



Entergy Operations, Inc.  
1448 S.R. 333  
Russellville, AR 72802  
Tel 479-858-3110

Kevin T. Walsh  
Vice President, Operations  
Arkansas Nuclear One

2CAN061001

June 23, 2010

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555

SUBJECT: License Amendment Request  
Changes to Reflect Revision to 10 CFR 50.55a  
Technical Change Travelers – TSTF-479-A and TSTF-497-A  
Arkansas Nuclear One, Unit 2  
Docket No. 50-368  
License No. NPF-6

- REFERENCES
1. TSTF-479-A, Revision 0, "Changes to Reflect Revision to 10 CFR 50.55a," dated December 19, 2005
  2. TSTF-497-A, Revision 0, "Limit Inservice Testing Program SR 3.0.2 Application to Frequencies of 2 Years or Less," dated July 12, 2006

Dear Sir or Madam:

Pursuant to 10 CFR 50.90, Entergy Operations, Inc. (Entergy) hereby requests the following amendment for Arkansas Nuclear One, Unit 2 (ANO-2). Currently, Technical Specification (TS) 6.5.8, "Inservice Testing Program", contains references to the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI as the source of requirements for the inservice testing (IST) of ASME Code Class 1, 2, and 3 pumps and valves. The proposed change deletes the references to Section XI of the Code and incorporates references to the ASME Code for Operation and Maintenance of Nuclear Power Plants. The proposed change also identifies and corrects some non-standard frequencies utilized in the IST program.

The proposed changes are consistent with Technical Specification Task Force (TSTF) Technical Change Travelers 479-A (Reference 1) and 497-A (Reference 2). These travelers revised the Improved Standard Technical Specifications. The changes are also consistent with the implementation of the ANO-2 fourth (4<sup>th</sup>) 10-year interval IST program in accordance with the requirements of 10 CFR 50.55a(f). The 4<sup>th</sup> 10-year interval began March 27, 2010.

The proposed changes are administrative in nature. The proposed changes do not eliminate any IST requirements and do not affect Entergy's responsibility to seek relief from the Code test requirements when they are impractical.

A similar request was recently made and approved for ANO-1 among several other plants.

An explanation of the proposed change is provided in Attachment 1. A markup of the affected TS page is contained in Attachment 2 of this submittal.

The proposed change has been evaluated in accordance with 10 CFR 50.91(a)(1) using criteria in 10 CFR 50.92(c) and it has been determined that the changes involve no significant hazards consideration. The bases for these determinations are included in the attached submittal.

The proposed change does not include any new commitments.

Entergy requests approval of the proposed amendment by August 2, 2011. Once approved, the amendment shall be implemented within 90 days. Although this request is neither exigent nor emergency, your prompt review is requested.

If you have any questions or require additional information, please contact David Bice at 479-858-5338.

I declare under penalty of perjury that the foregoing is true and correct. Executed on June 23, 2010.

Sincerely,

***Original signed by Kevin T. Walsh***

KTW/rwc

Attachments:

1. Analysis of Proposed Technical Specification Change
2. Proposed Technical Specification Changes (mark-up)

cc: Mr. Elmo E. Collins  
Regional Administrator  
U. S. Nuclear Regulatory Commission  
Region IV  
612 E. Lamar Blvd., Suite 400  
Arlington, TX 76011-4125

NRC Senior Resident Inspector  
Arkansas Nuclear One  
P. O. Box 310  
London, AR 72847

U. S. Nuclear Regulatory Commission  
Attn: Mr. Kaly Kalyanam  
MS O-8B1  
One White Flint North  
11555 Rockville Pike  
Rockville, MD 20852

Mr. Bernard R. Bevill  
Arkansas Department of Health  
Radiation Control Section  
4815 West Markham Street  
Slot #30  
Little Rock, AR 72205

**Attachment 1**

**2CAN061001**

**Analysis of Proposed Technical Specification Change**

## 1.0 DESCRIPTION

This letter is a request to amend Operating License NPF-6 for Arkansas Nuclear One, Unit 2 (ANO-2).

The proposed changes revise the Administrative Controls, "Inservice Testing Program" Technical Specification (TS) 6.5.8, for consistency with the requirements of 10 CFR 50.55a(f)(4) for pumps and valves which are classified as American Society of Mechanical Engineers (ASME) Code Class 1, Class 2 and Class 3.

## 2.0 PROPOSED CHANGE

The proposed changes will revise TS 6.5.8, "Inservice Testing Program". This specification is revised to indicate that the Inservice Testing (IST) program shall include testing frequencies applicable for the ASME Code for Operations and Maintenance (ASME OM Code).

The TS is also revised to resolve some non-standard frequencies utilized in the IST program in which the provisions of Surveillance Requirement (SR) 3.0.2 are applicable. Technical Specification Task Force (TSTF) -479 revised TS 6.5.8 to state:

"The provisions of SR 3.0.2 are applicable to the above required Frequencies and other normal and accelerated Frequencies specified in the Inservice Testing Program for performing inservice test activities."

However, TSTF-497-A later revised the above paragraph to satisfy an NRC request accordingly:

"The provisions of SR 3.0.2 are applicable to the above required Frequencies and to other normal and accelerated Frequencies specified as 2 years or less in the Inservice Testing Program for performing inservice testing activities."

The differences between the two paragraphs are underlined. The wording of latter paragraph is used in the proposed revision to ANO-2 TS 6.5.8. Note that for ANO-2, the corresponding TS reference is SR 4.0.2. A markup of the affected TS page is included in Attachment 2.

Various sections of TS Bases will be revised in accordance with ANO-2 TS 6.5.14, "Technical Specification (TS) Bases Control Program," after the incorporation of this request into the ANO-2 TS.

## 3.0 BACKGROUND

In 1990, the ASME published the initial edition of the ASME OM Code which establishes rules for IST of pumps and valves. The ASME intended that the ASME OM Code replace Section XI of the Boiler and Pressure Vessel Code for IST of pumps and valves.

On December 2, 2004, the TSTF submitted to the NRC TSTF-479, Revision 0, "Changes to Reflect Revision of 10 CFR 50.55a." The proposed change revised the IST Program TS located in Chapter 5 of the Improved Standardized Technical Specifications (ISTS) to reflect

the latest NRC-approved version of the ASME Code. TSTF-479 also revised paragraph (b) of the IST Program TS to state, "The provisions of SR 3.0.2 are applicable to the above required Frequencies and other normal and accelerated Frequencies specified in the IST Program for performing inservice testing activities."

In letter dated December 6, 2005, the NRC approved TSTF-479 as an administrative change to the ISTS NUREGs. TSTF-479-A was incorporated into Revision 3.1 of the ISTS NUREGs.

At the February 23, 2006, meeting between the NRC and the TSTF, members of the Component Branch of the NRC stated that TSTF-479-A did not provide an adequate justification for applying SR 3.0.2 (SR 4.0.2 for ANO-2) to frequencies specified in the IST Program TS as greater than two years and the NRC would not approve plant-specific amendments based on TSTF-479-A incorporating this change without further justification. The NRC stated that they would accept applying SR 3.0.2 to IST frequencies not listed in the IST Program TS table provided that those frequencies are specified in the IST Program TS as two years or less.

In response, TSTF-497-A was developed as an administrative change to the ISTS NUREGs to reflect the NRC position. TSTF-497-A revises paragraph (b) of the IST program in the ISTS to state, "The provisions of SR 3.0.2 are applicable to the above required Frequencies and to other normal and accelerated Frequencies specified as 2 years or less in the Inservice Testing Program for performing inservice testing activities."

By application dated June 30, 2003 (ADAMS Accession No. ML031890906), Entergy requested changes to the ANO-2 TSs. In part, the proposed changes would reorganize Section 6.0 of the TSs. The proposed changes would achieve consistency with corresponding requirements in the ANO-1 TSs, which are based on NUREG-1430, Revision 1 (the ISTS NUREG for Babcock & Wilcox plants), and NUREG-1432, which is the ISTS NUREG for Combustion Engineering plants. ANO-2 is a Combustion Engineering plant. This TS change was approved by the NRC by Safety Evaluation issued via letter dated September 28, 2004 (ADAMS Accession No. ML042720521). With this change, Section 6.0 of the ANO-2 TSs is consistent with the NUREG-1432.

#### **4.0 TECHNICAL ANALYSIS**

The purposes of the IST programs are to assess the operational readiness of pumps and valves, to detect degradation that might affect component operability, and to maintain safety margins with provisions for increased surveillance and corrective action. NRC regulation, 10 CFR 50.55a, defines the requirements for applying industry codes to each licensed nuclear powered facility. Licensees are required by 10 CFR 50.55a(f)(4)(i) to initially prepare programs to perform IST of certain ASME Section III, Code Class 1, 2, and 3 pumps and valves during the initial 120-month interval. The regulations require that programs be developed utilizing the latest edition and addenda incorporated into paragraph (b) of 10 CFR 50.55a on the date 12 months prior to the date of issuance of the operating license subject to the limitations and modification identified in paragraph (b). NRC regulations also require that the IST programs be revised during successive 120-month intervals to comply with the latest edition and addenda of the Code incorporated by reference in paragraph (b) 12 months prior to the start of the interval.

Section XI of the ASME Code has been revised on a continuing basis over the years to provide updated requirements for the inservice inspection and IST of components. Until 1990, the ASME Code requirements addressing the IST of pumps and valves were contained in Section XI, Subsection IWP (pumps) and IWV (valves). In 1990, the ASME published the initial edition of the OM Code that provides the rules for the IST of pumps and valves. Since the establishment of the 1990 Edition of the OM Code, the rules for the IST of pumps are no longer being updated in Section XI. Therefore, the ANO-2 TS are revised to appropriately refer to the ASME OM Code, consistent with ISTS NUREGs. As identified in NRC SECY-99-017 dated January 13, 1999, the NRC has generally considered the evolution of the ASME Code to result in a net improvement in the measures for inspecting piping and components and testing pumps and valves.

In addition to changes related to application of the ASME OM Code above, the TS IST Program is revised to indicate that the provisions of SR 3.0.2 are applicable to other IST frequencies that are not specified in the program. The IST Program TS may have frequencies for testing that are based on risk and do not conform to the standard testing frequencies specified in the TS. For example, an IST Program may use ASME Code Case OMN-1, "Alternative Rules for Preservice and Inservice Testing of Certain Electric Motor-Operated Valve Assemblies in Light-Water Reactor Plants," in lieu of stroke time testing. The frequency of the surveillance may be determined through a mix of risk-informed and performance-based means in accordance with the IST program. This is consistent with the guidance in NUREG-1482, "Guidelines for Inservice Testing at Nuclear Power Plants," which indicates that the 25% extension of the interval specified in the frequency would apply to increased frequencies the same as it applies to regular frequencies. If a test interval is specified in 10 CFR 50.55a, the TS SR 3.0.2 Bases indicates that the requirement of the regulation take precedence over the TSs.

At the February 23, 2006, meeting between the NRC and the TSTF, members of the Component Branch of the NRC stated that TSTF-479-A did not provide an adequate justification for applying SR 3.0.2 (SR 4.0.2 for ANO-2) to frequencies specified in the IST program as greater than two years and the NRC would not approve plant-specific amendments based on TSTF-479-A incorporating this portion of the change without further justification. After consideration, the TSTF declined to develop a technical justification for applying SR 3.0.2 to IST frequencies specified as greater than two years at the time due to inadequate cost benefit. As a result, TSTF-497 was developed as an administrative change to the ISTS NUREGs which modifies the IST program, paragraph (b), to remove the provisions that were not deemed by the NRC to be adequately justified in TSTF-479-A (see Section 2.0 above for specific wording).

Based on the above, the proposed change is consistent with the ISTS NUREGs, TSTF-479-A, TSTF-497-A, and the previous NRC request regarding application of SR 3.0.2. Therefore, Entergy considers the proposed change to TS 6.5.8 to be acceptable.

## 5.0 REGULATORY ANALYSIS

### 5.1 No Significant Hazards Consideration

A change is proposed to the Arkansas Nuclear One, Unit 2 (ANO-2) Technical Specifications (TSs) to adopt the American Society of Mechanical Engineers (ASME) Operations and Maintenance (OM) Code for Inservice Testing (IST) of valves and pumps. The proposed change includes application of the allowances provided by TS Surveillance Requirement (SR) 3.0.2 (SR 4.0.2 for ANO-2) for IST SR frequencies of two years or less. Entergy Operations, Inc. (Entergy) has evaluated whether or not a significant hazards consideration is involved with the proposed change by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

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

Response: No

The proposed change revises TS 6.5.8, "Inservice Testing Program," for consistency with the requirements of 10 CFR 50.55a(f)(4) for pumps and valves which are classified as American Society of Mechanical Engineers (ASME) Code Class 1, Class 2 and Class 3. The proposed change incorporates revisions to the ASME Code which are consistent with the expectations of 10 CFR 50.55a.

The proposed change does not impact any accident initiators or analyzed events or assumed mitigation of accident or transient events. The proposed change does not involve the addition or removal of any equipment, or any design changes to the facility. Therefore, this proposed change does not represent a significant increase in the probability or consequences of an accident previously evaluated.

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

Response: No

The proposed change does not involve a modification to the physical configuration of the plant (i.e., no new equipment will be installed) or change in the methods governing normal plant operation. The proposed change does not introduce a new accident initiator, accident precursor, or malfunction mechanism. Therefore, this proposed change does not create the possibility of an accident or a different kind than previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No

The proposed change revises TS 6.5.8, "Inservice Testing Program," for consistency with the requirements of 10 CFR 50.55a(f)(4) for pumps and valves which are classified as ASME Code Class 1, Class 2 and Class 3. The proposed change incorporates revisions to the ASME Code, which are consistent with the expectations of 10 CFR 50.55a. The safety function of the affected pumps and valves are maintained. Therefore, this proposed change does not involve a significant reduction in a margin of safety.

## 5.2 Applicable Regulatory Requirements / Criteria

NRC regulation, 10 CFR 50.55a, defines the requirements for applying industry codes to each licensed nuclear powered facility. Licensees are required by 10 CFR 50.55a(f)(4)(i) to initially prepare programs to perform IST of certain ASME Section III, Code Class 1, 2, and 3 pumps and valves during the initial 120-month interval. The regulations require that programs be developed utilizing the latest edition and addenda incorporated into paragraph (b) of 10 CFR 50.55a on the date 12 months prior to the date of issuance of the operating license subject to the limitations and modification identified in paragraph (b).

This TS change will ensure the above regulation continues to be met by application of the ASME OM Code, which replaced Section XI of the Boiler and Pressure Vessel Code for IST of pumps and valves in 1990. Therefore, 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) Issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

In conclusion, Entergy has determined that the proposed change does not require any exemptions or relief from regulatory requirements, other than the TS, and does not affect conformance with any General Design Criterion differently than described in the Safety Analysis Report.

## **6.0 ENVIRONMENTAL CONSIDERATION**

The proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

**Attachment 2**

**2CAN061001**

**Proposed Technical Specification Changes (mark-up)**

## ADMINISTRATIVE CONTROLS

---

### 6.5.7 Reactor Coolant Pump Flywheel Inspection Program

This program shall provide for the inspection of each reactor coolant pump flywheel per the recommendation of Regulatory Position C.4.b of Regulatory Guide 1.14, Revision 1, August 1975. The volumetric examination per Regulatory Position C.4.b.1 will be performed on approximately 10-year intervals.

### 6.5.8 Inservice Testing Program

This program provides controls for inservice testing of ASME Code Class 1, 2, and 3 components. The program shall include the following:

- a. Testing frequencies [applicable to the ASME Code for Operation and Maintenance \(OM\) of Nuclear Power Plants specified in Section XI of the ASME Boiler and Pressure Vessel Code](#) and applicable Addenda as follows:

<u>ASME OM Code terminology for inservice testing activities</u>	<u>Required frequencies for performing inservice testing activities</u>
Weekly	At least once per 7 days
Monthly	At least once per 31 days
Every 6 weeks	At least once per 42 days
Quarterly or every 3 months	At least once per 92 days
Semiannually or every 6 months	At least once per 184 days
Every 9 months	At least once per 276 days
Yearly or annually	At least once per 366 days
Biennially or every 2 years	At least once per 731 days

- b. The provisions of Specification 4.0.2 are applicable to the above required frequencies [and to other normal and accelerated frequencies specified as 2 years or less in the Inservice Testing Program](#) for performing inservice testing activities.
- c. The provisions of Specification 4.0.3 are applicable to inservice testing activities, and
- d. Nothing in the ASME [OMBoiler and Pressure Vessel](#) Code shall be construed to supersede the requirements of any Technical Specification.