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1CAN101804

October 31, 2018

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

SUBJECT: Request for Relief from American Society of Mechanical Engineers (ASME)
Section XI Visual Examination Requirements ANO1-ISI-032
Fourth 10-Year Interval, Third Period
Arkansas Nuclear One, Unit 1
Docket No. 50-313
License No. DPR-51

Dear Sir or Madam:

Pursuant to 10 CFR 50.55a(g)(6)(i), Entergy Operations, Inc. (Entergy) requests relief from the requirements of the ASME, Boiler and Pressure Vessel Code, Section XI, pertaining to the visual examination of the Reactor Vessel Support at Arkansas Nuclear One, Unit 1 (ANO-1). It was determined that the examination is impractical due to the interference of nearby components and high dose rates in the area of the examination. Specifics of the relief request are provided in the attachment.

10 CFR 50.55a(g)(5)(iv) requires that the basis for the determination of impracticality be submitted to the NRC for review and approval within 12 months after the expiration of the 120-month inspection interval. This relief is for the fourth ANO-1 10-year Inservice Inspection (ISI) interval, third period. The third period started on May 31, 2014 and was scheduled to end May 30, 2017. In accordance with ASME Section XI IWA-2430(d)(3) the third period was extended for this examination category to align with refuel outage 1R27. The third period ended May 30, 2018. The basis for the determination of impracticality is included in the attachment.

There are no new regulatory commitments made in this submittal.

If you have any questions or require additional information, please contact Stephenie Pyle at 479-858-4704.

Sincerely,

ORIGINAL SIGNED BY BRYAN S. FORD

BSF/dbb

Attachment: Request for Relief – ANO1-ISI-032

cc: Mr. Kriss Kennedy
Regional Administrator
U. S. Nuclear Regulatory Commission, Region IV
1600 East Lamar Boulevard
Arlington, TX 76011-4511

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

U. S. Nuclear Regulatory Commission
Attn: Mr. Thomas Wengert
MS O-08B1A
One White Flint North
11555 Rockville Pike
Rockville, MD 20852

Attachment to

1CAN101804

**Request for Relief
ANO1-ISI-032**

**REQUEST FOR RELIEF
ANO1-ISI-032**

| | |
|--|--|
| Components / Numbers: | Reactor Vessel Support Skirt-to-Flange Weld and Bolting / ISI #01-035 |
| Code Classes: | American Society of Mechanical Engineers (ASME) Code Class 1 |
| References: | ASME Section XI 2001 Edition w/ 2003 Addenda, Table IWF-2500-1 |
| Examination Category: | F-A |
| Item Number(s) | F1.40 |
| Description: | Supports Other Than Piping Supports (Class 1, 2, 3, and MC) |
| Unit / Inspection Interval Applicability: | Arkansas Nuclear One, Unit 1 (ANO-1) / Fourth (4th) 10-Year Interval, Third (3 rd) Inspection Period |

I. CODE REQUIREMENTS

ASME Section XI, Table IWF-2500-1, Examination Category F-A, Supports:

Item F1.40, Supports Other Than Piping Supports (Class 1, 2, 3, and MC), requires a visual examination of the support, as depicted in Figure IWF-1300-1.

II. RELIEF REQUEST

Pursuant to 10 CFR 50.55a(g)(6)(i), Entergy Operations, Inc. (Entergy) requests relief from achieving the code required coverage when performing a visual examination (VT-3) of the component identified in Table 1.

III. BASIS FOR RELIEF

During the ANO-1 twenty-seventh refueling outage (1R27) in the spring of 2018, ISI #01-035 (Reactor Vessel Support Skirt-to-Flange Weld and Bolting) was examined in compliance with the requirements of ASME Section XI, Table IWF-2500-1, Examination Category F-A. However, 100% coverage of the required examination area could not be obtained. Entergy filed a similar relief request (ANO1-ISI-020) for the limited examination of this support during the third ISI interval. The NRC approved that relief request in letter dated May 5, 2010 (ML101170119, TAC No. ME1444). The previous components (ISI #01-032, 01-033, 01-034) listed in Table 3.6-1 of the May 5, 2010, letter that approved ANO1-ISI-020 have been combined herein into a single component (01-035) for the fourth interval to better align with the code requirement.

Examination of ISI #01-035 was limited due to its location in an area with general area radiation dose rates of 500-600 millirem per hour (mR/h) that is congested with incore instrumentation piping. Access to the support is approximately 12 feet above the floor level. Limited access and high dose rates make it impractical to safely erect and work from a scaffold to remove insulation panels to allow for better access. As a result, a fiberscope was deployed from under the vessel to perform the examination to the extent practical. Access from the outer diameter of the vessel is not practical due to plant configuration.

In order to examine the skirt-to-flange weld and bolting (formerly ISI #01-033 and 01-034), the fiberscope was inserted through narrow cut-outs in the support skirt. The examination of the accessible portions of the skirt-to-flange weld and bolting revealed no unacceptable indications. The support skirt circumferential weld (formerly ISI #01-032) was not accessible for examination due to the surrounding insulation blocks and environmental conditions (i.e. high radiation and congestion due to incore instrumentation piping). Further, the positioning of the fiberscope through the access hole would not allow for the performance of a qualified VT-3 examination due to unsatisfactory distance and viewing angle. The examination performed on the subject support would detect general degradation, if it existed, demonstrating an acceptable level of integrity.

IV. PROPOSED ALTERNATIVE EXAMINATIONS

No alternative examination is proposed at this time. Entergy has examined these welds to the extent practical and will continue to perform pressure testing on the subject components as required by the ASME Section XI Code.

V. CONCLUSION

10 CFR 50.55a(g)(6)(i) states:

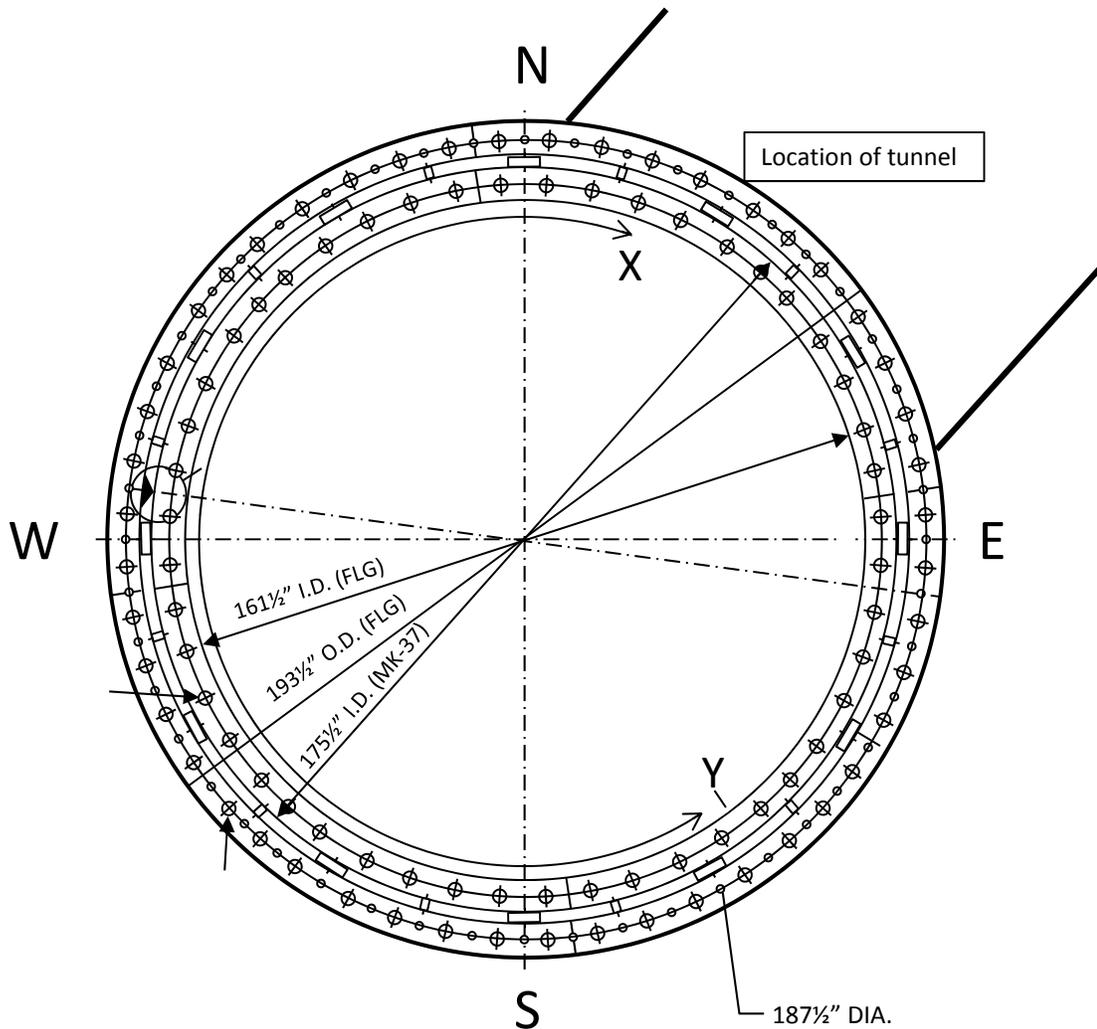
The Commission will evaluate determinations under paragraph (g)(5) of this section that Code requirements are impractical. The Commission may grant such relief and may impose such alternative requirements as it determines is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest giving due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility.

Entergy believes that it is impractical to obtain greater examination coverage on the subject components. To effectively obtain significant additional coverage would necessitate modification and/or replacement of the component. The examination performed on the subject support would detect general degradation, if it existed, demonstrating an acceptable level of integrity. In addition, pressure testing on the subject components as required by the ASME Section XI Code will assist in identifying integrity deficiencies. Entergy requests the proposed relief be authorized pursuant to 10 CFR 50.55a(g)(6)(i).

Table 1
Limited F-A Examinations

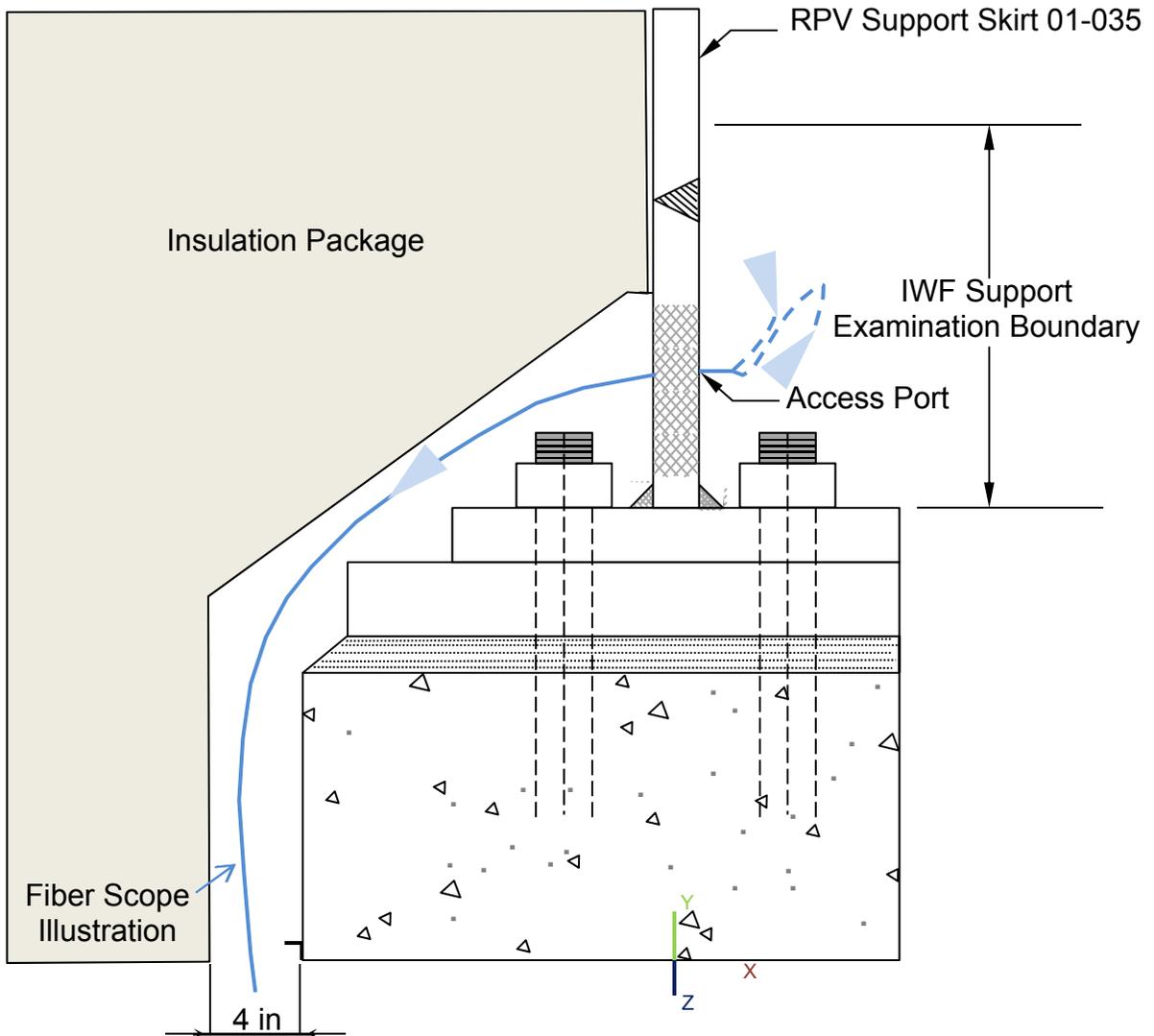
| Component Description | | | | Additional Information | | | | | |
|-----------------------|----------|---|--|---|---|--|---|---------------------|--|
| Item Number | Comp. ID | Item Description | Estimated % Coverage of Code Required Volume | Examination Summary | Scan Plan | Exam Method and Limitations | Search Units | Surface Examination | Exam Results |
| F1.40 | 01-035 | Reactor Vessel Support Skirt-to-Flange Weld and Bolting | 50 | Examination of the required area as depicted in Fig. IWF-1300-1 was limited due to the geometric configuration and environmental conditions. See attached sketch derived from NDE report 1-ISI-VT-18-026 on file at ANO. | Not Applicable. Visual exam performed only. | This support weld and bolting was examined with a fiberscope deployed through cut-outs in the skirt. Removal of insulation blocks for better access was impractical. General area dose rates of 500 – 600 mr/Hr coupled with a confined area congested with incore instrumentation piping preclude safe scaffold installation. Reference Figure 1 and Figure 2 below | Not Applicable. Visual exam performed only. | None required. | No unacceptable indications were recorded. Acceptable. |

Figure 1



Required Examination for this IWF support other than piping supports is as depicted in IWF-1300-1. The Total Circumference of Support Skirt = approximately $(\pi) 3.14 * 175.5 = 551.07$ inches. Area accessible for inspection was from X to Y (as depicted above) in a counter-clockwise direction or approximately 344.5 inches around the circumference due to access restrictions and geometry of the building structure. Of these 344.5 inches it is estimated that approximately 176 inches intermittently around the circumference was not obstructed due to geometrical configuration and viewed during the exam or approximately 32% of total circumference of the support (ID and OD included). The total number of bolting assemblies is 96 (48 inside and 48 outside). Of the 96 bolting assemblies only 62 were accessible for examination and examined or 64%. Estimated Total Examination area obtained is approximately 50% based on the remote visual examination and drawing dimensions.

Figure 2



There are 12 Access Ports around the circumference of the Reactor Vessel Skirt. The Access ports that were accessible were utilized in gaining examination coverage with a remote fiber scope camera to view the external surfaces and bolting as illustrated above.