

December 20, 2022

Docket Nos.: 50-348  
50-364

NL-22-0799

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

Joseph M. Farley Nuclear Plant – Units 1 and 2  
License Amendment Request to Revise  
the Frequency of Surveillance Requirement 3.6.3.5

Ladies and Gentlemen:

Pursuant to the provisions of Section 50.90 of Title 10 of the Code of Federal Regulations (CFR), Southern Nuclear Operating Company (SNC) hereby requests a license amendment to Joseph M. Farley Nuclear Plant (FNP) Unit 1 Renewed Facility Operating License NPF-2 and Unit 2 Renewed Facility Operating License NPF-8. The proposed amendment revises Surveillance Requirement (SR) 3.6.3.5 to eliminate event-based testing of containment purge valves with resilient seals and permit testing to be performed in accordance with the Surveillance Frequency Control Program.

The enclosure provides a basis for the proposed change. Attachment 1 contains marked-up Technical Specification (TS) pages. Attachment 2 contains revised TS pages. Attachment 3 provides marked-up TS Bases pages for information only. Attachment 4 contains Unit 1 quarterly containment purge air system containment isolation valve leakage history. Attachment 5 contains Unit 2 quarterly containment purge air system containment isolation valve leakage history.

SNC requests approval of the proposed amendment within 12 months of completion of the NRC's acceptance review with an implementation period of 60 days.

In accordance with 10 CFR 50.91, a copy of this application, including attachments, is being provided to the designated Alabama Official.

This letter contains no regulatory commitments. If you have any questions, please contact Ryan Joyce at 205.992.6468.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 20<sup>th</sup> day of December 2022.

Respectfully submitted,



C. A. Gayheart  
Director, Regulatory Affairs  
Southern Nuclear Operating Company

CAG/was/dmw

Enclosure: Basis for Proposed Changes

- Attachments:
1. Proposed Technical Specification Changes (Marked-up Pages)
  2. Revised Technical Specification Pages
  3. Proposed Technical Specification Bases Pages (Marked-up) for Information Only
  4. Unit 1 quarterly containment purge air system containment isolation valve leakage history
  5. Unit 2 quarterly containment purge air system containment isolation valve leakage history

cc: Regional Administrator, Region II  
NRR Project Manager – Farley 1 & 2  
Senior Resident Inspector – Farley 1 & 2  
Alabama – State Health Officer for the Department of Public Health  
RType: CFA04.054

**Joseph M. Farley Nuclear Plant - Units 1 and 2  
License Amendment Request to Revise  
the Frequency of Surveillance Requirement 3.6.3.5**

**Enclosure**

**Basis for Proposed Changes**

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## **Basis for Proposed Changes**

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**SUBJECT: License Amendment Request to Revise the Frequency of Surveillance Requirement 3.6.3.5**

**1.0 SUMMARY DESCRIPTION**

**2.0 DETAILED DESCRIPTION**

- 2.1 System Design and Operation**
- 2.2 Current Technical Specifications Requirements**
- 2.3 Reason for the Proposed Change**
- 2.4 Description of the Proposed Change**

**3.0 TECHNICAL EVALUATION**

**4.0 REGULATORY EVALUATION**

- 4.1 Applicable Regulatory Requirements/Criteria**
- 4.2 Precedent**
- 4.3 No Significant Hazards Consideration**
- 4.4 Conclusion**

**5.0 ENVIRONMENTAL CONSIDERATION**

**6.0 REFERENCES**

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- Attachments:
- 1. Proposed Technical Specification Changes (Marked-up Pages)
  - 2. Revised Technical Specification Pages
  - 3. Proposed Technical Specification Bases Pages (Marked-up) for Information Only
  - 4. Unit 1 Quarterly Containment Purge Air System Containment Isolation Valve Leakage History
  - 5. Unit 2 Quarterly Containment Purge Air System Containment Isolation Valve Leakage History



## **1.0 SUMMARY DESCRIPTION**

In accordance with 10 CFR 50.90, "Application for amendment of license, construction permit, or early site permit," Southern Nuclear Operating Company (SNC) requests an amendment to Renewed Facility Operating License NPF-2 and NPF-8 for Joseph M. Farley Nuclear Plant (FNP), Units 1 and 2, respectively. The proposed change revises Surveillance Requirement (SR) 3.6.3.5 to eliminate event-based testing of containment purge valves with resilient seals and permit testing to be performed in accordance with the Surveillance Frequency Control Program.

## **2.0 DETAILED DESCRIPTION**

### **2.1 System Design and Operation**

The containment isolation valves form part of the containment pressure boundary and help ensure that the containment atmosphere will be isolated from the environment in the event of a release of fission product radioactivity to the containment atmosphere as a result of a Design Basis Accident (DBA). The containment isolation valves include valves in the Shutdown Purge System and the Minipurge System.

The Shutdown Purge System operates during shutdown (i.e., Modes 5 and 6) to supply outside air into the containment for ventilation and temperature control and may also be used to reduce the concentration of noble gases within containment for personnel access. Because of their large size, the 48-inch purge valves are not qualified for automatic closure under DBA conditions and are required by TS to be closed in Modes 1, 2, 3, and 4. The Shutdown Purge System supply includes an outside air connection to prefilters, heating coils, a fan, a duct system, and a supply penetration with three butterfly valves in series. The Shutdown Purge System exhaust includes an exhaust penetration with three butterfly valves in series, a duct system, a filter bank with prefilters, HEPA and charcoal filters, and an exhaust fan.

The only radiological accident assumed to occur inside the containment during Mode 5 or 6 is a fuel handling accident. The analysis of the radiological consequences of a fuel handling accident inside the containment takes no credit for closing of the Shutdown Purge System isolation valves. The Shutdown Purge System is assumed to continue to operate following the event.

The Minipurge System is independent of the Shutdown Purge System but there is common ductwork and common filters. The 8-inch Minipurge System is used to maintain radioactivity levels in the containment and to equalize internal and external pressures as needed in Modes 1, 2, 3, and 4. The Minipurge System exhaust also has two isolation valves in series.

The DBAs that result in a release of radioactive material within containment are a loss of coolant accident (LOCA) and a rod ejection accident. In the analyses for each of these accidents, it is assumed that containment isolation valves are either closed or function to close within the required isolation time following event initiation. This ensures that potential paths to the environment through containment isolation valves (including shutdown purge and minipurge valves) are minimized.



## **2.2 Current Technical Specifications Requirements**

FNP TS 3.6.3, Containment Isolation Valves, SR 3.6.3.5 states:

Perform leakage rate testing for containment penetrations containing containment purge valves with resilient seals.

The Frequency is, "In accordance with the Surveillance Frequency Control Program AND Within 92 days after opening the valve."

The acceptance criteria for the leakage rate testing performed by SR 3.6.3.5 are provided in TS 5.5.17, "Containment Leakage Rate Testing Program," and are unchanged by the proposed amendment.

TS 3.3.6, "Containment Purge and Exhaust Isolation Instrumentation," provides initiation signals to automatically close the Shutdown Purge System and Minipurge System isolation valves on receipt of a containment isolation signal or on receipt of a high radiation signal from the purge exhaust monitors. These requirements are unchanged by the proposed amendment.

The FNP TS include a Surveillance Frequency Control Program (SFCP) as Specification 5.5.19, which was approved in Amendment No. 185/180, dated July 18, 2011. The program provides controls for Surveillance Frequencies to ensure that Surveillance Requirements specified in the Technical Specifications are performed at intervals sufficient to assure the associated Limiting Conditions for Operation are met.

## **2.3 Reason for Proposed Change**

In the 1970s it was recognized that containment purge and vent valves with resilient seals were more susceptible than other containment isolation valves to degradation caused by environmental factors (such as temperature extremes, and changes in humidity and barometric pressure) and mechanical factors (such as wear and tear and hardening of resilient seats due to aging and exposure to radiation). This degradation could cause significant and increasing leakage rates. In addition, the radiological consequences of such leaks were more significant than for most containment isolation valves because the containment purge and vent valves typically have large diameters and provide a direct connection between the containment atmosphere and the outside environment.

As part of the resolution of Generic Issue B-20 (later renamed Multi-Plant Action MPA-B020), "Containment Leakage Due to Seal Deterioration," the frequency of leak testing of containment purge and vent valves was increased to limit the time in which the valves might be experiencing excessive leakage without detection. Although there was some variation, a typical testing arrangement was to have "passive" valves (those not opened during plant operation) tested every six months and "active" valves (those opened during plant operation) tested within three months of being operated.

Title 10 of the Code of Federal Regulations, Part 50, Appendix J, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors," Option B, to which FNP is committed, does not require more frequent testing for containment purge and vent valves. The more frequent testing is required by SR 3.6.3.5.

The industry has made considerable improvement to the performance of containment purge and vent valves with resilient seals. Improved seal materials, quality control, and modifications of equipment and environmental conditions have corrected the valve deficiencies in many plants. Several plants have requested, and the NRC staff has granted, TS changes to eliminate the more frequent testing requirements for containment purge and vent valves with resilient seals. This permits the testing to be performed at a frequency consistent with other containment isolation valves.

The performance history of the FNP Shutdown Purge System and Minipurge System resilient seal isolation valves does not warrant testing within 92 days after opening the valve. As a result, the Frequency is proposed to be revised to permit the Frequency of testing to be controlled by the licensee in accordance with the SFCP, which will establish an appropriate performance-based testing Frequency.

## **2.4 Description of the Proposed Change**

The Frequency of SR 3.6.3.5 is revised to state, "In accordance with the Surveillance Frequency Control Program."

A markup of the proposed change to TS SR 3.6.3.5 is provided in Attachment 1. Attachment 2 provides the "clean" retyped SR 3.6.3.5.

Attachment 3 provides a markup of TS SR 3.6.3.5 Bases for information only.

## **3.0 TECHNICAL EVALUATION**

### **3.1 FNP Shutdown Purge System and Minipurge System Isolation Valve Testing Method**

The FNP Shutdown Purge System and Minipurge System isolation valves are tested as Type C valves against the criteria of 10 CFR 50, Appendix J, Option B, as described in NEI 94-01 Revision 3-A. FNP is required to follow the requirements in Appendix J, Option B, and the guidance in NEI 94-01, Revision 3-A, by TS 5.5.17.

These valves are locally leak-tested by local pressurization to the maximum calculated accident containment pressure. Each valve to be tested is closed by normal operation without any preliminary exercising or adjustments (e.g., no tightening of the valve after closure by the valve actuator). The design of the containment purge and vent systems requires that the test volume be defined by the inside and outside containment isolation valves; that is to say the test volume is between the valves. This means the inside containment isolation valve is tested in the reverse direction to accident pressurization. ANSI/ANS 56.8, 2002, Section 6.2, "Direction of Testing" states the following:

Tests should be performed so that the test pressure is applied in the same direction as that which would occur during the design-basis LOCA. A reverse-direction test may be performed if it provides equivalent or more conservative test results.

Butterfly valves employing resilient seals are configured internally such that testing in either direction is considered to be equivalent.



The TS limit for measured leakage through the containment purge valves is the acceptance criteria on startup after employing the shutdown purge, 11,738 cc/min per penetration when pressurized to the peak accident containment pressure. During all other testing, the TS limit is  $0.6L_a$  minus the sum of all other Local Leak Rate Test results.

### **3.2 FNP Shutdown Purge System and Minipurge System Isolation Valve Testing Results**

A review of results of tests performed in accordance with SR 3.6.3.5 beginning in 2009 identified no instances of unacceptable seat leakage. Please refer to Attachments 4 and 5 of this LAR for FNP Units 1 and 2 quarterly test results. The tests have an acceptance criterion that states that the test measured leakage is added to the total Type B and Type C leakage for all other penetrations, and the total must be less than  $0.6L_a$ . For tests performed during Mode ascension after an outage where the Shutdown Purge System was used, there is an additional criterion that the leakage be less than  $0.05L_a$  (11,738 cc/min).

Because the acceptance criteria are dependent on the sum of the other Type B and Type C test results, the acceptance criteria vary from test to test.

- The Unit 1 Penetration 12, Purge Supply, acceptance criteria ranged from a maximum allowed of 138,691 cc/min to a minimum of 98,325 cc/min. The measured leakage rates ranged from 2 cc/min to 8,002 cc/min.
- The Unit 1 Penetration 13, Purge Exhaust, acceptance criteria ranged from a maximum of 136,891 cc/min to a minimum of 91,469 cc/min. The measured leakage rates ranged from 2 cc/min to 28,634 cc/min.
- The Unit 2 Penetration 12, Purge Supply, acceptance criteria ranged from a maximum of 135,160 cc/min to a minimum of 106,450 cc/min. The measured leakage rates ranged from 34 cc/min to 17,090 cc/min.
- The Unit 2 Penetration 13, Purge Exhaust, acceptance criteria ranged from a maximum of 135,185 cc/min to a minimum of 108,198 cc/min. The measured leakage values ranged from 17 cc/min to 14,714 cc/min.

The maximum leakage measured for the Unit 1 Exhaust and the Unit 2 Supply and Exhaust valves exceeded the Mode Ascension criteria of  $0.05L_a$  or 11,738 cc/min during quarterly testing. This is acceptable because the SR 3.6.3.5 acceptance criteria does not require meeting the  $0.05L_a$  additional criteria. Therefore, these tests were satisfactory.

### **3.3 Impact of the Proposed Change on Plant Risk**

The major contributors to Large Early Release Frequency (LERF) for FNP are Interfacing System LOCAs, Medium pipe break LOCA, and Steam Line Breaks down stream of the MSIVs. The Shutdown Purge System and Minipurge System do not contribute significantly to Large Early Release Frequency (LERF). The 48-inch Shutdown Purge System isolation valves are not explicitly modeled in the FNP PRA because they are normally locked closed and not manipulated in Modes 1, 2, 3, and 4. The Minipurge System isolation valves may be opened in



Enclosure to NL-22-0799  
License Amendment Request to Revise  
the Frequency of Surveillance Requirement 3.6.3.5

Mode 1, 2, 3, and 4, and are modeled in the FNP PRA. The potential failure of the Minipurge System isolation valves to close when required is a very small contribution to the LERF. Extending the intervals between leakage rate tests on the Shutdown Purge System and Minipurge System isolation valves does not affect the ability of these valves to close. As a result, the proposed changes will have little to no effect on LERF.

### **3.4 Surveillance Frequency Control Program**

The SFCP ensures that SRs in the TS are performed at intervals sufficient to assure the regulatory requirements are met. Existing regulatory requirements, such as 10 CFR 50.65 (Maintenance Rule) and 10 CFR Part 50, Appendix B (Corrective Action Program), require monitoring of surveillance test failures and implementing corrective actions to address such failures. One of these actions may be to consider increasing the frequency at which a surveillance is performed. In addition, the SFCP implementation guidance in NEI 04-10, Revision 1, requires monitoring of the performance of structures, systems, and components (SSCs) for which surveillance frequencies are decreased to assure reduced testing does not adversely impact the SSCs. Changes to surveillance frequencies in the SFCP using NEI 04-10, Revision 1, including qualitative considerations, results of risk analyses, sensitivity studies and any bounding analyses, and recommended monitoring of SSCs, are required to be documented. These are subject to regulatory review and oversight.

The proposed change will eliminate the event-based testing Frequency of within 92 days after opening a containment purge valve with resilient seals. The containment purge valves with resilient seals will be leak tested at a Frequency specified in the SFCP and any changes to the testing Frequency will be evaluated in accordance with the SFCP following the process in NEI 04-10, Revision 1.

FNP TS 5.5.17, "Containment Leakage Rate Testing Program," requires containment leakage rate testing to be in accordance with NEI 94-01, "Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J," Revision 3-A. NEI 94-01 requires the containment purge and vent valve testing Frequency to not exceed 30 months. Therefore, the testing Frequency established by the SFCP cannot exceed this length.

## **4.0 REGULATORY EVALUATION**

### **4.1 Applicable Regulatory Requirements/Criteria**

The proposed change has been evaluated to determine whether applicable regulations and requirements continue to be met.

10 CFR 50.54(o) requires primary reactor containments for water-cooled power reactors to be subject to the requirements of Appendix J to 10 CFR 50, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors." Appendix J Option B, "Performance Based Requirements," specifies containment leakage testing requirements, including the types required to ensure the leak-tight integrity of the primary reactor containment and systems and components which penetrate the containment. In addition, Appendix J discusses leakage rate acceptance criteria, test methodology, frequency of testing and reporting requirements for each type of test.



FNP has implemented the performance-based Option B of 10 CFR 50 Appendix J for containment leakage rate testing. The current test interval for testing a containment purge valve with resilient seals of within 92 days after opening the valve, is not based on Appendix J and appears only in the plant TS. Generic Issue B-20, "Containment Leakage Due to Seal Deterioration," provides the basis for the determination that valves with resilient seals should be tested more frequently than required by Appendix J. However, the FNP testing history demonstrates that these valves have a very low failure rate and more frequent testing is not warranted. Therefore, the proposed change does not affect compliance with 10 CFR 50.54(o) or 10 CFR 50, Appendix J, Option B.

#### **4.2 Precedent**

The NRC has approved the elimination of the event-driven leak rate testing Frequency for containment purge valves with resilient seals for a number of plants based on good valve performance demonstrated by plant-specific historical leakage rate testing results (References 1 - 4). The containment purge valve performance for FNP is similar to the valve performance at these plants and justifies a similar change to the FNP TS.

#### **4.3 No Significant Hazards Consideration**

Southern Nuclear Operating Company (SNC) requests an amendment to Renewed Facility Operating License NPF-2 and NPF-8 for Joseph M. Farley Nuclear Plant (FNP), Units 1 and 2, respectively. The proposed change revises Surveillance Requirement (SR) 3.6.3.5 to eliminate event-based testing of containment purge valves with resilient seals and permit testing to be performed in accordance with the Surveillance Frequency Control Program.

SNC has evaluated whether or not a significant hazards consideration is involved with the proposed amendment(s) by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. Do the proposed changes involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No

The containment purge valves, and containment purge valve leakage testing are not an initiator of any accident previously evaluated. As a result, the frequency of performing containment purge valve leakage testing does not affect the probability of any accident previously evaluated. The containment purge valves are part of the containment barrier, which is credited to mitigate the consequences of many previously evaluated accidents. However, plant testing data demonstrates that the containment purge valves are reliable, and the event-driven testing is not necessary to ensure the containment purge valves perform their role in preventing radiological releases from the containment following an accident. As a result, the proposed change does not have a significant effect on the consequences of any accident previously evaluated.

Therefore, this proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.



2. Do the proposed changes create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No

The proposed change does not change the design function or operation of the containment purge valves. The proposed elimination of event-based leakage testing of the containment purge valves does not create any new credible failure mechanism or accident initiators not considered in the original design.

Therefore, this proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Do the proposed changes involve a significant reduction in a margin of safety?

Response: No

The proposed change does not alter any controlling values of parameters assumed in the plant's licensing basis to avoid exceeding regulatory or licensing limits. The proposed change does not alter a design basis or safety limit. The proposed change permits changing the frequency of performing containment purge valve leakage testing but does not alter the acceptance criteria for such tests.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above evaluations, Southern Nuclear Operating Company concludes that the proposed amendment(s) present no significant hazards consideration under the standards set forth in 10 CFR 50.92(c) and, accordingly, a finding of no significant hazards consideration" is justified.

#### **4.4 Conclusion**

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

#### **5.0 ENVIRONMENTAL CONSIDERATION**

Southern Nuclear Operating Company has determined that the proposed amendment would change requirements with respect to the installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. Southern Nuclear Operating Company has evaluated the proposed changes and has determined that the changes do not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amount of effluent that may be released offsite, or (iii) a significant increase in the individual or cumulative occupational

radiation exposure. Accordingly, the proposed change meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22 (c)(9). Therefore, pursuant to 10 CFR 51.22(b), an environmental assessment of the proposed change is not required

## **6.0 References**

1. Letter to Document Control Desk (NRC) from J. J. Sheppard (South Texas Project), Subject: South Texas Project, Units 1 and 2, Docket Nos. STN 50-498, STN 50-499, Proposed Amendment to Technical Specification 3/4.6.1.7, "Containment Ventilation System," for Containment Purge Valve Operability Test Interval, dated February 18, 2002 (ADAMS Accession No. ML020520535).
2. Letter to William T. Cottle (South Texas Project) from Mohan Thadani (NRC), Subject: South Texas Project, Units 1 and 2 - Issuance of Amendments Re: Extension of the Intervals Between Operability Tests of the Normal and Supplementary Containment Purge Valves (TAC Nos. MB4048 and MB4049), dated January 7, 2003 (ADAMS Accession No. ML030140325).
3. Letter to Document Control Desk (NRC) from Joseph E. Venable (Waterford), Subject: License Amendment Request, Leakage Rate Testing of Containment Purge Valves, Waterford 3 Steam Electric Station, Docket No. 50-382, License No. NPF-38, dated August 2, 2006 (ADAMS Accession No. ML062270490).
4. Letter to Kevin T. Walsh (Waterford) from N. Kalyanam (NRC), Subject: Waterford Steam Electric Station, Unit 3 – Issuance of Amendment Re: Leakage Rate Testing of Containment Purge Valves (TAC NO. MD2711), dated May 23, 2007 (ADAMS Accession No. ML071290447).
5. NEI 94-01, Revision 3-A, "Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J," July 2012.
6. ANSI/ANS-56.8-2002, "Containment System Leakage Testing Requirements," November 2002.



**Joseph M. Farley Nuclear Plant - Units 1 and 2  
License Amendment Request to Revise  
the Frequency of Surveillance Requirement 3.6.3.5**

**Attachment 1**

**Proposed Technical Specification Changes (Marked-up Pages)**

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.3.5	Perform leakage rate testing for containment penetrations containing containment purge valves with resilient seals.	In accordance with the Surveillance Frequency Control Program  <u>AND</u>  <del>Within 92 days after opening the valve</del>
SR 3.6.3.6	Verify each automatic containment isolation valve that is not locked, sealed or otherwise secured in position, actuates to the isolation position on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program



**Joseph M. Farley Nuclear Plant - Units 1 and 2  
License Amendment Request to Revise  
the Frequency of Surveillance Requirement 3.6.3.5**

**Attachment 2**

**Revised Technical Specification Pages**

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.3.5	Perform leakage rate testing for containment penetrations containing containment purge valves with resilient seals.	In accordance with the Surveillance Frequency Control Program
SR 3.6.3.6	Verify each automatic containment isolation valve that is not locked, sealed or otherwise secured in position, actuates to the isolation position on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program

**Joseph M. Farley Nuclear Plant - Units 1 and 2  
License Amendment Request to Revise  
the Frequency of Surveillance Requirement 3.6.3.5**

**Attachment 3**

**Proposed Technical Specification Bases Pages (Marked-up) for Information Only**



BASES

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SURVEILLANCE  
REQUIREMENTS  
(continued)

SR 3.6.3.4

Verifying that the isolation time of each automatic power operated containment isolation valve in the IST Program is within limits is required to demonstrate OPERABILITY. The isolation time test ensures the valve will isolate in a time period less than or equal to that assumed in the safety analyses. The isolation time and Frequency of this SR are in accordance with the INSERVICE TESTING PROGRAM.

Any change in the components being tested by this SR will require reevaluation of STI Evaluation Number 558904 in accordance with the Surveillance Frequency Control Program.

SR 3.6.3.5

For containment purge valves with resilient seals, additional leakage rate testing beyond the test requirements of 10 CFR 50, Appendix J, Option B, is required to ensure OPERABILITY. The containment purge and exhaust penetration leakage limit is based on not exceeding the total combined leakage rate limit for all Type B and C testing specified in 5.5.17, Containment Leakage Rate Testing Program. Operating experience has demonstrated that this type of seal has the potential to degrade in a shorter time period than do other seal types. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

~~Additionally, this SR must be performed within 92 days after opening the valve. The 92 day Frequency was chosen recognizing that cycling the valve could introduce additional seal degradation (beyond that occurring to a valve that has not been opened). Thus, decreasing the interval (from 184 days) is a prudent measure after a valve has been opened.~~

SR 3.6.3.6

Automatic containment isolation valves close on a containment isolation signal to prevent leakage of radioactive material from containment following a DBA. This SR ensures that each automatic containment isolation valve will actuate to its isolation position on a containment isolation signal (Phase A or Phase B). This surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative controls. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

(continued)

**Joseph M. Farley Nuclear Plant - Units 1 and 2  
License Amendment Request to Revise  
the Frequency of Surveillance Requirement 3.6.3.5**

**Attachment 4**

**Unit 1 Quarterly Containment Purge Air System Containment Isolation Valve Leakage  
History**



FNP Unit 1 Containment Purge Air System Containment Isolation Valves Leakage History (Quarterly Tests)							
Pen 12				Pen 13			
Q1P13V302 / Q1P13V282 / Q1P13V301 / Q1P13V281				Q1P13V301 / Q1P13V281 / Q1P13V303 / Q1P13V284			
Date	Test Type	Leak Rate (sccm)	Acceptance Criteria (sccm)	Date	Test Type	Leak Rate (sccm)	Acceptance Criteria (sccm)
2/2/22	As Found	1835	134175	2/2/22	As Found	2935	134283
11/3/21	As Found	1581	133949	11/3/21	As Found	2827	132993
8/4/21	As Found	1915	138691	8/4/21	As Found	3783	136776
1F30 Refueling Outage (RFO is giving credit to 1st Quarterly Test)							
2/2/21	As Found	2200	129745	2/2/21	As Found	1734	128398
11/18/20	As Found	853	130660	11/18/20	As Found	21	130596
8/5/20	As Found	2	129131	8/5/20	As Found	85	130124.77
5/7/20	As Found	995	129460	5/7/20	As Found	531	129688
2/7/20	As Found	1223	130126	2/7/20	As Found	557	130683
1F29 Refueling Outage (RFO is giving credit to 1st Quarterly Test)							
8/15/19	As Found	609	128550	8/15/19	As Found	606	122406
5/21/19	As Found	5070	127301	5/21/19	As Found	6750	133588
2/27/19	As Found	175	133535	2/27/19	As Found	463	133835
12/18/18	As Found	475	133605	12/18/18	As Found	124	133635
10/24/18	As Found	505	133135	10/24/18	As Found	216	133505
7/16/18	As Found	875	133921	7/16/18	As Found	116	133235
1F28 Refueling Outage (RFO is NOT taking credit for Quarterly Test since it was completed prior to RFO)							
3/29/18	As Found	1364	135786	3/29/18	As Found	630	135163
2/1/18	As Found	928	136460	2/1/18	As Found	1253	135960
11/9/17	As Found	428	136623	11/9/17	As Found	456	136891
8/22/17	As Found	265	136870	8/22/17	As Found	188	136763
5/22/17	As Found	286	136745	5/22/17	As Found	295	136734
3/1/17	As Found	275	136451	3/1/17	As Found	324	136451
1F27 Refueling Outage (RFO is taking credit for Quarterly Test)							
9/16/16	As Found	298	119055	9/16/16	As Found	241	119227
6/23/16	As Found	593	119002	6/23/16	As Found	605	102847

FNP Unit 1 Containment Purge Air System Containment Isolation Valves Leakage History (Quarterly Tests)							
Pen 12				Pen 13			
Q1P13V302 / Q1P13V282 / Q1P13V301 / Q1P13V281				Q1P13V301 / Q1P13V281 / Q1P13V303 / Q1P13V284			
Date	Test Type	Leak Rate (sccm)	Acceptance Criteria (sccm)	Date	Test Type	Leak Rate (sccm)	Acceptance Criteria (sccm)
4/1/16	As Found	403	102013	4/1/16	As Found	16760	118080
1/8/16	As Found	1237	118113	1/8/16	As Found	693	117563
10/16/15	As Found	687	131238	10/16/15	As Found	1210	131116
8/4/15	As Found	565	126236	8/4/15	As Found	481	130997
1F26 Refueling Outage (RFO is taking credit for Quarterly Test)							
3/9/15	As Found	998	132169	3/9/15	As Found	774	131859
12/22/14	As Found	688	132357	12/22/14	As Found	525	132439
10/1/14	As Found	770	132067	10/1/14	As Found	255	131814
7/9/14	As Found	517	131869	7/9/14	As Found	798	132005
4/16/14	As Found	715	128901	4/16/14	As Found	662	129001
1/22/14	As Found	3825	130483	1/22/14	As Found	562	128040
1F25 Refueling Outage (RFO is taking credit for Quarterly Test)							
8/7/13	As Found	968	133774	8/7/13	As Found	1865	135466
5/16/13	As Found	850	135963	5/16/13	As Found	173	135508
2/20/13	As Found	353	136056	2/20/13	As Found	628	136159
12/11/12	As Found	456	135381	12/11/12	As Found	461	135670
10/3/12	As Found	847	135529	10/3/12	As Found	745	135525
7/2/12	As Found	781	133030	7/2/12	As Found	1151	134819
1F24 Refueling Outage (RFO is taking credit for Quarterly Test)							
1/6/12	As Found	1061	132737	1/6/12	As Found	804	132836
10/5/11	As Found	1160	134417	10/5/11	As Found	698	133329
8/12/11	As Found	74	132982	8/12/11	As Found	107	132139
5/10/11	As Found	3295	134268	5/10/11	As Found	2	134252
2/28/11	As Found	19	132387	2/28/11	As Found	18	133648
1/6/12	As Found	1061	132737	1/6/12	As Found	804	132836
1F23 Refueling Outage (RFO is taking credit for Quarterly Test)							
9/7/10	As Found	3055	119419	9/7/10	As Found	10460	116703
6/7/10	As Found	339	105880	6/7/10	As Found	8347	116213



FNP Unit 1 Containment Purge Air System Containment Isolation Valves Leakage History (Quarterly Tests)							
Pen 12				Pen 13			
Q1P13V302 /Q1P13V282 / Q1P13V301 / Q1P13V281				Q1P13V301 /Q1P13V281 / Q1P13V303 / Q1P13V284			
Date	Test Type	Leak Rate (sccm)	Acceptance Criteria (sccm)	Date	Test Type	Leak Rate (sccm)	Acceptance Criteria (sccm)
3/19/10	As Found	8002	98325	3/19/10	As Found	11553	91469
1/15/10	As Found	1146	134864	2/15/10	As Found	28634	126309
9/30/09	As Found	528	135789	9/30/09	As Found	650	135296
7/8/09	As Found	35	133750	7/8/09	As Found	231	133184
1F22 Refueling Outage (RFO is taking credit for Quarterly Test)							

**Joseph M. Farley Nuclear Plant - Units 1 and 2  
License Amendment Request to Revise  
the Frequency of Surveillance Requirement 3.6.3.5**

**Attachment 5**

**Unit 2 Quarterly Containment Purge Air System Containment Isolation Valve Leakage  
History**



FNP Unit 2 Containment Purge Air System Containment Isolation Valves Leakage History (Quarterly Tests)							
Pen 12				Pen 13			
Q2P13V302 /Q2P13V282 / Q2P13V301 / Q2P13V281				Q2P13V301 /Q2P13V281 / Q2P13V303 / Q2P13V284			
Date	Test Type	Leak Rate (sccm)	Acceptance Criteria (sccm)	Date	Test Type	Leak Rate (sccm)	Acceptance Criteria (sccm)
1/6/22	As Found	380	134677	1/6/22	As Found	347	134698
10/8/21	As Found	159	134702	10/8/21	As Found	328	134705
7/8/21	As Found	155	134754	7/8/21	As Found	325	135004
4/18/21	As Found	405	134222	4/18/21	As Found	17	133340
1/8/21	As Found	936	135159.9	1/8/21	As Found	26	135185
2F27 Refueling Outage (RFO is giving credit to 1st Quarterly Test)							
7/8/20	As Found	6404	118518	7/8/20	As Found	90	112803
4/9/20	As Found	689	113923	4/9/20	As Found	360	110317
1/8/20	As Found	8890	121112	1/8/20	As Found	3966	118062
11/6/19	As Found	1455	118319	11/6/19	As Found	3656	121369
8/14/19	As Found	1198	123173	8/14/19	As Found	606	121975
2F26 Refueling Outage (RFO is giving credit to 1st Quarterly Test)							
2/28/19	As Found	4380	108166	2/28/19	As Found	1690	120876
12/19/18	As Found	17090	126821	12/19/18	As Found	2817	108198
10/12/18	As Found	512	123289	10/12/18	As Found	1045	123821
6/20/18	As Found	1467	124207	6/20/18	As Found	513	123901
3/28/18	As Found	1387	121497	3/28/18	As Found	1658	121204
1/4/18	As Found	1094	114823	1/4/18	As Found	1353	111821
2F25 Refueling Outage (RFO is NOT taking credit for Quarterly Test since it was completed prior to RFO)							
10/11/17	As Found	104	110637	10/11/17	As Found	1876	111323
7/27/17	As Found	790	110647	7/27/17	As Found	1525	110192
5/19/17	As Found	780	111388	5/19/17	As Found	1980	110972
2/2/17	As Found	365	111230	2/2/17	As Found	1200	109966
12/8/16	As Found	523	112215	12/8/16	As Found	2464	112021
8/16/16	As Found	1330	123704	8/16/16	As Found	2658	123746
2F24 Refueling Outage (RFO is taking credit for Quarterly Test)							

FNP Unit 2 Containment Purge Air System Containment Isolation Valves Leakage History (Quarterly Tests)							
Pen 12				Pen 13			
Q2P13V302 /Q2P13V282 / Q2P13V301 / Q2P13V281				Q2P13V301 /Q2P13V281 / Q2P13V303 / Q2P13V284			
Date	Test Type	Leak Rate (sccm)	Acceptance Criteria (sccm)	Date	Test Type	Leak Rate (sccm)	Acceptance Criteria (sccm)
3/4/16	As Found	1020	123424	3/4/16	As Found	2127	123424
12/10/15	As Found	765	122542	12/10/15	As Found	2565	122442
9/25/15	As Found	665	128648	9/25/15	As Found	3363	128585
6/26/15	As Found	2774	126387	6/26/15	As Found	602	128668
3/27/15	As Found	582	121767	3/27/15	As Found	5055	121767
1/8/15	As Found	278	125622	1/8/15	As Found	5405	122429
2F23 Refueling Outage (RFO is taking credit for Quarterly Test)							
9/26/14	As Found	748	123927	9/26/14	As Found	505	123519
6/30/14	As Found	340	122454	6/30/14	As Found	494	123370
4/7/14	As Found	642	123818	4/7/14	As Found	624	123707
2/1/14	As Found	531	123856	2/1/14	As Found	412	123817
10/3/13	As Found	495	119267	10/30/13	As Found	414	119220
8/6/13	As Found	445	119267	8/6/13	As Found	1488	121509
2F22 Refueling Outage (RFO is taking credit for Quarterly Test)							
3/21/13	As Found	2687	128671	3/21/13	As Found	880	126251
1/11/13	As Found	880	128716	1/11/13	As Found	550	128416
10/4/12	As Found	835	128449	10/4/12	As Found	850	128449
7/12/12	As Found	3200	128501	7/12/12	As Found	2361	126089
4/29/12	As Found	788	128523	4/29/12	As Found	795	128523
1/27/12	As Found	1385	126979	1/27/12	As Found	773	126362
2F21 Refueling Outage (RFO is taking credit for Quarterly Test)							
9/7/11	As Found	3076	126739	9/7/11	As Found	4495	125244
6/20/11	As Found	1581	126243	6/20/11	As Found	2111	126324
3/21/11	As Found	1662	125620	3/21/11	As Found	2526	126646
1/12/11	As Found	2285	124889	1/12/11	As Found	1500	125124
10/6/10	As Found	2520	106450	10/6/10	As Found	3040	113208
8/4/10	As Found	9278	126739	8/4/10	As Found	14714	118733

FNP Unit 2 Containment Purge Air System Containment Isolation Valves Leakage History (Quarterly Tests)							
Pen 12				Pen 13			
Q2P13V302 /Q2P13V282 / Q2P13V301 / Q2P13V281				Q2P13V301 /Q2P13V281 / Q2P13V303 / Q2P13V284			
Date	Test Type	Leak Rate (sccm)	Acceptance Criteria (sccm)	Date	Test Type	Leak Rate (sccm)	Acceptance Criteria (sccm)
2F20 Refueling Outage (RFO is NOT taking credit for Quarterly Test since it was completed prior to RFO)							
3/30/10	As Found	1272	127435	3/30/10	As Found	755	126753
1/5/10	As Found	16950	130771	1/5/10	As Found	2875	114440
10/1/09	As Found	649	130690	10/1/09	As Found	73.5	130813
7/9/09	As Found	772	130829	7/9/09	As Found	31	130092
5/3/09	As Found	34.2	129639	5/3/09	As Found	610	130534
1/21/09	As Found	930	129983	1/21/09	As Found	905	129253
2F19 Refueling Outage (RFO is taking credit for Quarterly Test)							