(s) are inoperable (as determined by Engineering), then Technical Specification LCO 3.0.8 governs the OPERABILITY requirements for these snubbers.

LCO 3.0.8 establishes conditions under which Technical Specification supported systems are considered to remain OPERABLE when associated seismic snubbers are not capable of providing their associated support function(s). This LCO states that the supported system is not considered to

BASES (continued)

be inoperable solely due to one or more of these snubbers not being capable of performing their associated support function(s). Thus, any affected supported system LCO(s) are not required to be declared not met solely for this reason, if risk is assessed and managed. This is appropriate because: (1) a limited length of time is allowed for inspection, testing, maintenance, or repair of one or more of these snubbers not capable of performing their associated support function(s); (2) REMEDIAL ACTIONS are specified in this SLC; (3) there is a low probability of a seismic event concurrent with an event that would require operation of the supported system while the snubber(s) are not capable of performing their associated support function; and (4) the redundant train of the supported system is normally available. LCO 3.0.8 represents an allowance that does not have to be utilized. It is always acceptable to either wait until the supported system LCO(s) are not applicable or declare the Technical Specification supported system(s) inoperable.

If the allowed time expires and the seismic snubber(s) are unable to perform their associated support function(s), the affected supported system LCO(s) must be declared not met and the Conditions and Required Actions entered in accordance with LCO 3.0.2.

Snubbers with Both Seismic and Significant Non-Seismic Loads

If the affected snubber(s) have more than one function, one of which is the mitigation of seismic loads, than LCO 3.0.8 may be utilized. However, there must be a deterministic analysis that demonstrates that the Technical Specification supported system(s) can still perform their functions in spite of the non-seismic loads. For example, if the affected snubber(s) mitigate both seismic loads and accident loads (i.e., blowdown loads), then only the accident loads are considered deterministically to determine if the supported system(s) are OPERABLE. If the Technical Specification supported system(s) are OPERABLE for the non-seismic loads, then LCO 3.0.8 may be utilized for the seismic loads. Otherwise, LCO 3.0.8 cannot be utilized.

Snubbers with Significant Non-Seismic Loads

LCO 3.0.8 may not be utilized for snubbers with significant non-seismic loads that impact the OPERABILITY of Technical Specification supported system(s).

REMEDIAL ACTIONS

When one or more installed snubbers are discovered to be inoperable by means of routine walk down or observation, the applicable REMEDIAL ACTIONS for any affected system(s) and component(s) must be entered immediately and an engineering evaluation per the Functional Test Failure Analysis must be performed. The purpose of the evaluation is to determine

BASES (continued)

the cause of failure and to address transportability issues.

For snubbers that are removed for testing or maintenance activities, it is possible that a prior evaluation of the system may verify the continued operability of the system with the snubber(s) removed. In these cases, it is not necessary to enter into the system REMEDIAL ACTIONS as long as the conditions of the prior evaluation are met.

Should one or more snubbers fail to meet testing acceptance criteria or be discovered in a condition where failure is apparent, an engineering evaluation is to be performed within the prescribed time frame, as described in the Functional Test Failure Analysis.

Condition A applies when one or more seismic snubber(s) associated with one train of multiple train system(s) are inoperable or when one or more seismic snubber(s) associated with single train system(s) are inoperable, and thus are not capable of providing their associated support function(s). If the LCO 3.0.8 a. allowance is utilized, the SLC allows up to 72 hours to restore the seismic snubber(s) before declaring the supported system(s) inoperable. Also, there must be an immediate verification that at least one train of the AFW System is OPERABLE (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s). The 72 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported system while the seismic snubber(s) are not capable of performing their associated support function, and the fact that the redundant train of the supported system is normally available. At the end of the specified 72 hour period, the required seismic snubber(s) must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met. A seismic snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified.

Condition B applies when one or more seismic snubber(s) associated with more than one train of multiple train system(s) are inoperable, and thus are not capable of providing their associated support function(s). If the LCO 3.0.8 b. allowance is utilized, the SLC allows up to 12 hours to restore the seismic snubber(s) before declaring the supported system(s) inoperable, provided there is an immediate verification that at least one train of the AFW System is OPERABLE (including a minimum set of supporting equipment required for its successful operation) or an alternative cooling method not associated with the inoperable snubber(s). The alternative cooling method may include, but is not limited to, feed and bleed, fire water system, or aggressive secondary cooldown using the steam generators. The 12 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported

BASES (continued)

system while the seismic snubber(s) are not capable of performing their associated support function. At the end of the specified 12 hour period, the required seismic snubber(s) must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met. The affected supported system LCO(s) shall also be immediately declared not met upon the inoperability of all AFW System trains and all alternative cooling methods. A seismic snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified.

Condition C applies when one or more seismic snubber(s) associated with one train of multiple train system(s) are inoperable and the opposite train of the associated system(s) is also inoperable for reasons other than inoperable snubber(s). The SLC allows up to 72 hours to restore the seismic snubber(s) before declaring the supported system(s) inoperable, provided there is: (1) an immediate verification that at least one train of the AFW System is OPERABLE (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), and (2) an immediate performance of a qualitative risk assessment of the resulting configuration. The 72 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported system while the seismic snubber(s) are not capable of performing their associated support function and the opposite train of the associated system(s) is inoperable. At the end of the specified 72 hour period, the required seismic snubber(s) must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met. The affected supported system LCO(s) shall also be immediately declared not met upon the inoperability of all AFW System trains. A seismic snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified.

Condition D applies when one or more non-seismic snubber(s) are inoperable. In this case, the affected supported system LCO(s) shall be immediately declared not met, as LCO 3.0.8 does not apply to non-seismic snubbers. A snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified. For those inoperable snubbers that mitigate both seismic and non-seismic loads, if the supported system(s) remain operable (as determined via engineering analysis) when subjected to the non-seismic loads, then the provisions of LCO 3.0.8 may be applied for these snubbers.

BASES (continued)

Condition E applies when one or more snubber(s) are inoperable and a prior system OPERABILITY evaluation has been performed. In this case, an engineering evaluation is to be immediately performed per the Functional Test Failure Analysis to determine if the prior evaluation remains valid. If the prior evaluation is invalidated, then the affected supported system LCO(s) shall be immediately declared not met.

This SLC requires that risk be assessed and managed when utilizing the allowances of LCO 3.0.8. Industry and NRC guidance regarding the implementation of 10 CFR 50.65(a)(4) (the Maintenance Rule) does not address seismic risk. However, the use of this SLC should be considered with respect to other plant maintenance activities, and integrated into the existing Maintenance Rule process so that maintenance on any unaffected train or subsystem is properly controlled, and emergent issues are properly addressed. The risk assessment required to utilize LCO 3.0.8 need not be quantified, but may be a qualitative awareness of the vulnerability of systems and components when one or more snubber(s) are not able to perform their associated support function(s).

Visual Inspections

The visual inspection frequency is based upon maintaining a constant level of snubber protection during an earthquake or severe transient. Therefore, the required inspection interval varies inversely with the observed snubber failures and is determined by the number of inoperable snubbers found during an inspection. In order to establish the inspection frequency for each type of snubber, it was assumed that the frequency of snubber failures and initiating events are constant with time and that the failure of any snubber on that system could cause the system to be unprotected and to result in failure during an assumed initiating event. Inspections performed before that interval has elapsed may be used as a new reference point to determine the next inspection. However, the results of such early inspections performed before the original required time interval has elapsed (nominal time less 25%) may not be used to lengthen the required inspection interval. Any inspection whose results require a shorter inspection interval will override the previous schedule. The acceptance criteria are to be used in the visual inspection to determine OPERABILITY of the snubbers.

Visual inspections shall verify that: (1) the snubber has no visible indications of damage or impaired OPERABILITY, (2) attachments to the foundation or supporting structure are functional, and (3) fasteners for the attachment of the snubber to the component and to the snubber anchorage are functional. Snubbers which appear inoperable as a result of visual inspections shall be classified as unacceptable and may be reclassified acceptable for the purpose of establishing the next visual inspection interval, provided that: (i) the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers irrespective of type that may be generically susceptible; and (ii) the affected snubber is functionally tested in

BASES (continued)

the as-found condition and determined OPERABLE. All snubbers found connected to an inoperable common hydraulic fluid reservoir shall be counted as unacceptable and may be reclassified as acceptable for determining the next inspection interval provided that criterion (i) and (ii) above are met. A review and evaluation shall be performed and documented to justify continued operation with an unacceptable snubber. If continued operation cannot be justified, the snubber shall be declared inoperable and the REMEDIAL ACTION requirements shall be met.

Refueling Outage Inspections

At each refueling, the systems which have the potential for a severe dynamic event, specifically, the main steam system (upstream of the main steam isolation valves), the main steam safety and power operated relief valves and piping, auxiliary feedwater system, main steam supply to the auxiliary feedwater pump turbine, and the letdown and charging portion of the chemical and volume control system shall be inspected to determine if there has been a severe dynamic event. In the case of a severe dynamic event, mechanical snubbers in that system which experienced the event shall be inspected during the refueling outage to assure that the mechanical snubbers have freedom of movement and are not frozen up. The inspection shall consist of verifying freedom of motion using one of the following: (1) manually induced snubber movement, or (2) evaluation of in-place snubber piston setting, or (3) stroking the mechanical snubber through its full range of travel. If one or more mechanical snubbers are found to be frozen up during this inspection, those snubbers shall be replaced or repaired before returning to power. The requirements of TESTING REQUIREMENT 16.9-13-1 are independent of the requirements of this item.

Functional Testing

At least once per 18 months during shutdown, a representative sample of snubbers of each type shall be tested using one of the following Sample Plans. The large-bore steam generator hydraulic snubbers shall be treated as a separate type (population) for functional test purposes. A 10% random sample shall be tested at least once per 18 months during refueling with continued testing based on a failure evaluation. The Sample Plan shall be selected prior to the test period and cannot be changed during the test period. The NRC shall be notified in writing of the Sample Plan selected for each snubber type prior to the test period or the Sample Plan used in the prior test period shall be implemented:

1) At least 10% of all snubbers shall be functionally tested either in-place or in a bench test. For each snubber of a type that does not meet the functional test acceptance criteria, an additional 10% of all snubbers shall be functionally tested until no more failures are found or until all snubbers have been functionally tested; or

BASES (continued)

2) A representative sample of all snubbers shall be functionally tested in accordance with Figure 16.9-13-1. "C" is the total number of snubbers of a type found not meeting the acceptance requirements. The cumulative number of snubbers tested is denoted by "N". At the end of each day's testing, the new values of "N" and "C" (previous day's total plus current day's increments) shall be plotted on Figure 16.9-13-1. If at any time the point plotted falls in the "Accept" region, testing of snubbers of that type may be terminated. When the point plotted lies in the "Continue Testing" region, additional snubbers of that type shall be tested until the point falls in the "Accept" region or all the snubbers of that type have been tested; or

3) An initial representative sample of 55 snubbers shall be functionally tested. For each snubber type which does not meet the functional test acceptance criteria, another sample of at least one-half the size of the initial sample shall be tested until the total number tested is equal to the initial sample size multiplied by the factor, 1 + C/2, where "C" is the number of snubbers found which do not meet the functional test acceptance criteria. The results from this Sample Plan shall be plotted using an "Accept" line which follows the equation N = 55(1 + C/2). Each snubber point should be plotted as soon as the snubber is tested. If the point plotted falls on or below the "Accept" line, testing may be terminated. If the point plotted falls above the "Accept" line, testing must continue until the point falls in the "Accept" region or all the snubbers of that type have been tested.

Testing equipment failure during functional testing may invalidate that day's testing and allow that day's testing to resume anew at a later time provided all snubbers tested with the failed equipment during the day of equipment failure are retested. The representative sample selected for the functional test Sample Plans shall be randomly selected from all snubbers and reviewed before beginning the testing. The review shall ensure, as far as practicable, that they are representative of the various configurations, operating environments, range of size, and capacity of snubbers. Snubbers placed in the same location as snubbers which failed the previous functional test shall be retested at the time of the next functional test but shall not be included in the Sample Plan. If during the functional testing, additional sampling is required due to failure of only one type of snubber, the functional test results shall be reviewed at that time to determine if additional samples should be limited to the type of snubber which has failed the functional testing.

Figure 16.9-13-1 was developed using "Wald's Sequential Probability Ratio Plan" as described in "Quality Control and Industrial Statistics" by Acheson J. Duncan.

BASES (continued)

Permanent or other exemptions from the inspection program for individual snubbers may be granted by the Commission if a justifiable basis for exemption is presented and, if applicable, snubber life testing was performed to qualify the snubber for the applicable design conditions. Snubbers so exempted shall be listed in the list of individual snubbers indicating the extent of the exemptions.

The snubber testing program may remove snubbers from service and restore OPERABILITY of the snubber application by replacement with another like snubber. In this situation, if the removed snubber later fails to meet test acceptance criteria, the system Required Action is not applicable since the failed snubber component has no current required function; however, the engineering evaluation per the Functional Test Failure Analysis is still required to determine the failure cause and address transportability issues. During the allowed 72 hours to perform an engineering evaluation or at any other time, when conditions of the affected system(s) and component(s) are determined to no longer support a reasonable assurance of OPERABILITY, applicable Required Actions are to be entered immediately.

Functional Test Acceptance Criteria

The snubber functional test shall verify that:

1) Activation (restraining action) is achieved within the specified range in both tension and compression, except that inertia dependent, acceleration limiting mechanical snubbers may be tested to verify only that activation takes place in both directions of travel;

2) Snubber bleed, or release rate where required, is present in both tension and compression, within the specified range;

3) For mechanical snubbers, the force required to initiate or maintain motion of the snubber is within the specified range in both directions of travel; and

4) For snubbers specifically required not to displace under continuous load, the ability of the snubber to withstand load without displacement.

Testing methods may be used to measure parameters indirectly or parameters other than those specified if those results can be correlated to the specified parameters through established methods.

Functional Test Failure Analysis

An engineering evaluation shall be made of each failure to meet the functional test acceptance criteria to determine the cause of the failure. The

BASES (continued)

results of this evaluation shall be used, if applicable, in selecting snubbers to be tested in an effort to determine the OPERABILITY of other snubbers irrespective of type which may be subject to the same failure mode.

For the snubbers found inoperable, an engineering evaluation shall be performed on the components to which the inoperable snubbers are attached. The purpose of this engineering evaluation shall be to determine if the components to which the inoperable snubbers are attached were adversely affected by the inoperability of the snubbers in order to ensure that the component remains capable of meeting the designed service.

If any snubber selected for functional testing either fails to lock up or fails to move, i.e., frozen in place, the cause will be evaluated and, if caused by manufacturer or design deficiency, all snubbers of the same type subject to the same defect shall be functionally tested. This TESTING REQUIREMENT shall be independent of the requirements stated in TESTING REQUIREMENT 16.9-13-3 for snubbers not meeting the functional test acceptance criteria.

All snubbers that fail to meet the functional test criteria must be evaluated to determine the cause, and the potential for applicability of the failure mode to other snubbers. Likewise, an evaluation is required to determine if the attached components have been adversely affected by the functional failure of the snubber. It is noted that the evaluation is only required for snubbers that are inoperable due to a failure of the snubber itself to meet the functional requirements. A snubber that is inoperable due solely to being disconnected from the supported component does not necessitate a component or system evaluation, provided that the snubber itself meets the requirements of the functional test criteria. In this case, the only action required is that the snubber be completely restored and the cause of the disconnection determined and evaluated for generic implications.

Service Life

The service life of a snubber is established via manufacturer input and information through consideration of the snubber service conditions and associated installation and maintenance records (newly installed snubbers, seal replaced, spring replaced, in high radiation area, in high temperature area, etc.). The requirement to monitor the snubber service life is included to ensure that the snubbers periodically undergo a performance evaluation in view of their age and operating conditions. These records will provide statistical bases for future consideration of snubber service life.

If a service lifetime limit is associated (established) with any snubber (or critical part) based on manufacturer's information, qualification tests, or historical service results, then the service life shall be monitored to ensure that the service life is not exceeded between surveillance inspections.

BASES (continued)

Established snubber service life shall be extended or shortened based on monitored test results and failure history. The replacements (snubbers or critical parts) shall be documented and the documentation shall be retained. Records of the service lives of all hydraulic and mechanical snubbers, including the date at which the service life commences, and associated installation and maintenance records shall be retained for the duration of the unit operating license.

REFERENCES

1. Letter from W.R. McCollum, Jr. to NRC, Request for Relief 95-05, Snubber Inspection Interval for Unit 1, August 23, 1995.

2. Letter from W.R. McCollum, Jr. to NRC, Request for Relief 96-01, Snubber Inspection Interval for Unit 2, February 12, 1996.

3. Letter from NRC to W.R. McCollum, Request for Relief 95-05, January 11, 1996.

4. Letter from NRC to W.R. McCollum, Request for Relief 96-01, May 16, 1996.

5. Letter from NRC to Gary R. Peterson, Duke, Issuance of Improved Technical Specifications Amendments for Catawba, September 30, 1998.

6. Letter from M.S. Tuckman to NRC, Licensing Position Regarding Snubbers, May 20, 1999.

7. Letter from NRC to G.R. Peterson, Licensing Position Regarding Snubbers, July 7, 1999.

8. Technical Specifications Task Force (TSTF)-372-A, Revision 4, Addition of LCO 3.0.8, Inoperability of Snubbers.

9. TSTF-IG-05-03, Technical Specifications Task Force Implementation Guidance for TSTF-372-A, Revision 4, Addition of LCO 3.0.8, Inoperability of Snubbers.

10. Nuclear System Directive 415, Operational Risk Management (Modes 1-3) per 10CFR 50.65(a)(4).

11. Federal Register, 70FR23252, Notice of Availability of Model Application Concerning Technical Specification Improvement to Modify Requirements Regarding the Addition of Limiting Condition for Operation 3.0.8 on the Inoperability of Snubbers Using the Consolidated Line Item Improvement Process.

DUKE ENERGY CORPORATION
Catawba Nuclear Station
4800 Concord Road
York, SC 29745

803 831 3000

August 16, 2007

RE: Catawba Nuclear Station
Selected Licensee Commitments Manual
Revision Date 03/19/07

Attached are revisions to the Catawba Nuclear Station Selected Licensee Commitments Manual. Please remove and replace the following pages:

REMOVE	INSERT
LIST OF EFFECTIVE SECTIONS	
Pages 1 through 4 Revision 31	Pages 1 through 4 Revision 32
TAB 16.9	
16.9-13-1 through 16.9-13-14 Revision 0	16.9-13-1 through 16.9-13-21 Revision 1

If you have any questions concerning the contents of this package update, please contact Betty Aldridge at (803) 831-3758.

Randall D. Hart
Regulatory Compliance Manager

Attachments

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
TABLE OF CONTENTS	9	03/08/07
16.1	0	10/09/02
16.2	1	10/17/02
16.3	0	10/09/02
16.5-1	1	10/24/06
16.5-2	Deleted	
16.5-3	1	02/20/04
16.5-4	0	10/09/02
16.5-5	0	10/09/02
16.5-6	0	10/09/02
16.5-7	0	10/09/02
16.5-8	1	05/18/04
16.5-9	0	10/24/06
16.5-10	0	03/08/07
16.6-1	0	10/09/02
16.6-2	Deleted	
16.6-3	0	10/09/02
16.6-4	0	10/09/02
16.6-5	0	10/09/02
16.7-1	0	10/09/02
16.7-2	1	08/20/04
16.7-3	0	10/09/02
16.7-4	0	10/09/02
16.7-5	1	01/02/03

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.7-6	1	11/17/05
16.7-7	0	10/09/02
16.7-8	1	05/25/05
16.7-9	4	02/01/05
16.7-10	0	10/09/02
16.7-11	0	10/09/02
16.7-12	0	10/09/02
16.7-13	1	05/17/06
16.7-14	0	10/06/03
16.7-15	0	03/01/05
16.8-1	1	02/01/05
16.8-2	1	10/24/06
16.8-3	1	10/24/06
16.8-4	1	10/24/06
16.8-5	2	02/20/04
16.9-1	4	08/03/06
16.9-2	3	05/25/05
16.9-3	0	10/09/02
16.9-4	2	05/25/05
16.9-5	3	05/17/06
16.9-6	3	10/24/06
16.9-7	3	03/10/04
16.9-8	4	10/24/06
16.9-9	2	03/10/04

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.9-10	4	10/24/06
16.9-11	2	03/10/04
16.9-12	1	03/10/04
16.9-13	1	03/19/07
16.9-14	1	09/25/06
16.9-15	0	10/09/02
16.9-16	0	10/09/02
16.9-17	0	10/09/02
16.9-18	0	10/09/02
16.9-19	1	01/02/03
16.9-20	0	10/09/02
16.9-21	0	10/09/02
16.9-22	0	10/09/02
16.9-23	2	05/25/05
16.9-24	2	10/24/06
16.9-25	0	04/03/06
16.10-1	0	10/09/02
16.10-2	1	10/24/06
16.10-3	0	08/21/03
16.11-1	0	10/09/02
16.11-2	0	10/09/02
16.11-3	0	10/09/02
16.11-4	0	10/09/02
16.11-5	0	10/09/02

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.11-6	0	10/09/02
16.11-7	1	02/27/03
16.11-8	0	10/09/02
16.11-9	0	10/09/02
16.11-10	0	10/09/02
16.11-11	1	03/20/03
16.11-12	0	10/09/02
16.11-13	0	10/09/02
16.11-14	0	10/09/02
16.11-15	0	10/09/02
16.11-16	0	10/09/02
16.11-17	0	10/09/02
16.11-18	0	10/09/02
16.11-19	0	10/09/02
16.11-20	0	10/09/02
16.11-21	0	10/09/02
16.12-1	0	10/09/02
16.13-1	0	10/09/02
16.13-2	Deleted	
16.13-3	Deleted	
16.13-4	0	10/09/02

16.9 AUXILIARY SYSTEMS

16.9-13 Snubbers

COMMITMENT

----------NOTES----------

1. Snubbers installed on non-safety related systems may be excluded from these requirements provided their failure or the failure of the system on which they are installed would not have an adverse effect on any safety related system.

2. If a snubber does not support the OPERABILITY of a Technical Specification required system, or if the supported system is not required to be OPERABLE, then Limiting Condition for Operation (LCO) 3.0.8 is not utilized.

All snubbers shall be OPERABLE.

APPLICABILITY: Whenever the system supported by the snubber is required to be OPERABLE.

REMEDIAL ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. ----------NOTE---------- Only applicable to seismic snubbers which support the OPERABILITY of Technical Specification required systems. ----------	A.1 Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately upon determination of train inoperability OR 72 hours
	AND	
One or more snubber(s) associated with one train of multiple train system(s) inoperable. OR One or more snubber(s) associated with single train system(s) inoperable.	A.2 ----------NOTE---------- Only applicable when utilizing the 72 hour Completion Time of Required Action A.1. ---------- Verify at least one train of the Auxiliary Feedwater (AFW) System (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), is OPERABLE.	Immediately
	AND	
	A.3 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis.	Prior to restoring affected train to OPERABLE status OR 72 hours

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. ----------NOTE---------- Only applicable to seismic snubbers which support the OPERABILITY of Technical Specification required systems. ---------- One or more snubber(s) associated with more than one train of multiple train system(s) inoperable.	B.1 Verify at least one train of the AFW System (including a minimum set of supporting equipment required for its successful operation) or alternative cooling method not associated with the inoperable snubber(s), is OPERABLE.	Immediately
	AND	
	B.2 Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately upon inoperability of all AFW System trains and all alternative cooling methods OR 12 hours
	AND	
	B.3 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis.	Prior to restoring affected train(s) to OPERABLE status OR 12 hours

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. ----------NOTE---------- Only applicable to seismic snubbers which support the OPERABILITY of Technical Specification required systems. ----------	C.1 Verify at least one train of the AFW System (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), is OPERABLE.	Immediately
One or more snubber(s) associated with one train of multiple train system(s) inoperable.	AND	
AND	C.2 Perform a qualitative risk assessment of the resulting configuration.	Immediately
Opposite train of associated system(s) inoperable for reasons other than inoperable snubber(s).	AND	
	C.3 Enter the applicable Conditions and Required Actions for the affected train(s) of multiple train system(s) that contain the inoperable snubber(s).	Immediately upon inoperability of all AFW System trains OR 72 hours
	AND	
	C.4 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ----------	
	Perform engineering evaluation per the Functional Test Failure Analysis.	Prior to restoring affected train(s) to OPERABLE status OR 72 hours

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. ----------NOTE---------- Only applicable to non-seismic snubbers which support the OPERABILITY of Technical Specification required systems. ---------- One or more snubber(s) inoperable.	D.1 Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately
	AND	
	D.2 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis.	Immediately

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. One or more snubber(s) inoperable. AND Prior system OPERABILITY evaluation performed.	E.1 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis to determine impact on prior system OPERABILITY evaluation.	Immediately
	AND	
	E.2 ----------NOTE---------- Only applicable if prior system OPERABILITY evaluation is invalidated. ---------- Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately

TESTING REQUIREMENTS

----------NOTES----------

1. Each snubber shall be demonstrated OPERABLE by performance of the following augmented inservice inspection program.

2. Snubbers which fail the visual inspection or the functional test acceptance criteria shall be repaired or replaced. Replacement snubbers and snubbers which have repairs which might affect the functional test results shall be tested to meet the functional test criteria before installation in the unit. Mechanical snubbers shall have met the acceptance criteria subsequent to their most recent service, and the freedom of motion test shall have been performed within 12 months before being installed in the unit.

3. As used in this SLC, "type of snubber" shall mean snubbers of the same design and manufacturer, irrespective of capacity.

	TEST	FREQUENCY
TR 16.9-13-1	----------NOTE---------- Snubbers are categorized as inaccessible or accessible during reactor operation and may be inspected independently according to the schedule determined by Table 16.9-13-1. The first inspection interval using Table 16.9-13-1 shall be based upon the previous inspection interval as established by the requirements in effect before Technical Specification Amendment 88 (Unit 1) and 82 (Unit 2). ---------- Perform a visual inspection for each category of snubber.	In accordance with Table 16.9-13-1
TR 16.9-13-2	----------NOTE---------- In case of a severe dynamic event, mechanical snubbers in the system which experienced the event shall be inspected during the refueling outage to assure that they have freedom of movement and are not frozen up. ---------- Perform an inspection, during shutdown, to determine if there has been a severe dynamic event for systems which have the potential for a severe dynamic event.	18 months

(continued)

TESTING REQUIREMENTS (continued)

	TEST	FREQUENCY
TR 16.9-13-3	----------NOTE---------- The large-bore steam generator hydraulic snubbers shall be treated as a separate population for functional test purposes and shall be functionally tested under Sample Plan 1. ---------- Perform, during shutdown, snubber functional testing on a representative sample of each type of snubber in accordance with one of the following three Sample Plans: 1. Functionally test 10% of a type of snubber with an additional 10% tested for each functional testing failure, or 2. Functionally test a sample size and determine sample acceptance or continue testing using Figure 16.9-13-1, or 3. Functionally test a representative sample size and determine sample acceptance or rejection using the stated equation.	18 months
TR 16.9-13-4	----------NOTE---------- Service life records shall be documented and the documentation retained for the duration of the unit operating license. ---------- Verify that the service life of all snubbers has not been exceeded or will not be exceeded prior to the next scheduled surveillance inspection.	18 months

Table 16.9-13-1

Snubber Visual Inspection Interval (page 1 of 2)

POPULATION OR CATEGORY (NOTES 1 AND 2)	NUMBER OF UNACCEPTABLE SNUBBERS		
	COLUMN A EXTEND INTERVAL (NOTES 3 AND 6)	COLUMN B REPEAT INTERVAL (NOTES 4 AND 6)	COLUMN C REDUCE INTERVAL (NOTES 5 AND 6)
1	0	0	1
80	0	0	2
100	0	1	4
150	0	3	8
200	2	5	13
300	5	12	25
400	8	18	36
500	12	24	48
750	20	40	78
≥ 1000	29	56	109

Note 1: The next visual inspection interval for a snubber population or category size shall be determined based upon the previous inspection interval and the number of unacceptable snubbers found during that interval. Snubbers may be categorized, based upon their accessibility during power operation, as accessible or inaccessible. These categories may be examined separately or jointly. However, the licensee must make and document that decision before any inspection and shall use that decision as the basis upon which to determine the next inspection interval for that category.

Note 2: Interpolation between population or category sizes and the number of unacceptable snubbers is permissible. Use next lower integer for the value of the limit for Columns A, B, or C if that integer includes a fractional value of unacceptable snubbers as determined by interpolation.

Note 3: If the number of unacceptable snubbers is equal to or less than the number in Column A, the next inspection interval may be twice the previous interval but not greater than 48 months.

Note 4: If the number of unacceptable snubbers is equal to or less than the number in Column B but greater than the number in Column A, the next inspection interval shall be the same as the previous interval.

Note 5: If the number of unacceptable snubbers is equal to or greater than the number in Column C, the next inspection interval shall be two-thirds of the previous interval. However, if the number of unacceptable snubbers is less than the number in Column C but greater than the number in Column B, the

Table 16.9-13-1

Snubber Visual Inspection Interval (page 2 of 2)

next interval shall be reduced proportionally by interpolation, that is, the previous interval shall be reduced by a factor that is one-third of the ratio of the difference between the number of unacceptable snubbers found during the previous interval and the number in Column B to the difference in the numbers in Columns B and C.

Note 6: The provisions of SLC 16.2.6 are applicable for all inspection intervals up to and including 48 months.

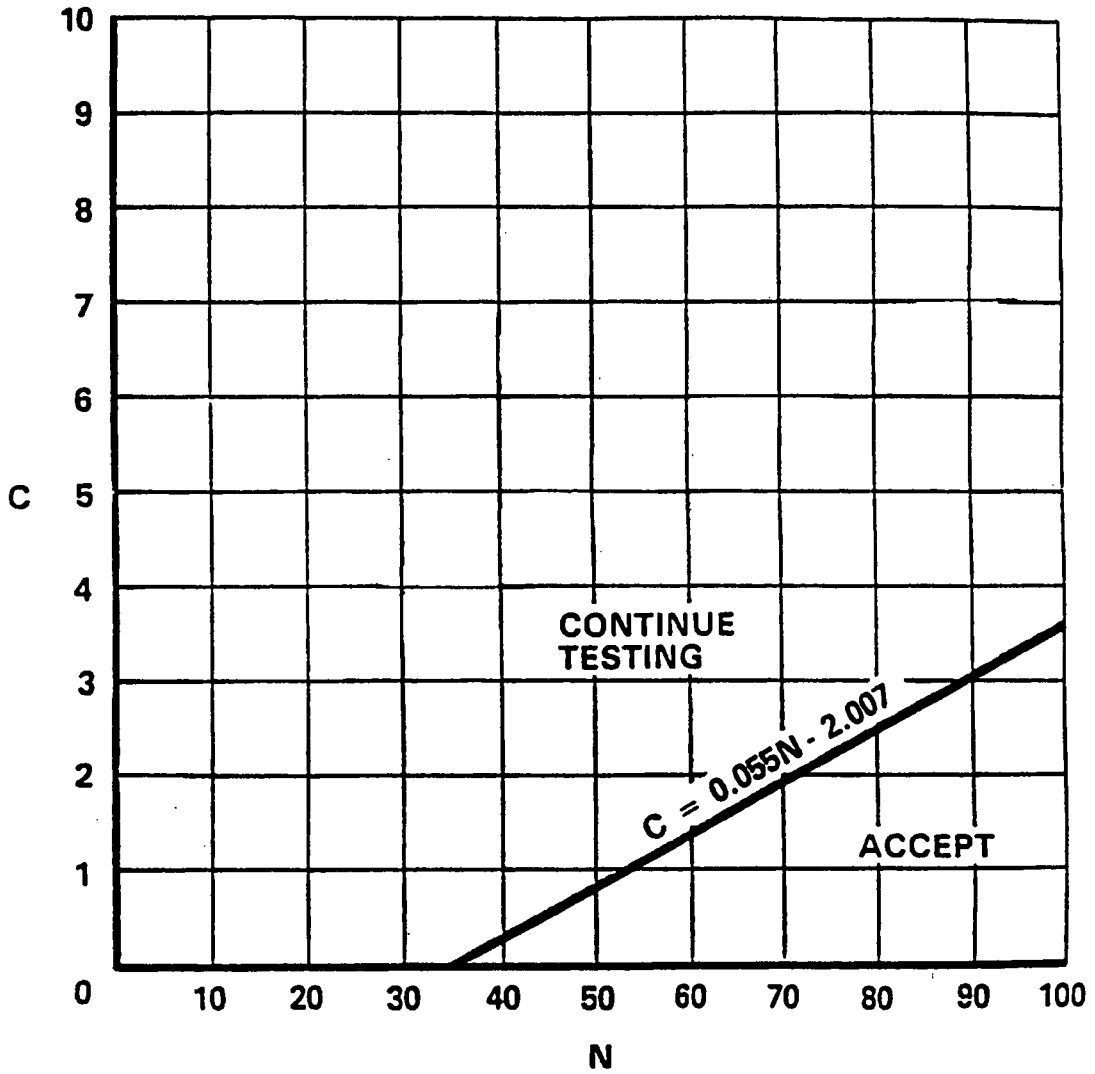

Figure 16.9-13-1

Sample Plan 2 for Snubber Functional Test

BASES

All 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 event initiating dynamic loads.

The snubber requirements of SLC 16.9-13 were originally located in the Technical Specifications. The Nuclear Regulatory Commission (NRC) authorized the use of these requirements, while located in Technical Specifications, as an acceptable alternative to the requirements of the ASME Code, 1989 Edition, Section XI, Article IWF-5000 (References 3, 4). Any revision to these snubber visual inspection and functional test requirements shall consider the basis for the granted relief from the ASME Code requirements and any resulting requirement for NRC review and approval.

Snubbers are classified and grouped by design and manufacturer but not by size. For example, mechanical snubbers utilizing the same design features of the 2-kip, 10-kip, and 100-kip capacity manufactured by Company "A" are of the same type. The same design mechanical snubbers manufactured by Company "B" for the purposes of this SLC would be of a different type, as would hydraulic snubbers from either manufacturer.

A list of individual snubbers with detailed information of snubber location and size and of system affected shall be available at the plant in accordance with Section 50.71(c) of 10 CFR Part 50. The addition or deletion of any hydraulic or mechanical snubber shall be made in accordance with Section 50.59 of 10 CFR Part 50.

The OPERABILITY requirements for snubbers which mitigate significant seismic or non-seismic loads do not meet the criteria in 10 CFR 50.36(c)(2)(ii) for inclusion in plant Technical Specifications; therefore, these requirements are contained in this SLC. The programmatic requirements for the visual inspection and functional testing of these snubbers also do not meet the criteria in 10 CFR 50.36(c)(2)(ii) for inclusion in plant Technical Specifications and, as such, are appropriate for control by this SLC and are the same for both categories of snubbers.

Seismic Snubbers

Seismic snubbers are installed primarily to mitigate loads resulting from a seismic event. However, some seismic snubbers also mitigate other non-seismic loads. If these non-seismic loads have been determined to have no effect on the OPERABILITY of the associated Technical Specification supported system(s) while the snubber(s) are inoperable (as determined by Engineering), then Technical Specification LCO 3.0.8 governs the OPERABILITY requirements for these snubbers.

LCO 3.0.8 establishes conditions under which Technical Specification supported systems are considered to remain OPERABLE when associated seismic snubbers are not capable of providing their associated support function(s). This LCO states that the supported system is not considered to

BASES (continued)

be inoperable solely due to one or more of these snubbers not being capable of performing their associated support function(s). Thus, any affected supported system LCO(s) are not required to be declared not met solely for this reason, if risk is assessed and managed. This is appropriate because: (1) a limited length of time is allowed for inspection, testing, maintenance, or repair of one or more of these snubbers not capable of performing their associated support function(s); (2) REMEDIAL ACTIONS are specified in this SLC; (3) there is a low probability of a seismic event concurrent with an event that would require operation of the supported system while the snubber(s) are not capable of performing their associated support function; and (4) the redundant train of the supported system is normally available. LCO 3.0.8 represents an allowance that does not have to be utilized. It is always acceptable to either wait until the supported system LCO(s) are not applicable or declare the Technical Specification supported system(s) inoperable.

If the allowed time expires and the seismic snubber(s) are unable to perform their associated support function(s), the affected supported system LCO(s) must be declared not met and the Conditions and Required Actions entered in accordance with LCO 3.0.2.

Snubbers with Both Seismic and Significant Non-Seismic Loads

If the affected snubber(s) have more than one function, one of which is the mitigation of seismic loads, than LCO 3.0.8 may be utilized. However, there must be a deterministic analysis that demonstrates that the Technical Specification supported system(s) can still perform their functions in spite of the non-seismic loads. For example, if the affected snubber(s) mitigate both seismic loads and accident loads (i.e., blowdown loads), then only the accident loads are considered deterministically to determine if the supported system(s) are OPERABLE. If the Technical Specification supported system(s) are OPERABLE for the non-seismic loads, then LCO 3.0.8 may be utilized for the seismic loads. Otherwise, LCO 3.0.8 cannot be utilized.

Snubbers with Significant Non-Seismic Loads

LCO 3.0.8 may not be utilized for snubbers with significant non-seismic loads that impact the OPERABILITY of Technical Specification supported system(s).

REMEDIAL ACTIONS

When one or more installed snubbers are discovered to be inoperable by means of routine walk down or observation, the applicable REMEDIAL ACTIONS for any affected system(s) and component(s) must be entered immediately and an engineering evaluation per the Functional Test Failure Analysis must be performed. The purpose of the evaluation is to determine

BASES (continued)

the cause of failure and to address transportability issues.

For snubbers that are removed for testing or maintenance activities, it is possible that a prior evaluation of the system may verify the continued operability of the system with the snubber(s) removed. In these cases, it is not necessary to enter into the system REMEDIAL ACTIONS as long as the conditions of the prior evaluation are met.

Should one or more snubbers fail to meet testing acceptance criteria or be discovered in a condition where failure is apparent, an engineering evaluation is to be performed within the prescribed time frame, as described in the Functional Test Failure Analysis.

Condition A applies when one or more seismic snubber(s) associated with one train of multiple train system(s) are inoperable or when one or more seismic snubber(s) associated with single train system(s) are inoperable, and thus are not capable of providing their associated support function(s). If the LCO 3.0.8 a. allowance is utilized, the SLC allows up to 72 hours to restore the seismic snubber(s) before declaring the supported system(s) inoperable. Also, there must be an immediate verification that at least one train of the AFW System is OPERABLE (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s). The 72 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported system while the seismic snubber(s) are not capable of performing their associated support function, and the fact that the redundant train of the supported system is normally available. At the end of the specified 72 hour period, the required seismic snubber(s) must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met. A seismic snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified.

Condition B applies when one or more seismic snubber(s) associated with more than one train of multiple train system(s) are inoperable, and thus are not capable of providing their associated support function(s). If the LCO 3.0.8 b. allowance is utilized, the SLC allows up to 12 hours to restore the seismic snubber(s) before declaring the supported system(s) inoperable, provided there is an immediate verification that at least one train of the AFW System is OPERABLE (including a minimum set of supporting equipment required for its successful operation) or an alternative cooling method not associated with the inoperable snubber(s). The alternative cooling method may include, but is not limited to, feed and bleed, fire water system, or aggressive secondary cooldown using the steam generators. The 12 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported

BASES (continued)

system while the seismic snubber(s) are not capable of performing their associated support function. At the end of the specified 12 hour period, the required seismic snubber(s) must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met. The affected supported system LCO(s) shall also be immediately declared not met upon the inoperability of all AFW System trains and all alternative cooling methods. A seismic snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified.

Condition C applies when one or more seismic snubber(s) associated with one train of multiple train system(s) are inoperable and the opposite train of the associated system(s) is also inoperable for reasons other than inoperable snubber(s). The SLC allows up to 72 hours to restore the seismic snubber(s) before declaring the supported system(s) inoperable, provided there is: (1) an immediate verification that at least one train of the AFW System is OPERABLE (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), and (2) an immediate performance of a qualitative risk assessment of the resulting configuration. The 72 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported system while the seismic snubber(s) are not capable of performing their associated support function and the opposite train of the associated system(s) is inoperable. At the end of the specified 72 hour period, the required seismic snubber(s) must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met. The affected supported system LCO(s) shall also be immediately declared not met upon the inoperability of all AFW System trains. A seismic snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified.

Condition D applies when one or more non-seismic snubber(s) are inoperable. In this case, the affected supported system LCO(s) shall be immediately declared not met, as LCO 3.0.8 does not apply to non-seismic snubbers. A snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified. For those inoperable snubbers that mitigate both seismic and non-seismic loads, if the supported system(s) remain operable (as determined via engineering analysis) when subjected to the non-seismic loads, then the provisions of LCO 3.0.8 may be applied for these snubbers.

BASES (continued)

Condition E applies when one or more snubber(s) are inoperable and a prior system OPERABILITY evaluation has been performed. In this case, an engineering evaluation is to be immediately performed per the Functional Test Failure Analysis to determine if the prior evaluation remains valid. If the prior evaluation is invalidated, then the affected supported system LCO(s) shall be immediately declared not met.

This SLC requires that risk be assessed and managed when utilizing the allowances of LCO 3.0.8. Industry and NRC guidance regarding the implementation of 10 CFR 50.65(a)(4) (the Maintenance Rule) does not address seismic risk. However, the use of this SLC should be considered with respect to other plant maintenance activities, and integrated into the existing Maintenance Rule process so that maintenance on any unaffected train or subsystem is properly controlled, and emergent issues are properly addressed. The risk assessment required to utilize LCO 3.0.8 need not be quantified, but may be a qualitative awareness of the vulnerability of systems and components when one or more snubber(s) are not able to perform their associated support function(s).

Visual Inspections

The visual inspection frequency is based upon maintaining a constant level of snubber protection during an earthquake or severe transient. Therefore, the required inspection interval varies inversely with the observed snubber failures and is determined by the number of inoperable snubbers found during an inspection. In order to establish the inspection frequency for each type of snubber, it was assumed that the frequency of snubber failures and initiating events are constant with time and that the failure of any snubber on that system could cause the system to be unprotected and to result in failure during an assumed initiating event. Inspections performed before that interval has elapsed may be used as a new reference point to determine the next inspection. However, the results of such early inspections performed before the original required time interval has elapsed (nominal time less 25%) may not be used to lengthen the required inspection interval. Any inspection whose results require a shorter inspection interval will override the previous schedule. The acceptance criteria are to be used in the visual inspection to determine OPERABILITY of the snubbers.

Visual inspections shall verify that: (1) the snubber has no visible indications of damage or impaired OPERABILITY, (2) attachments to the foundation or supporting structure are functional, and (3) fasteners for the attachment of the snubber to the component and to the snubber anchorage are functional. Snubbers which appear inoperable as a result of visual inspections shall be classified as unacceptable and may be reclassified acceptable for the purpose of establishing the next visual inspection interval, provided that: (i) the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers irrespective of type that may be generically susceptible; and (ii) the affected snubber is functionally tested in

BASES (continued)

the as-found condition and determined OPERABLE. All snubbers found connected to an inoperable common hydraulic fluid reservoir shall be counted as unacceptable and may be reclassified as acceptable for determining the next inspection interval provided that criterion (i) and (ii) above are met. A review and evaluation shall be performed and documented to justify continued operation with an unacceptable snubber. If continued operation cannot be justified, the snubber shall be declared inoperable and the REMEDIAL ACTION requirements shall be met.

Refueling Outage Inspections

At each refueling, the systems which have the potential for a severe dynamic event, specifically, the main steam system (upstream of the main steam isolation valves), the main steam safety and power operated relief valves and piping, auxiliary feedwater system, main steam supply to the auxiliary feedwater pump turbine, and the letdown and charging portion of the chemical and volume control system shall be inspected to determine if there has been a severe dynamic event. In the case of a severe dynamic event, mechanical snubbers in that system which experienced the event shall be inspected during the refueling outage to assure that the mechanical snubbers have freedom of movement and are not frozen up. The inspection shall consist of verifying freedom of motion using one of the following: (1) manually induced snubber movement, or (2) evaluation of in-place snubber piston setting, or (3) stroking the mechanical snubber through its full range of travel. If one or more mechanical snubbers are found to be frozen up during this inspection, those snubbers shall be replaced or repaired before returning to power. The requirements of TESTING REQUIREMENT 16.9-13-1 are independent of the requirements of this item.

Functional Testing

At least once per 18 months during shutdown, a representative sample of snubbers of each type shall be tested using one of the following Sample Plans. The large-bore steam generator hydraulic snubbers shall be treated as a separate type (population) for functional test purposes. A 10% random sample shall be tested at least once per 18 months during refueling with continued testing based on a failure evaluation. The Sample Plan shall be selected prior to the test period and cannot be changed during the test period. The NRC shall be notified in writing of the Sample Plan selected for each snubber type prior to the test period or the Sample Plan used in the prior test period shall be implemented:

1) At least 10% of all snubbers shall be functionally tested either in-place or in a bench test. For each snubber of a type that does not meet the functional test acceptance criteria, an additional 10% of all snubbers shall be functionally tested until no more failures are found or until all snubbers have been functionally tested; or

BASES (continued)

2) A representative sample of all snubbers shall be functionally tested in accordance with Figure 16.9-13-1. "C" is the total number of snubbers of a type found not meeting the acceptance requirements. The cumulative number of snubbers tested is denoted by "N". At the end of each day's testing, the new values of "N" and "C" (previous day's total plus current day's increments) shall be plotted on Figure 16.9-13-1. If at any time the point plotted falls in the "Accept" region, testing of snubbers of that type may be terminated. When the point plotted lies in the "Continue Testing" region, additional snubbers of that type shall be tested until the point falls in the "Accept" region or all the snubbers of that type have been tested; or

3) An initial representative sample of 55 snubbers shall be functionally tested. For each snubber type which does not meet the functional test acceptance criteria, another sample of at least one-half the size of the initial sample shall be tested until the total number tested is equal to the initial sample size multiplied by the factor, 1 + C/2, where "C" is the number of snubbers found which do not meet the functional test acceptance criteria. The results from this Sample Plan shall be plotted using an "Accept" line which follows the equation N = 55(1 + C/2). Each snubber point should be plotted as soon as the snubber is tested. If the point plotted falls on or below the "Accept" line, testing may be terminated. If the point plotted falls above the "Accept" line, testing must continue until the point falls in the "Accept" region or all the snubbers of that type have been tested.

Testing equipment failure during functional testing may invalidate that day's testing and allow that day's testing to resume anew at a later time provided all snubbers tested with the failed equipment during the day of equipment failure are retested. The representative sample selected for the functional test Sample Plans shall be randomly selected from all snubbers and reviewed before beginning the testing. The review shall ensure, as far as practicable, that they are representative of the various configurations, operating environments, range of size, and capacity of snubbers. Snubbers placed in the same location as snubbers which failed the previous functional test shall be retested at the time of the next functional test but shall not be included in the Sample Plan. If during the functional testing, additional sampling is required due to failure of only one type of snubber, the functional test results shall be reviewed at that time to determine if additional samples should be limited to the type of snubber which has failed the functional testing.

Figure 16.9-13-1 was developed using "Wald's Sequential Probability Ratio Plan" as described in "Quality Control and Industrial Statistics" by Acheson J. Duncan.

BASES (continued)

Permanent or other exemptions from the inspection program for individual snubbers may be granted by the Commission if a justifiable basis for exemption is presented and, if applicable, snubber life testing was performed to qualify the snubber for the applicable design conditions. Snubbers so exempted shall be listed in the list of individual snubbers indicating the extent of the exemptions.

The snubber testing program may remove snubbers from service and restore OPERABILITY of the snubber application by replacement with another like snubber. In this situation, if the removed snubber later fails to meet test acceptance criteria, the system Required Action is not applicable since the failed snubber component has no current required function; however, the engineering evaluation per the Functional Test Failure Analysis is still required to determine the failure cause and address transportability issues. During the allowed 72 hours to perform an engineering evaluation or at any other time, when conditions of the affected system(s) and component(s) are determined to no longer support a reasonable assurance of OPERABILITY, applicable Required Actions are to be entered immediately.

Functional Test Acceptance Criteria

The snubber functional test shall verify that:

1) Activation (restraining action) is achieved within the specified range in both tension and compression, except that inertia dependent, acceleration limiting mechanical snubbers may be tested to verify only that activation takes place in both directions of travel;

2) Snubber bleed, or release rate where required, is present in both tension and compression, within the specified range;

3) For mechanical snubbers, the force required to initiate or maintain motion of the snubber is within the specified range in both directions of travel; and

4) For snubbers specifically required not to displace under continuous load, the ability of the snubber to withstand load without displacement.

Testing methods may be used to measure parameters indirectly or parameters other than those specified if those results can be correlated to the specified parameters through established methods.

Functional Test Failure Analysis

An engineering evaluation shall be made of each failure to meet the functional test acceptance criteria to determine the cause of the failure. The

BASES (continued)

results of this evaluation shall be used, if applicable, in selecting snubbers to be tested in an effort to determine the OPERABILITY of other snubbers irrespective of type which may be subject to the same failure mode.

For the snubbers found inoperable, an engineering evaluation shall be performed on the components to which the inoperable snubbers are attached. The purpose of this engineering evaluation shall be to determine if the components to which the inoperable snubbers are attached were adversely affected by the inoperability of the snubbers in order to ensure that the component remains capable of meeting the designed service.

If any snubber selected for functional testing either fails to lock up or fails to move, i.e., frozen in place, the cause will be evaluated and, if caused by manufacturer or design deficiency, all snubbers of the same type subject to the same defect shall be functionally tested. This TESTING REQUIREMENT shall be independent of the requirements stated in TESTING REQUIREMENT 16.9-13-3 for snubbers not meeting the functional test acceptance criteria.

All snubbers that fail to meet the functional test criteria must be evaluated to determine the cause, and the potential for applicability of the failure mode to other snubbers. Likewise, an evaluation is required to determine if the attached components have been adversely affected by the functional failure of the snubber. It is noted that the evaluation is only required for snubbers that are inoperable due to a failure of the snubber itself to meet the functional requirements. A snubber that is inoperable due solely to being disconnected from the supported component does not necessitate a component or system evaluation, provided that the snubber itself meets the requirements of the functional test criteria. In this case, the only action required is that the snubber be completely restored and the cause of the disconnection determined and evaluated for generic implications.

Service Life

The service life of a snubber is established via manufacturer input and information through consideration of the snubber service conditions and associated installation and maintenance records (newly installed snubbers, seal replaced, spring replaced, in high radiation area, in high temperature area, etc.). The requirement to monitor the snubber service life is included to ensure that the snubbers periodically undergo a performance evaluation in view of their age and operating conditions. These records will provide statistical bases for future consideration of snubber service life.

If a service lifetime limit is associated (established) with any snubber (or critical part) based on manufacturer's information, qualification tests, or historical service results, then the service life shall be monitored to ensure that the service life is not exceeded between surveillance inspections.

BASES (continued)

Established snubber service life shall be extended or shortened based on monitored test results and failure history. The replacements (snubbers or critical parts) shall be documented and the documentation shall be retained. Records of the service lives of all hydraulic and mechanical snubbers, including the date at which the service life commences, and associated installation and maintenance records shall be retained for the duration of the unit operating license.

REFERENCES

1. Letter from W.R. McCollum, Jr. to NRC, Request for Relief 95-05, Snubber Inspection Interval for Unit 1, August 23, 1995.

2. Letter from W.R. McCollum, Jr. to NRC, Request for Relief 96-01, Snubber Inspection Interval for Unit 2, February 12, 1996.

3. Letter from NRC to W.R. McCollum, Request for Relief 95-05, January 11, 1996.

4. Letter from NRC to W.R. McCollum, Request for Relief 96-01, May 16, 1996.

5. Letter from NRC to Gary R. Peterson, Duke, Issuance of Improved Technical Specifications Amendments for Catawba, September 30, 1998.

6. Letter from M.S. Tuckman to NRC, Licensing Position Regarding Snubbers, May 20, 1999.

7. Letter from NRC to G.R. Peterson, Licensing Position Regarding Snubbers, July 7, 1999.

8. Technical Specifications Task Force (TSTF)-372-A, Revision 4, Addition of LCO 3.0.8, Inoperability of Snubbers.

9. TSTF-IG-05-03, Technical Specifications Task Force Implementation Guidance for TSTF-372-A, Revision 4, Addition of LCO 3.0.8, Inoperability of Snubbers.

10. Nuclear System Directive 415, Operational Risk Management (Modes 1-3) per 10CFR 50.65(a)(4).

11. Federal Register, 70FR23252, Notice of Availability of Model Application Concerning Technical Specification Improvement to Modify Requirements Regarding the Addition of Limiting Condition for Operation 3.0.8 on the Inoperability of Snubbers Using the Consolidated Line Item Improvement Process.

DUKE ENERGY CORPORATION
Catawba Nuclear Station
4800 Concord Road
York, SC 29745

803 831 3000

August 16, 2007

RE: Catawba Nuclear Station
Selected Licensee Commitments Manual
Revision Date 03/19/07

Attached are revisions to the Catawba Nuclear Station Selected Licensee Commitments Manual. Please remove and replace the following pages:

REMOVE	INSERT
LIST OF EFFECTIVE SECTIONS	
Pages 1 through 4 Revision 31	Pages 1 through 4 Revision 32
TAB 16.9	
16.9-13-1 through 16.9-13-14 Revision 0	16.9-13-1 through 16.9-13-21 Revision 1

If you have any questions concerning the contents of this package update, please contact Betty Aldridge at (803) 831-3758.

Randall D. Hart
Regulatory Compliance Manager

Attachments

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
TABLE OF CONTENTS	9	03/08/07
16.1	0	10/09/02
16.2	1	10/17/02
16.3	0	10/09/02
16.5-1	1	10/24/06
16.5-2	Deleted	
16.5-3	1	02/20/04
16.5-4	0	10/09/02
16.5-5	0	10/09/02
16.5-6	0	10/09/02
16.5-7	0	10/09/02
16.5-8	1	05/18/04
16.5-9	0	10/24/06
16.5-10	0	03/08/07
16.6-1	0	10/09/02
16.6-2	Deleted	
16.6-3	0	10/09/02
16.6-4	0	10/09/02
16.6-5	0	10/09/02
16.7-1	0	10/09/02
16.7-2	1	08/20/04
16.7-3	0	10/09/02
16.7-4	0	10/09/02
16.7-5	1	01/02/03

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.7-6	1	11/17/05
16.7-7	0	10/09/02
16.7-8	1	05/25/05
16.7-9	4	02/01/05
16.7-10	0	10/09/02
16.7-11	0	10/09/02
16.7-12	0	10/09/02
16.7-13	1	05/17/06
16.7-14	0	10/06/03
16.7-15	0	03/01/05
16.8-1	1	02/01/05
16.8-2	1	10/24/06
16.8-3	1	10/24/06
16.8-4	1	10/24/06
16.8-5	2	02/20/04
16.9-1	4	08/03/06
16.9-2	3	05/25/05
16.9-3	0	10/09/02
16.9-4	2	05/25/05
16.9-5	3	05/17/06
16.9-6	3	10/24/06
16.9-7	3	03/10/04
16.9-8	4	10/24/06
16.9-9	2	03/10/04

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.9-10	4	10/24/06
16.9-11	2	03/10/04
16.9-12	1	03/10/04
16.9-13	1	03/19/07
16.9-14	1	09/25/06
16.9-15	0	10/09/02
16.9-16	0	10/09/02
16.9-17	0	10/09/02
16.9-18	0	10/09/02
16.9-19	1	01/02/03
16.9-20	0	10/09/02
16.9-21	0	10/09/02
16.9-22	0	10/09/02
16.9-23	2	05/25/05
16.9-24	2	10/24/06
16.9-25	0	04/03/06
16.10-1	0	10/09/02
16.10-2	1	10/24/06
16.10-3	0	08/21/03
16.11-1	0	10/09/02
16.11-2	0	10/09/02
16.11-3	0	10/09/02
16.11-4	0	10/09/02
16.11-5	0	10/09/02

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.11-6	0	10/09/02
16.11-7	1	02/27/03
16.11-8	0	10/09/02
16.11-9	0	10/09/02
16.11-10	0	10/09/02
16.11-11	1	03/20/03
16.11-12	0	10/09/02
16.11-13	0	10/09/02
16.11-14	0	10/09/02
16.11-15	0	10/09/02
16.11-16	0	10/09/02
16.11-17	0	10/09/02
16.11-18	0	10/09/02
16.11-19	0	10/09/02
16.11-20	0	10/09/02
16.11-21	0	10/09/02
16.12-1	0	10/09/02
16.13-1	0	10/09/02
16.13-2	Deleted	
16.13-3	Deleted	
16.13-4	0	10/09/02

16.9 AUXILIARY SYSTEMS

16.9-13 Snubbers

COMMITMENT

----------NOTES----------

1. Snubbers installed on non-safety related systems may be excluded from these requirements provided their failure or the failure of the system on which they are installed would not have an adverse effect on any safety related system.

2. If a snubber does not support the OPERABILITY of a Technical Specification required system, or if the supported system is not required to be OPERABLE, then Limiting Condition for Operation (LCO) 3.0.8 is not utilized.

All snubbers shall be OPERABLE.

APPLICABILITY: Whenever the system supported by the snubber is required to be OPERABLE.

REMEDIAL ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. ----------NOTE---------- Only applicable to seismic snubbers which support the OPERABILITY of Technical Specification required systems. ----------	A.1 Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately upon determination of train inoperability OR 72 hours
	AND	
One or more snubber(s) associated with one train of multiple train system(s) inoperable. OR One or more snubber(s) associated with single train system(s) inoperable.	A.2 ----------NOTE---------- Only applicable when utilizing the 72 hour Completion Time of Required Action A.1. ---------- Verify at least one train of the Auxiliary Feedwater (AFW) System (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), is OPERABLE.	Immediately
	AND	
	A.3 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis.	Prior to restoring affected train to OPERABLE status OR 72 hours

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. ----------NOTE---------- Only applicable to seismic snubbers which support the OPERABILITY of Technical Specification required systems. ---------- One or more snubber(s) associated with more than one train of multiple train system(s) inoperable.	B.1 Verify at least one train of the AFW System (including a minimum set of supporting equipment required for its successful operation) or alternative cooling method not associated with the inoperable snubber(s), is OPERABLE.	Immediately
	AND	
	B.2 Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately upon inoperability of all AFW System trains and all alternative cooling methods OR 12 hours
	AND	
	B.3 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis.	Prior to restoring affected train(s) to OPERABLE status OR 12 hours

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. ----------NOTE---------- Only applicable to seismic snubbers which support the OPERABILITY of Technical Specification required systems. ----------	C.1 Verify at least one train of the AFW System (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), is OPERABLE.	Immediately
One or more snubber(s) associated with one train of multiple train system(s) inoperable.	AND	
AND	C.2 Perform a qualitative risk assessment of the resulting configuration.	Immediately
Opposite train of associated system(s) inoperable for reasons other than inoperable snubber(s).	AND	
	C.3 Enter the applicable Conditions and Required Actions for the affected train(s) of multiple train system(s) that contain the inoperable snubber(s).	Immediately upon inoperability of all AFW System trains OR 72 hours
	AND	
	C.4 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ----------	
	Perform engineering evaluation per the Functional Test Failure Analysis.	Prior to restoring affected train(s) to OPERABLE status OR 72 hours

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. ----------NOTE---------- Only applicable to non-seismic snubbers which support the OPERABILITY of Technical Specification required systems. ---------- One or more snubber(s) inoperable.	D.1 Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately
	AND	
	D.2 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis.	Immediately

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. One or more snubber(s) inoperable. AND Prior system OPERABILITY evaluation performed.	E.1 ----------NOTE---------- Only applicable if one or more snubber(s) fail to meet test acceptance criteria. ---------- Perform engineering evaluation per the Functional Test Failure Analysis to determine impact on prior system OPERABILITY evaluation.	Immediately
	AND	
	E.2 ----------NOTE---------- Only applicable if prior system OPERABILITY evaluation is invalidated. ---------- Enter the applicable Conditions and Required Actions for any affected system(s).	Immediately

TESTING REQUIREMENTS

----------NOTES----------

1. Each snubber shall be demonstrated OPERABLE by performance of the following augmented inservice inspection program.

2. Snubbers which fail the visual inspection or the functional test acceptance criteria shall be repaired or replaced. Replacement snubbers and snubbers which have repairs which might affect the functional test results shall be tested to meet the functional test criteria before installation in the unit. Mechanical snubbers shall have met the acceptance criteria subsequent to their most recent service, and the freedom of motion test shall have been performed within 12 months before being installed in the unit.

3. As used in this SLC, "type of snubber" shall mean snubbers of the same design and manufacturer, irrespective of capacity.

	TEST	FREQUENCY
TR 16.9-13-1	----------NOTE---------- Snubbers are categorized as inaccessible or accessible during reactor operation and may be inspected independently according to the schedule determined by Table 16.9-13-1. The first inspection interval using Table 16.9-13-1 shall be based upon the previous inspection interval as established by the requirements in effect before Technical Specification Amendment 88 (Unit 1) and 82 (Unit 2). ----------	
	Perform a visual inspection for each category of snubber.	In accordance with Table 16.9-13-1
TR 16.9-13-2	----------NOTE---------- In case of a severe dynamic event, mechanical snubbers in the system which experienced the event shall be inspected during the refueling outage to assure that they have freedom of movement and are not frozen up. ----------	
	Perform an inspection, during shutdown, to determine if there has been a severe dynamic event for systems which have the potential for a severe dynamic event.	18 months

(continued)

TESTING REQUIREMENTS (continued)

	TEST	FREQUENCY
TR 16.9-13-3	----------NOTE---------- The large-bore steam generator hydraulic snubbers shall be treated as a separate population for functional test purposes and shall be functionally tested under Sample Plan 1. ---------- Perform, during shutdown, snubber functional testing on a representative sample of each type of snubber in accordance with one of the following three Sample Plans: 1. Functionally test 10% of a type of snubber with an additional 10% tested for each functional testing failure, or 2. Functionally test a sample size and determine sample acceptance or continue testing using Figure 16.9-13-1, or 3. Functionally test a representative sample size and determine sample acceptance or rejection using the stated equation.	18 months
TR 16.9-13-4	----------NOTE---------- Service life records shall be documented and the documentation retained for the duration of the unit operating license. ---------- Verify that the service life of all snubbers has not been exceeded or will not be exceeded prior to the next scheduled surveillance inspection.	18 months

Table 16.9-13-1

Snubber Visual Inspection Interval (page 1 of 2)

POPULATION OR CATEGORY (NOTES 1 AND 2)	NUMBER OF UNACCEPTABLE SNUBBERS		
	COLUMN A EXTEND INTERVAL (NOTES 3 AND 6)	COLUMN B REPEAT INTERVAL (NOTES 4 AND 6)	COLUMN C REDUCE INTERVAL (NOTES 5 AND 6)
1	0	0	1
80	0	0	2
100	0	1	4
150	0	3	8
200	2	5	13
300	5	12	25
400	8	18	36
500	12	24	48
750	20	40	78
≥ 1000	29	56	109

Note 1: The next visual inspection interval for a snubber population or category size shall be determined based upon the previous inspection interval and the number of unacceptable snubbers found during that interval. Snubbers may be categorized, based upon their accessibility during power operation, as accessible or inaccessible. These categories may be examined separately or jointly. However, the licensee must make and document that decision before any inspection and shall use that decision as the basis upon which to determine the next inspection interval for that category.

Note 2: Interpolation between population or category sizes and the number of unacceptable snubbers is permissible. Use next lower integer for the value of the limit for Columns A, B, or C if that integer includes a fractional value of unacceptable snubbers as determined by interpolation.

Note 3: If the number of unacceptable snubbers is equal to or less than the number in Column A, the next inspection interval may be twice the previous interval but not greater than 48 months.

Note 4: If the number of unacceptable snubbers is equal to or less than the number in Column B but greater than the number in Column A, the next inspection interval shall be the same as the previous interval.

Note 5: If the number of unacceptable snubbers is equal to or greater than the number in Column C, the next inspection interval shall be two-thirds of the previous interval. However, if the number of unacceptable snubbers is less than the number in Column C but greater than the number in Column B, the

Table 16.9-13-1

Snubber Visual Inspection Interval (page 2 of 2)

next interval shall be reduced proportionally by interpolation, that is, the previous interval shall be reduced by a factor that is one-third of the ratio of the difference between the number of unacceptable snubbers found during the previous interval and the number in Column B to the difference in the numbers in Columns B and C.

Note 6: The provisions of SLC 16.2.6 are applicable for all inspection intervals up to and including 48 months.

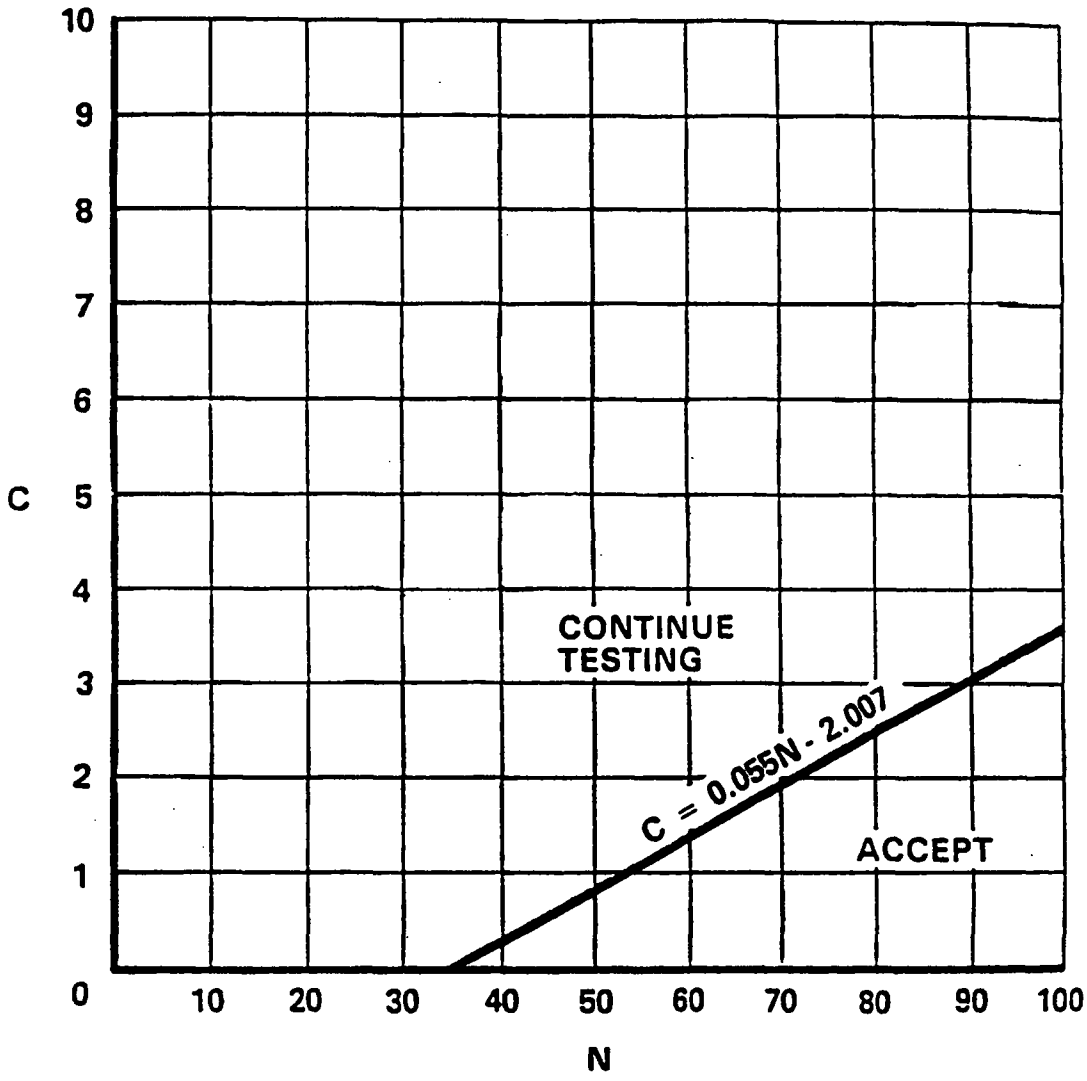

Figure 16.9-13-1

Sample Plan 2 for Snubber Functional Test

BASES

All 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 event initiating dynamic loads.

The snubber requirements of SLC 16.9-13 were originally located in the Technical Specifications. The Nuclear Regulatory Commission (NRC) authorized the use of these requirements, while located in Technical Specifications, as an acceptable alternative to the requirements of the ASME Code, 1989 Edition, Section XI, Article IWF-5000 (References 3, 4). Any revision to these snubber visual inspection and functional test requirements shall consider the basis for the granted relief from the ASME Code requirements and any resulting requirement for NRC review and approval.

Snubbers are classified and grouped by design and manufacturer but not by size. For example, mechanical snubbers utilizing the same design features of the 2-kip, 10-kip, and 100-kip capacity manufactured by Company "A" are of the same type. The same design mechanical snubbers manufactured by Company "B" for the purposes of this SLC would be of a different type, as would hydraulic snubbers from either manufacturer.

A list of individual snubbers with detailed information of snubber location and size and of system affected shall be available at the plant in accordance with Section 50.71(c) of 10 CFR Part 50. The addition or deletion of any hydraulic or mechanical snubber shall be made in accordance with Section 50.59 of 10 CFR Part 50.

The OPERABILITY requirements for snubbers which mitigate significant seismic or non-seismic loads do not meet the criteria in 10 CFR 50.36(c)(2)(ii) for inclusion in plant Technical Specifications; therefore, these requirements are contained in this SLC. The programmatic requirements for the visual inspection and functional testing of these snubbers also do not meet the criteria in 10 CFR 50.36(c)(2)(ii) for inclusion in plant Technical Specifications and, as such, are appropriate for control by this SLC and are the same for both categories of snubbers.

Seismic Snubbers

Seismic snubbers are installed primarily to mitigate loads resulting from a seismic event. However, some seismic snubbers also mitigate other non-seismic loads. If these non-seismic loads have been determined to have no effect on the OPERABILITY of the associated Technical Specification supported system(s) while the snubber(s) are inoperable (as determined by Engineering), then Technical Specification LCO 3.0.8 governs the OPERABILITY requirements for these snubbers.

LCO 3.0.8 establishes conditions under which Technical Specification supported systems are considered to remain OPERABLE when associated seismic snubbers are not capable of providing their associated support function(s). This LCO states that the supported system is not considered to

BASES (continued)

be inoperable solely due to one or more of these snubbers not being capable of performing their associated support function(s). Thus, any affected supported system LCO(s) are not required to be declared not met solely for this reason, if risk is assessed and managed. This is appropriate because: (1) a limited length of time is allowed for inspection, testing, maintenance, or repair of one or more of these snubbers not capable of performing their associated support function(s); (2) REMEDIAL ACTIONS are specified in this SLC; (3) there is a low probability of a seismic event concurrent with an event that would require operation of the supported system while the snubber(s) are not capable of performing their associated support function; and (4) the redundant train of the supported system is normally available. LCO 3.0.8 represents an allowance that does not have to be utilized. It is always acceptable to either wait until the supported system LCO(s) are not applicable or declare the Technical Specification supported system(s) inoperable.

If the allowed time expires and the seismic snubber(s) are unable to perform their associated support function(s), the affected supported system LCO(s) must be declared not met and the Conditions and Required Actions entered in accordance with LCO 3.0.2.

Snubbers with Both Seismic and Significant Non-Seismic Loads

If the affected snubber(s) have more than one function, one of which is the mitigation of seismic loads, than LCO 3.0.8 may be utilized. However, there must be a deterministic analysis that demonstrates that the Technical Specification supported system(s) can still perform their functions in spite of the non-seismic loads. For example, if the affected snubber(s) mitigate both seismic loads and accident loads (i.e., blowdown loads), then only the accident loads are considered deterministically to determine if the supported system(s) are OPERABLE. If the Technical Specification supported system(s) are OPERABLE for the non-seismic loads, then LCO 3.0.8 may be utilized for the seismic loads. Otherwise, LCO 3.0.8 cannot be utilized.

Snubbers with Significant Non-Seismic Loads

LCO 3.0.8 may not be utilized for snubbers with significant non-seismic loads that impact the OPERABILITY of Technical Specification supported system(s).

REMEDIAL ACTIONS

When one or more installed snubbers are discovered to be inoperable by means of routine walk down or observation, the applicable REMEDIAL ACTIONS for any affected system(s) and component(s) must be entered immediately and an engineering evaluation per the Functional Test Failure Analysis must be performed. The purpose of the evaluation is to determine

BASES (continued)

the cause of failure and to address transportability issues.

For snubbers that are removed for testing or maintenance activities, it is possible that a prior evaluation of the system may verify the continued operability of the system with the snubber(s) removed. In these cases, it is not necessary to enter into the system REMEDIAL ACTIONS as long as the conditions of the prior evaluation are met.

Should one or more snubbers fail to meet testing acceptance criteria or be discovered in a condition where failure is apparent, an engineering evaluation is to be performed within the prescribed time frame, as described in the Functional Test Failure Analysis.

Condition A applies when one or more seismic snubber(s) associated with one train of multiple train system(s) are inoperable or when one or more seismic snubber(s) associated with single train system(s) are inoperable, and thus are not capable of providing their associated support function(s). If the LCO 3.0.8 a. allowance is utilized, the SLC allows up to 72 hours to restore the seismic snubber(s) before declaring the supported system(s) inoperable. Also, there must be an immediate verification that at least one train of the AFW System is OPERABLE (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s). The 72 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported system while the seismic snubber(s) are not capable of performing their associated support function, and the fact that the redundant train of the supported system is normally available. At the end of the specified 72 hour period, the required seismic snubber(s) must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met. A seismic snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified.

Condition B applies when one or more seismic snubber(s) associated with more than one train of multiple train system(s) are inoperable, and thus are not capable of providing their associated support function(s). If the LCO 3.0.8 b. allowance is utilized, the SLC allows up to 12 hours to restore the seismic snubber(s) before declaring the supported system(s) inoperable, provided there is an immediate verification that at least one train of the AFW System is OPERABLE (including a minimum set of supporting equipment required for its successful operation) or an alternative cooling method not associated with the inoperable snubber(s). The alternative cooling method may include, but is not limited to, feed and bleed, fire water system, or aggressive secondary cooldown using the steam generators. The 12 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported

BASES (continued)

system while the seismic snubber(s) are not capable of performing their associated support function. At the end of the specified 12 hour period, the required seismic snubber(s) must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met. The affected supported system LCO(s) shall also be immediately declared not met upon the inoperability of all AFW System trains and all alternative cooling methods. A seismic snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified.

Condition C applies when one or more seismic snubber(s) associated with one train of multiple train system(s) are inoperable and the opposite train of the associated system(s) is also inoperable for reasons other than inoperable snubber(s). The SLC allows up to 72 hours to restore the seismic snubber(s) before declaring the supported system(s) inoperable, provided there is: (1) an immediate verification that at least one train of the AFW System is OPERABLE (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), and (2) an immediate performance of a qualitative risk assessment of the resulting configuration. The 72 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported system while the seismic snubber(s) are not capable of performing their associated support function and the opposite train of the associated system(s) is inoperable. At the end of the specified 72 hour period, the required seismic snubber(s) must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met. The affected supported system LCO(s) shall also be immediately declared not met upon the inoperability of all AFW System trains. A seismic snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified.

Condition D applies when one or more non-seismic snubber(s) are inoperable. In this case, the affected supported system LCO(s) shall be immediately declared not met, as LCO 3.0.8 does not apply to non-seismic snubbers. A snubber removed from service for any reason cannot be considered OPERABLE if it is not connected to the supported component. For this Condition, the engineering evaluation per the Functional Test Failure Analysis must be performed within the Completion Time specified. For those inoperable snubbers that mitigate both seismic and non-seismic loads, if the supported system(s) remain operable (as determined via engineering analysis) when subjected to the non-seismic loads, then the provisions of LCO 3.0.8 may be applied for these snubbers.

BASES (continued)

Condition E applies when one or more snubber(s) are inoperable and a prior system OPERABILITY evaluation has been performed. In this case, an engineering evaluation is to be immediately performed per the Functional Test Failure Analysis to determine if the prior evaluation remains valid. If the prior evaluation is invalidated, then the affected supported system LCO(s) shall be immediately declared not met.

This SLC requires that risk be assessed and managed when utilizing the allowances of LCO 3.0.8. Industry and NRC guidance regarding the implementation of 10 CFR 50.65(a)(4) (the Maintenance Rule) does not address seismic risk. However, the use of this SLC should be considered with respect to other plant maintenance activities, and integrated into the existing Maintenance Rule process so that maintenance on any unaffected train or subsystem is properly controlled, and emergent issues are properly addressed. The risk assessment required to utilize LCO 3.0.8 need not be quantified, but may be a qualitative awareness of the vulnerability of systems and components when one or more snubber(s) are not able to perform their associated support function(s).

Visual Inspections

The visual inspection frequency is based upon maintaining a constant level of snubber protection during an earthquake or severe transient. Therefore, the required inspection interval varies inversely with the observed snubber failures and is determined by the number of inoperable snubbers found during an inspection. In order to establish the inspection frequency for each type of snubber, it was assumed that the frequency of snubber failures and initiating events are constant with time and that the failure of any snubber on that system could cause the system to be unprotected and to result in failure during an assumed initiating event. Inspections performed before that interval has elapsed may be used as a new reference point to determine the next inspection. However, the results of such early inspections performed before the original required time interval has elapsed (nominal time less 25%) may not be used to lengthen the required inspection interval. Any inspection whose results require a shorter inspection interval will override the previous schedule. The acceptance criteria are to be used in the visual inspection to determine OPERABILITY of the snubbers.

Visual inspections shall verify that: (1) the snubber has no visible indications of damage or impaired OPERABILITY, (2) attachments to the foundation or supporting structure are functional, and (3) fasteners for the attachment of the snubber to the component and to the snubber anchorage are functional. Snubbers which appear inoperable as a result of visual inspections shall be classified as unacceptable and may be reclassified acceptable for the purpose of establishing the next visual inspection interval, provided that: (i) the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers irrespective of type that may be generically susceptible; and (ii) the affected snubber is functionally tested in

BASES (continued)

the as-found condition and determined OPERABLE. All snubbers found connected to an inoperable common hydraulic fluid reservoir shall be counted as unacceptable and may be reclassified as acceptable for determining the next inspection interval provided that criterion (i) and (ii) above are met. A review and evaluation shall be performed and documented to justify continued operation with an unacceptable snubber. If continued operation cannot be justified, the snubber shall be declared inoperable and the REMEDIAL ACTION requirements shall be met.

Refueling Outage Inspections

At each refueling, the systems which have the potential for a severe dynamic event, specifically, the main steam system (upstream of the main steam isolation valves), the main steam safety and power operated relief valves and piping, auxiliary feedwater system, main steam supply to the auxiliary feedwater pump turbine, and the letdown and charging portion of the chemical and volume control system shall be inspected to determine if there has been a severe dynamic event. In the case of a severe dynamic event, mechanical snubbers in that system which experienced the event shall be inspected during the refueling outage to assure that the mechanical snubbers have freedom of movement and are not frozen up. The inspection shall consist of verifying freedom of motion using one of the following: (1) manually induced snubber movement, or (2) evaluation of in-place snubber piston setting, or (3) stroking the mechanical snubber through its full range of travel. If one or more mechanical snubbers are found to be frozen up during this inspection, those snubbers shall be replaced or repaired before returning to power. The requirements of TESTING REQUIREMENT 16.9-13-1 are independent of the requirements of this item.

Functional Testing

At least once per 18 months during shutdown, a representative sample of snubbers of each type shall be tested using one of the following Sample Plans. The large-bore steam generator hydraulic snubbers shall be treated as a separate type (population) for functional test purposes. A 10% random sample shall be tested at least once per 18 months during refueling with continued testing based on a failure evaluation. The Sample Plan shall be selected prior to the test period and cannot be changed during the test period. The NRC shall be notified in writing of the Sample Plan selected for each snubber type prior to the test period or the Sample Plan used in the prior test period shall be implemented:

1) At least 10% of all snubbers shall be functionally tested either in-place or in a bench test. For each snubber of a type that does not meet the functional test acceptance criteria, an additional 10% of all snubbers shall be functionally tested until no more failures are found or until all snubbers have been functionally tested; or

BASES (continued)

2) A representative sample of all snubbers shall be functionally tested in accordance with Figure 16.9-13-1. "C" is the total number of snubbers of a type found not meeting the acceptance requirements. The cumulative number of snubbers tested is denoted by "N". At the end of each day's testing, the new values of "N" and "C" (previous day's total plus current day's increments) shall be plotted on Figure 16.9-13-1. If at any time the point plotted falls in the "Accept" region, testing of snubbers of that type may be terminated. When the point plotted lies in the "Continue Testing" region, additional snubbers of that type shall be tested until the point falls in the "Accept" region or all the snubbers of that type have been tested; or

3) An initial representative sample of 55 snubbers shall be functionally tested. For each snubber type which does not meet the functional test acceptance criteria, another sample of at least one-half the size of the initial sample shall be tested until the total number tested is equal to the initial sample size multiplied by the factor, 1 + C/2, where "C" is the number of snubbers found which do not meet the functional test acceptance criteria. The results from this Sample Plan shall be plotted using an "Accept" line which follows the equation N = 55(1 + C/2). Each snubber point should be plotted as soon as the snubber is tested. If the point plotted falls on or below the "Accept" line, testing may be terminated. If the point plotted falls above the "Accept" line, testing must continue until the point falls in the "Accept" region or all the snubbers of that type have been tested.

Testing equipment failure during functional testing may invalidate that day's testing and allow that day's testing to resume anew at a later time provided all snubbers tested with the failed equipment during the day of equipment failure are retested. The representative sample selected for the functional test Sample Plans shall be randomly selected from all snubbers and reviewed before beginning the testing. The review shall ensure, as far as practicable, that they are representative of the various configurations, operating environments, range of size, and capacity of snubbers. Snubbers placed in the same location as snubbers which failed the previous functional test shall be retested at the time of the next functional test but shall not be included in the Sample Plan. If during the functional testing, additional sampling is required due to failure of only one type of snubber, the functional test results shall be reviewed at that time to determine if additional samples should be limited to the type of snubber which has failed the functional testing.

Figure 16.9-13-1 was developed using "Wald's Sequential Probability Ratio Plan" as described in "Quality Control and Industrial Statistics" by Acheson J. Duncan.

BASES (continued)

Permanent or other exemptions from the inspection program for individual snubbers may be granted by the Commission if a justifiable basis for exemption is presented and, if applicable, snubber life testing was performed to qualify the snubber for the applicable design conditions. Snubbers so exempted shall be listed in the list of individual snubbers indicating the extent of the exemptions.

The snubber testing program may remove snubbers from service and restore OPERABILITY of the snubber application by replacement with another like snubber. In this situation, if the removed snubber later fails to meet test acceptance criteria, the system Required Action is not applicable since the failed snubber component has no current required function; however, the engineering evaluation per the Functional Test Failure Analysis is still required to determine the failure cause and address transportability issues. During the allowed 72 hours to perform an engineering evaluation or at any other time, when conditions of the affected system(s) and component(s) are determined to no longer support a reasonable assurance of OPERABILITY, applicable Required Actions are to be entered immediately.

Functional Test Acceptance Criteria

The snubber functional test shall verify that:

1) Activation (restraining action) is achieved within the specified range in both tension and compression, except that inertia dependent, acceleration limiting mechanical snubbers may be tested to verify only that activation takes place in both directions of travel;

2) Snubber bleed, or release rate where required, is present in both tension and compression, within the specified range;

3) For mechanical snubbers, the force required to initiate or maintain motion of the snubber is within the specified range in both directions of travel; and

4) For snubbers specifically required not to displace under continuous load, the ability of the snubber to withstand load without displacement.

Testing methods may be used to measure parameters indirectly or parameters other than those specified if those results can be correlated to the specified parameters through established methods.

Functional Test Failure Analysis

An engineering evaluation shall be made of each failure to meet the functional test acceptance criteria to determine the cause of the failure. The

BASES (continued)

results of this evaluation shall be used, if applicable, in selecting snubbers to be tested in an effort to determine the OPERABILITY of other snubbers irrespective of type which may be subject to the same failure mode.

For the snubbers found inoperable, an engineering evaluation shall be performed on the components to which the inoperable snubbers are attached. The purpose of this engineering evaluation shall be to determine if the components to which the inoperable snubbers are attached were adversely affected by the inoperability of the snubbers in order to ensure that the component remains capable of meeting the designed service.

If any snubber selected for functional testing either fails to lock up or fails to move, i.e., frozen in place, the cause will be evaluated and, if caused by manufacturer or design deficiency, all snubbers of the same type subject to the same defect shall be functionally tested. This TESTING REQUIREMENT shall be independent of the requirements stated in TESTING REQUIREMENT 16.9-13-3 for snubbers not meeting the functional test acceptance criteria.

All snubbers that fail to meet the functional test criteria must be evaluated to determine the cause, and the potential for applicability of the failure mode to other snubbers. Likewise, an evaluation is required to determine if the attached components have been adversely affected by the functional failure of the snubber. It is noted that the evaluation is only required for snubbers that are inoperable due to a failure of the snubber itself to meet the functional requirements. A snubber that is inoperable due solely to being disconnected from the supported component does not necessitate a component or system evaluation, provided that the snubber itself meets the requirements of the functional test criteria. In this case, the only action required is that the snubber be completely restored and the cause of the disconnection determined and evaluated for generic implications.

Service Life

The service life of a snubber is established via manufacturer input and information through consideration of the snubber service conditions and associated installation and maintenance records (newly installed snubbers, seal replaced, spring replaced, in high radiation area, in high temperature area, etc.). The requirement to monitor the snubber service life is included to ensure that the snubbers periodically undergo a performance evaluation in view of their age and operating conditions. These records will provide statistical bases for future consideration of snubber service life.

If a service lifetime limit is associated (established) with any snubber (or critical part) based on manufacturer's information, qualification tests, or historical service results, then the service life shall be monitored to ensure that the service life is not exceeded between surveillance inspections.

BASES (continued)

Established snubber service life shall be extended or shortened based on monitored test results and failure history. The replacements (snubbers or critical parts) shall be documented and the documentation shall be retained. Records of the service lives of all hydraulic and mechanical snubbers, including the date at which the service life commences, and associated installation and maintenance records shall be retained for the duration of the unit operating license.

REFERENCES

1. Letter from W.R. McCollum, Jr. to NRC, Request for Relief 95-05, Snubber Inspection Interval for Unit 1, August 23, 1995.

2. Letter from W.R. McCollum, Jr. to NRC, Request for Relief 96-01, Snubber Inspection Interval for Unit 2, February 12, 1996.

3. Letter from NRC to W.R. McCollum, Request for Relief 95-05, January 11, 1996.

4. Letter from NRC to W.R. McCollum, Request for Relief 96-01, May 16, 1996.

5. Letter from NRC to Gary R. Peterson, Duke, Issuance of Improved Technical Specifications Amendments for Catawba, September 30, 1998.

6. Letter from M.S. Tuckman to NRC, Licensing Position Regarding Snubbers, May 20, 1999.

7. Letter from NRC to G.R. Peterson, Licensing Position Regarding Snubbers, July 7, 1999.

8. Technical Specifications Task Force (TSTF)-372-A, Revision 4, Addition of LCO 3.0.8, Inoperability of Snubbers.

9. TSTF-IG-05-03, Technical Specifications Task Force Implementation Guidance for TSTF-372-A, Revision 4, Addition of LCO 3.0.8, Inoperability of Snubbers.

10. Nuclear System Directive 415, Operational Risk Management (Modes 1-3) per 10CFR 50.65(a)(4).

11. Federal Register, 70FR23252, Notice of Availability of Model Application Concerning Technical Specification Improvement to Modify Requirements Regarding the Addition of Limiting Condition for Operation 3.0.8 on the Inoperability of Snubbers Using the Consolidated Line Item Improvement Process.