

July 26, 2018

Docket Nos.: 52-025
52-026

ND-18-1014
10 CFR 50.55a

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

Southern Nuclear Operating Company
Vogtle Electric Generating Plant Units 3 and 4
Request for Alternative:
Alternative Requirements for Preservice Examination Volumetric
Surface Configuration Requirements (VEGP 3&4- PSI/ISI-ALT-10)

Ladies and Gentlemen:

Pursuant to 10 CFR 50.55a(z)(1), Southern Nuclear Operating Company (SNC) hereby requests NRC authorization to use an alternative to the requirements of ASME Section III, NB-4424.2 (a), of the ASME Boiler and Pressure Vessel (B&PV) Code, 1998 Edition through the 2000 Addenda (code of record) for Vogtle Electric Generating Plant (VEGP) Units 3 and 4. The proposed request for alternative is applicable to distance requirements to maintain surface finish condition from the edge of a weld crown.

The details of the 10 CFR 50.55a(z)(1) request are contained in Enclosure 1 to this letter. Approval is requested by January 21, 2019 to support performance of preservice inspection activities prior to the Class 1 hydrostatic test.

This letter contains no regulatory commitments. This letter has been reviewed and confirmed to contain no security-related information. Should you have any questions, please contact Mr. Corey Thomas at (205) 992-5221.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 26th day of July 2018.

Respectfully submitted,

SOUTHERN NUCLEAR OPERATING COMPANY



Amy G. Aughtman
Licensing Director, Nuclear Development
Southern Nuclear Operating Company

AGA/BCT/ljs

Enclosure 1: Proposed Alternative VEGP 3&4-PSI/ISI-ALT-10 in Accordance with
10 CFR 50.55a(z)(1) – Alternative Requirements for Preservice Examination
Volumetric Surface Configuration Requirements

U.S. Nuclear Regulatory Commission

ND-18-1014

Page 3 of 4

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ND-18-1014

Page 4 of 4

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Southern Nuclear Operating Company

ND-18-1014

Enclosure 1

Vogtle Electric Generating Plant (VEGP) Units 3 and 4

**Proposed Alternative VEGP 3&4-PSI/ISI-ALT-10 in Accordance with 10 CFR 50.55a(z)(1) –
Alternative Requirements for Preservice Examination Volumetric Surface Configuration
Requirements**

(Enclosure consists of 4 pages, not including this cover page.)

ND-18-1014

Enclosure 1

Proposed Alternative VEGP 3&4-PSI/ISI-ALT-10 in Accordance with 10 CFR 50.55a(z)(1) –
Alternative Requirements for Preservice Examination Volumetric Surface Configuration
Requirements

Plant Site- Unit:	Vogtle Electric Generating Plant (VEGP) – Units 3 and 4
Interval- Interval Dates:	Applies to construction and preservice inspection intervals.
Requested Date for Approval:	Approval is requested by 1/21/19 to support performance of preservice inspection activities prior to the Class 1 hydrostatic test.
ASME Code Components Affected:	ASME Class 1 Piping and Components
Applicable Code Edition and Addenda:	ASME B&PV Code, Section III, 1998 Edition through the 2000 Addenda (code of record).
Applicable Code Requirements:	ASME Section III NB-4424.2 (a) requires that the surface finish shall be 6.3 Ra or better for a distance of at least $2t$ (where t equals nominal wall thickness) plus 4 in., or 6 in., whichever is greater (Fig. NB-4250-2 or Fig. NB-4250-3), from the edge of the weld crown on at least one side of the weld where an ultrasonic examination is required. As noted in Fig. NB-4250-2 and NB-4250-3, this distance is required to be free of interferences.

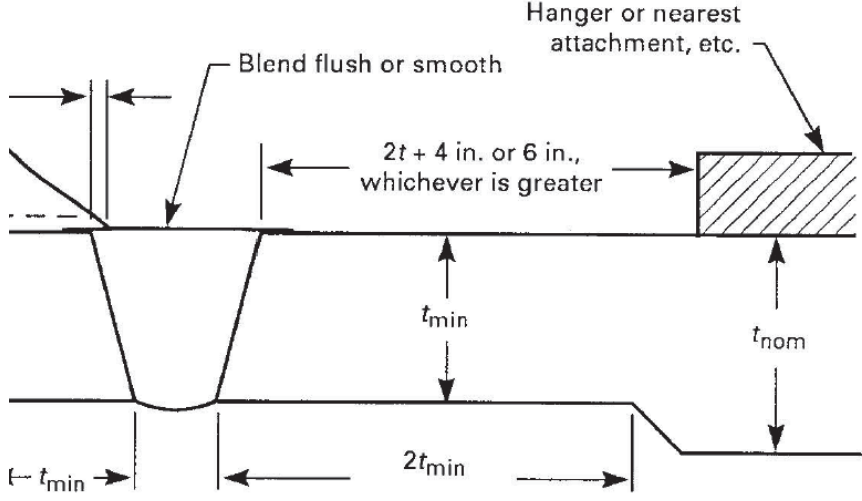
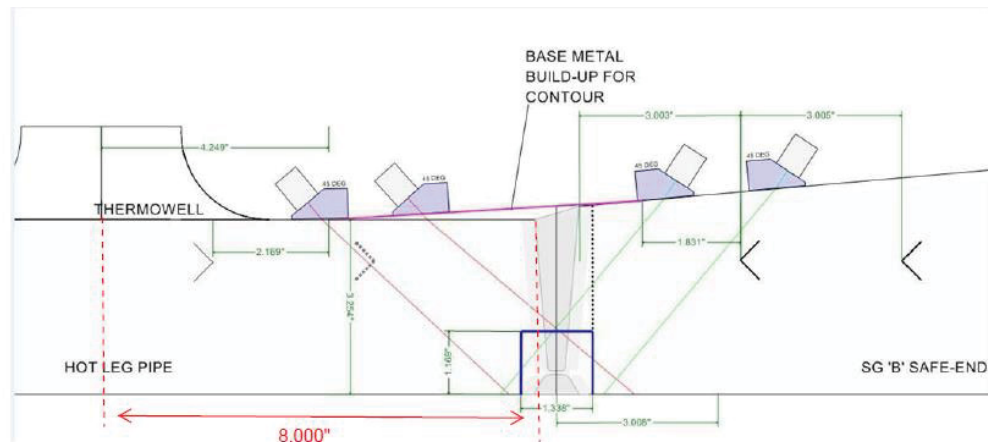
<p>Reason for Request:</p>	<p>The requirements for surface finish, surface finish distance, and distance for which any hanger or attachment (or any other interference) can be made, is required to be $2t$ (where t equals nominal wall thickness) plus 4 inches, or 6 inches, whichever is greater as described in ASME Section III NB-4424.2(a) and shown in ASME Section III NB-4250-2 for ultrasonic examinations. VEGP Units 3&4 contain interferences where these requirements cannot be met. Figure 1 is an ASME Fig. NB-4250-2 excerpt which illustrates the interference requirement.</p> <p>Figure 1: ASME Section III Figure NB-4250-2 Excerpt</p>  <p>The purpose of this distance requirement is to assure the examination area is adequate to perform a volumetric examination from the outside diameter (OD) for component-to-pipe and pipe-to-pipe welds.</p> <p>Other examination configurations exist that would allow an adequate examination in accordance with ASME Section XI. One specific example is instrumentation bosses, near the AP1000 Steam Generator Hot Leg Safe End-to-Pipe welds, which are within the distance required in ASME Section III NB-4424.2 (Shown in Figure NB-4250-2). Figure 2 shows the example configuration and the method used to verify that the ASME coverage requirements are met with an interference in place.</p>
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Figure 2: Method Utilized to Conclude Essentially 100% of the ASME Section XI Volume is Examined for the Steam Generator Hot Leg Safe End-to-Pipe welds.



Demonstration of coverage- Illustration shown with probe positioned to scan from both sides of the weld.
 Required inspection volume shown in blue.

Figure 7 - Weld FW-BHL02
 Detection and Sizing – Axial scans = 100% coverage
 Circ. scans = 100% coverage

Proposed Alternative and Basis for Use:

Proposed Alternative:

For cases in which there is less than the distance of $2t$ plus 4 in. or 6 in., whichever is greater, an inspectability evaluation will be conducted to ensure that adequate examinations can be performed. The inspectability report will document the percent coverage that can be obtained from the applicable examination area (i.e., ID, OD, or both) and conclude that essentially 100% of the ASME Section XI inspection volume is obtained. This will establish the method for future inservice inspections.

For configurations that do not meet those described in NB-4424.2(a) and shown in Figure NB-4250-2 and Figure NB-4250-3:

- (a) The requirements of Figure NB-4250-1 shall be met.
- (b) The Owner’s Design Specification shall describe the configuration and surface finish required for preservice inspection in lieu of the configuration shown in Figure NB-4250-2 or Figure NB-4250-3 and surface finish described in NB-4424.2(a).
- (c) The Certificate Holder (with agreement of the Owner or Owner Designee) shall verify and document that the required preservice inspection can be performed with the proposed configuration and surface finish.

ND-18-1014

Enclosure 1

Proposed Alternative VEGP 3&4-PSI/ISI-ALT-10 in Accordance with 10 CFR 50.55a(z)(1) –
Alternative Requirements for Preservice Examination Volumetric Surface Configuration
Requirements

	<p>(d) Use of this alternative shall be documented in the applicable VEGP Units 3 and 4 Design Specifications and N-5 Data Reports.</p> <p>Basis for Use:</p> <p>For volumetric examination surface configurations that do not meet NB-4424.2(a), which reference Fig. NB-4250-2 and NB-4250-3, an inspectability evaluation is performed and documented to ensure that essentially 100% of the ASME Section XI volumetric examination coverage is obtained. If essentially 100% volumetric examination coverage is not obtained, this alternative shall not apply.</p> <p>The proposed alternative ensures that essentially 100% of the ASME Section XI preservice inspection volume is obtained and future inservice inspection coverage requirements will be met; therefore, this proposed alternative provides an acceptable level of quality and safety in accordance with 10 CFR 50.55a(z)(1).</p>
Duration of Proposed Alternative:	Until the 10 CFR Part 52.103(g) finding
Reference:	None
Status:	Awaiting NRC authorization