

APR 10 2019

Docket Nos.: 50-348
50-364

NL-19-0347

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555-0001

Joseph M. Farley Nuclear Plant – Units 1 and 2
Snubber Program Plan for the Fifth Ten Year Inservice Testing Interval

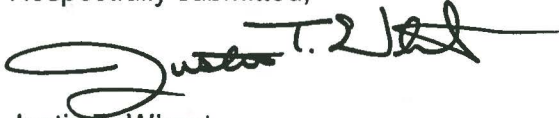
Ladies and Gentlemen:

In accordance with American Society of Mechanical Engineers Code for Operation and Maintenance of Nuclear Power Plants (ASME OM Code), Subparagraph ISTA-3200(a), Southern Nuclear is submitting for your information a copy of the Farley Nuclear Plant Snubber Program.

The Snubber Program Plan update was completed in November of 2017. It is being submitted in April of 2019 which is after the start of the ten-year interval which began on December 1, 2017 and concludes on November 30, 2027.

This letter contains no NRC commitments. If you have any questions, please contact Jamie Coleman at 205.992.6611.

Respectfully submitted,

Justin T. Wheat
Licensing Manager

JTW/ndj/sm

Enclosure: Snubber Program Plan for the Fifth Ten Year Inservice Testing Interval

cc: Regional Administrator, Region II
NRR Project Manager – Farley Nuclear Plant
Senior Resident Inspector – Farley Nuclear Plant
RTYPE: CFA04.054


**Joseph M. Farley Nuclear Plant – Units 1 and 2
Snubber Program Plan for the Fifth Ten Year Inservice Testing Interval**


**Enclosure
Snubber Program Plan**


**Joseph M. Farley Nuclear Plant
Units 1 and 2
5th Interval Snubber Program**

Version	Completion Date	Description
1.0	11/13/2017	Initial Issuance

Engineering Programs' Signatures

Preparer: Mitchell Etten-Bohm /  Date: 11/13/2017
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Reviewer: Jimmy Cash /  Date: 11-13-17
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Approver: DEAN T. LURK /  Date: 11-16-2017
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Joseph M. Farley Nuclear Plant
 050-00348 (Unit 1) and 050-00364 (Unit 2)
 7388 North State Highway 95
 Columbia, AL 36319

Construction Permit Issue Date: 08/16/1972 (Unit 1 & 2)
 Commercial Service Date: 12/01/1977 (Unit 1)
 07/30/1981 (Unit 2)

Joseph M. Farley Nuclear Plant 5th Interval Snubber Program

INTRODUCTION

Joseph M. Farley Nuclear Plant is a pressurized water reactor that has been operating for over 30 years. Commercial Operation for Unit 1 and Unit 2 began in December 1977 and July 1981, respectively. Each unit currently produces 900 megawatts of electricity.

10 CFR 50.55a, "Codes and Standards," incorporates by reference which ASME Codes govern snubbers. Paragraph 50.55a(b)(3)(v) allows the ASME Code for Operation and Maintenance of Nuclear Power Plants (OM Code), Subsection ISTD to be used in lieu of ASME Code Section XI, IWF-5200(a) and (b) and IWF-5300(a) and (b), to govern inservice examination and testing of dynamic restraints (snubbers) at nuclear power plants. This is permitted as long as appropriate changes are made to the Technical Specifications (TS) or licensee-controlled documents. Consequently, Joseph M. Farley Units 1 and 2 (FNP-1/2) has chosen to adopt the OM Code, Subsections ISTA and ISTD, for its Snubber Program.

FNP-1/2's snubber program formally adopted the OM Code in May 2008 (see NL-08-0513). The initial snubber program document was prepared in accordance with the requirements of ASME OM Code, 2001 Edition through 2003 Addenda as endorsed in the version of 10 CFR 50.55a issued October 1, 2004. Utilizing this edition of the OM Code aligns the snubber program with the IST pumps and valves program.

For the fifth 10-year interval, this program will be updated concurrently with the Inservice Inspection (ISI) and Inservice Testing (IST) updates. This meets 10 CFR 50.55a requirements for program updates to the latest edition and addenda of the Code that it has endorsed 12 months before the start of the plant's next 120-month interval. The fourth 10-Year interval for FNP-1/2 snubbers will end on November 30, 2017. At that time, FNP-1/2 Snubber Program will adhere to OM Code 2004 Edition, through 2006 Addenda.

The adoption of the OM Code for the snubber program does not affect FNP-1/2's inspection and testing interval. The following table provides current and previous 10-Year Interval dates.

	FNP Unit 1	FNP Unit 2
1st 10-year Interval	12/01/1977 to 11/30/1987	07/30/1981 to 07/29/1991
2nd 10-year Interval	12/01/1987 to 11/30/1997	07/30/1991 to 11/30/1997
3rd 10-year Interval	12/01/1997 to 11/30/2007	12/01/1997 to 11/30/2007
4th 10-year Interval	12/01/2007 to 11/30/2017	12/01/2007 to 11/30/2017
5th 10-year Interval	12/01/2017 to 11/30/2027	12/01/2017 to 11/30/2027

OM Code subsection ISTA – 1100 requires the scope of the snubber program to include any snubbers having one or more of the functions listed below:

- Shutting down the reactor to the safe shutdown condition
- Maintaining the reactor's safe shutdown condition
- Mitigating the consequences of an accident
- Ensuring the integrity of the reactor coolant pressure boundary

Joseph M. Farley Nuclear Plant Snubber Program

The number of snubbers at FNP within the scope of ISTA is listed below:

UNIT 1			
	Accessible	Inaccessible	Grand Total
Snubbers	115	313	428

UNIT 2			
	Accessible	Inaccessible	Grand Total
Snubbers	121	211	332

Per ISTA-3200(a), this program shall be filed with the NRC.

Detailed information for each snubber is contained within SnubbWorks®, a data management program that is part of the software package from Iddeal Concepts, Inc. The groups of snubbers contain PSA Mechanical Snubbers and Lisega and ITT Grinnell/Anvil hydraulic snubbers.

Roles, responsibilities, a site-specific procedures' list, and implementation instructions for the FNP snubber program are found in NMP-ES-057 and associated instructions.

TEST PLAN

1. Relationship with Licensing Documents

No conflicts between ASME OM Code requirements and the requirements of FNP-1/2 Technical Specifications have been identified. As part of the process for adopting the ASME OM Code, the FNP-1/2 Technical Requirements Manual 13.7.2 was reviewed and revised accordingly (LDCR 2007023 TM/IT).

2. Quality Assurance

Subsection ISTA provides General Requirements applicable to OM Code activities. These requirements shall be applied to snubber program activities. The 10 CFR Part 50, Appendix B Quality Assurance Program applicable to FNP-1/2 will be used in conjunction with the OM Code requirements.

3. FNP-1/2 Safety Class Piping

FNP-1/2 safety class piping was designed to ASME Section III Class 1, 2, and 3 requirements. In addition, certain systems important to safety that were designed to ANSI B31.1 are currently included within the scope of ASME Section XI and treated as Class 2 or 3.

Joseph M. Farley Nuclear Plant Snubber Program

4. FN-1/2 Snubber Classification

At FNP-1/2, snubbers falling under the scope of ISTA-1100 are classified as either safety related or safety significant.

Safety related snubbers are snubbers required to shut down/maintain shut down of a reactor, and mitigate consequences of an accident. These snubbers are attached directly to ASME Class 1, 2 or 3 piping. The Class 1, 2, or 3 safety-related scope is defined by plant boundary diagrams; a list can be found in the plant's Inservice Inspection (ISI) Plan.

Safety significant snubbers are snubbers needed to ensure the integrity of the reactor coolant pressure boundary. These snubbers are located on non-class systems whose failure could jeopardize class 1, 2, or 3 piping; specifically, non-safety piping that is between the safety class valve and the first anchor point. This piping is considered safety-significant because it must be structurally sound in case of a design basis event, so that the safety-class piping is not affected.

As allowed by ISTD-4220(a), Snubbers are divided on each Unit into inaccessible and accessible. Inaccessible is defined as any snubber that cannot be reached during normal operation; such snubbers are located inside the containment building. Accessible is defined as any snubber located outside the containment building. At FNP, both inaccessible and accessible snubbers are examined during the same refueling outage.

As allowed by ISTD-5252, FNP-1/2 snubbers are also classified by manufacturer, as seen in section 5.

NMP-ES-057-001 identifies each snubber by piping support number (mark number); the snubber type, hydraulic (H) or mechanical (M) and model; classification regarding accessibility for examination during power operation; safety-related classification; and system classification. Categorization of snubber locations (i.e., seismic, dynamic, or both) is provided in FNP-1/2-SOP-104.0.

The snubber list may contain snubbers within the "Safety Related" sections shown with an "N1" in the snubber location column. This is due to the fact that a seismic analysis does not necessarily end at "Q to Non-Q" dividing line, but must be carried on to the next anchor. Therefore, if a snubber is placed outside the "Q to Non-Q" boundary, but prior to the next anchor, it must be treated as a Safety Significant Snubber.

5. Snubber Visual Examination

All snubbers at FNP 1/2 falling under the scope of ISTA – 1100 are subjected to the requirements of ISTD – 4000, "EXAMINATION REQUIREMENTS." The snubbers installed in FNP 1/2 that fall under the jurisdiction of ISTD – 4000 are listed in NMP-ES-057-001. Per ISTD-3110, the visual examination must be pin-to-pin (include everything between the snubber pin attachments). In accordance with ISTD – 4200, periodic inservice visual examinations shall be performed on all snubbers in scope. The initial and subsequent frequency of 100% visual examination is determined by OM Code Table ISTD-4252-1. FNP 1/2 adopted code case OMN-13, "Requirements for Extending Snubber Inservice Visual Examination Interval at LWR Power Plants", Revision 0, approved by Regulatory Guide 1.192, which requires 100% visual examination of Snubbers governed by OM Code within 10 years of the last completed 100% visual exam. The next planned 100% visual

Joseph M. Farley Nuclear Plant Snubber Program

exam shall be before conclusion of the ten-year period from the last 100% visual exam per the frequency described in OM Code ISTD and Code Case OMN-13. The examination of snubbers will be performed by qualified examiners using VT-3 examination methods.

The visual examination frequency of non-safety related, non-safety significant snubbers is discussed in Section 8.

6. Snubber Operational Readiness Testing

All snubbers at FNP falling under the scope of ISTA – 1100 are subjected to the requirements of ISTD – 5000.

In accordance with ISTD – 5100, new snubbers shall have been subjected to a preservice Operational Readiness test before installation. Testing may be performed at the manufacturer's facility.

In accordance with ISTD – 5200, periodic inservice Operational Readiness testing shall be performed on all snubbers.

The snubbers installed in FNP-1/2 that fall under the jurisdiction of ISTD – 5000 are listed in NMP-ES-057-001. The Defined Test Plan Groups (DTPG) are listed below:

DTPG I	ANVIL / ITT GRINNELL
DTPG II	PSA
DTPG III	LISEGA

Each refueling outage a 10% initial sample of each DTPG will be tested in accordance with ISTD-5261(a). The initial sample plan will be selected in accordance with ISTD-5311. In the event any unacceptable snubbers are found, additional snubbers will be selected for testing during the same refueling cycle to meet the requirements of ISTD-5320.

The frequency of Operational Readiness testing non-safety related, non-safety significant snubbers is discussed in section 8.

7. Service Life and Snubber Seal Replacement Program

A snubber service life program in accordance with ISTD-6000 "SERVICE LIFE MONITORING" has been established for FNP-1/2. This service life program includes the requirements of the snubber seal replacement program required by ISTD. The specifics of the program are recorded in corporate and site procedures.

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8. FNP-1/2 Non-Safety Related, Non-Safety Significant Snubbers

NMP-ES-057-001 also contains non-safety related, non-safety significant snubbers (snubbers that are not covered under the TRM 13.7.2 scope). As a good engineering practice, each unit's non-safety related, non-safety significant snubbers will be visually examined on the same frequency as the 100% visual examination of the subsection ISTA-1100 scope snubbers. Operational Readiness testing of non-safety related, non-safety significant snubbers may occur at the program owner's discretion.

9. Plant Transients

When notified of a potentially damaging transient event, an inspection shall be performed of all snubbers attached to affected systems. The visual inspection of the system(s) shall be completed as described in NMP-ES-038-004.

In addition to satisfying the visual inspection acceptance criteria, freedom-of-motion of mechanical snubbers shall be verified using at least one of the following:

- Manually induced snubber movement
- Stroking the mechanical snubber through its full range of travel.

The examination, including the freedom-of-motion verification, may be performed in accordance with procedure NMP-ES-024-203.

Results shall be included with the engineering evaluation.

10. Commitments

FNP-1/2 has no active commitments for snubbers at this time. An important action that was previously taken in connection with the program is recorded under FNP 2009202541.

For historical purposes, Implementation of improved Technical Specifications moved the section on snubbers out of the Tech Specs to the Technical Requirements Manual (TRM) as TRM section 13.7.2. Amendment 55 to the Unit 1 & Amendment 46 to the Unit 2 Technical Specifications removed the list of Safety Related Hydraulic Snubbers (Table 3-7.4a) and Safety Related Mechanical Snubbers (Table 3-7.4b) and added the requirement that FNP maintain a list to which section 3/4.7.9 should apply. The current list of snubbers in the scope of the Farley Units 1 and 2 Snubber Program resides in NMP-ES-057-001.