

Docket Nos.: 52-025
52-026

ND-12-0000
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:
Reactor Vessel Flow Skirt Installation (VEGP 3&4-PSI/ISI-ALT-01)

Ladies and Gentlemen:

Pursuant to 10 CFR 50.55a(a)(3)ii, Southern Nuclear Operating Company (SNC) hereby requests NRC authorization to use an alternative to the requirements of the 1998 Edition, 2000 Addenda of ASME B&PV Code, Section III, Article NB-1132.2 (d) with regard to the Code jurisdictional boundary of the reactor vessel to flow skirt weld. This request is designated VEGP 3&4-PSI/ISI-ALT-01. The proposed request for alternative is applicable for construction, pre-service inspection, and all operating in-service inspection intervals.

The details of the 10 CFR 50.55a request are contained in the enclosure. Approval is requested by July 23, 2012, to support scheduled completion of the Unit 3 reactor vessel final Code fabrication and preparation for shipment activities, including the N-stamping of the reactor vessel.

As a courtesy, SNC is notifying the State of Georgia of this request by transmitting a copy of this letter (including the enclosure) to the designated State Official.

This letter contains no regulatory commitments. Should you have any questions, please contact Mr. D. Rick Graham at (205) 992-5808.

Mr. C. R. Pierce states that he is Regulatory Affairs Director of Southern Nuclear Operating Company, is authorized to execute this oath on behalf of Southern Nuclear Operating Company and to the best of his knowledge and belief, the facts set forth in this letter are true.

Respectfully submitted,

SOUTHERN NUCLEAR OPERATING COMPANY

C. R. Pierce

[drg/CRP/XXX/YYY]

Sworn to and subscribed before me this _____ day of _____, 2012

Notary Public: _____

My commission expires: _____

Enclosure: Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Proposed Alternative In Accordance with 10 CFR 50.55a(a)(3)ii

U. S. Nuclear Regulatory Commission

ND-12-0000

Page 3 of 3

cc: [Provided by Administrative Assistant, ND - Licensing]

DRAFT

Southern Nuclear Operating Company

ND-12-0000

Enclosure 1

Vogtle Electric Generating Plant (VEGP) Units 3 and 4

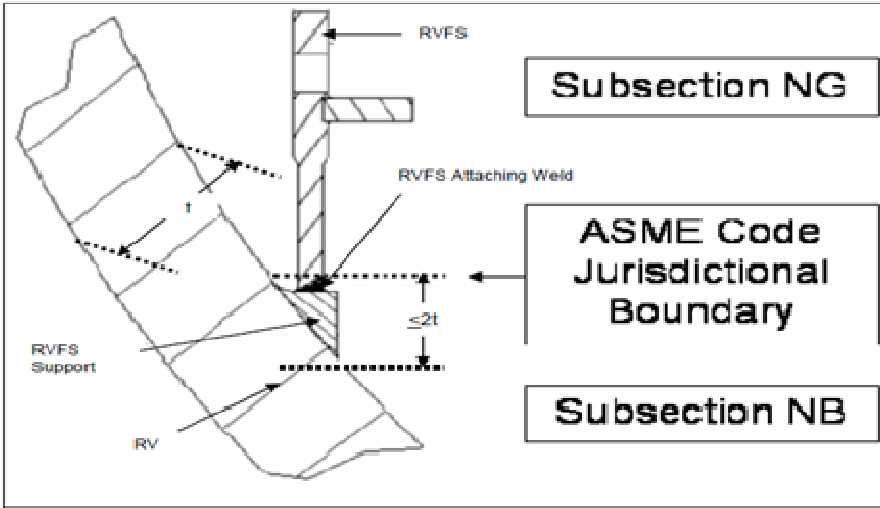
Proposed Alternative VEGP 3&4-PSI/ISI-ALT-01, Version 0.0

In Accordance with 10 CFR 50.55a(a)(3)ii

Regarding

Reactor Vessel Flow Skirt Installation

Proposed Alternative VEGP 3&4-PSI/ISI-ALT-01, Version 0.0
In Accordance with 10 CFR 50.55a(a)(3)ii

Plant Site-Unit:	Vogtle Electric Generating Plant (VEGP) – Units 3 and 4
Interval Dates:	Applies to construction, pre-service inspection (PSI), and all operating In-service inspection (ISI) intervals
Requested Date for Approval:	Approval is requested by July 23, 2012, to support scheduled Unit 3 construction of the reactor vessel and associated attachment of the flow skirt.
ASME Code Components Affected:	Reactor Vessel (RV) and internal flow skirt. As indicated in FSAR (plant-specific DCD) Table 3.2-2, the RV principal construction code is ASME <i>B&PV Code, Section III</i> as a Safety Class A component, and the Flow Skirt principal construction code is “per manufacturer’s standards” as a Safety Class D component. The Reactor System is covered under VEGP Units 3 and 4 ITAAC Subsection 2.1.3.
Applicable Code Edition and Addenda:	As indicated in FSAR (plant-specific DCD) Section 5.2, the baseline used for the evaluations done to support the safety analysis report and the Design Certification is the 1998 Edition, 2000 Addenda.
Applicable Code Requirements:	<p>The flow skirt design specification identifies the Reactor Vessel Flow Skirt (RVFS) attachment weld as <u>within</u> the jurisdictional boundary of the RV as shown in Figure 1.</p> <p><i>“Per the 1998 Edition with the 2000 Addenda of ASME B&PV Code, Section III, Article NB-1132.2 (d), the jurisdictional boundary between the RV and the RVFS is the first attachment weld, specifically the RVFS to RVFS support...”</i></p>  <p>Figure 1</p> <p>Note that even though the RVFS is not classified as a core support structure, the requirements of Article NG-3000 were conservatively chosen for the design of the RVFS</p>

Proposed Alternative VEGP 3&4-PSI/ISI-ALT-01, Version 0.0
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Reason for Request:

Since the RVFS attachment weld is within the jurisdictional boundary of the RV, the RVFS must be welded to the RV at the RV fabricator's shop in order to permit ASME Code certification (N-stamping) of the RV prior to shipping the RV to the site. However, the need for a customized fit-up of the reactor vessel internals (RVI) in the field as part of field assembly prevents the flow skirt attachment weld from being completed at the RV fabricator's shop. On-site installation of the RVI necessitates custom fitting and machining of the clevis inserts for proper interface between the core barrel and radial support keyways. The position of an installed RVFS would prohibit effective measurement and final machining of the core support keyways and clevises if the RVFS were installed at the RV fabricator's shop (See Figure 2 for details).

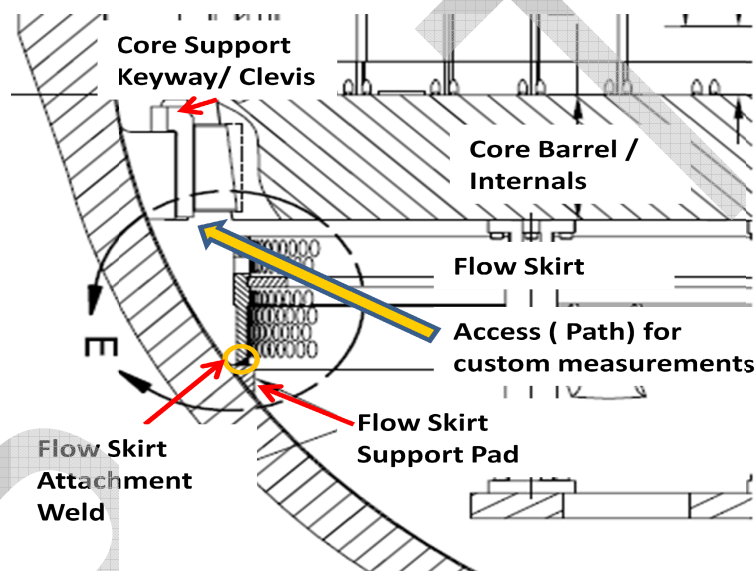


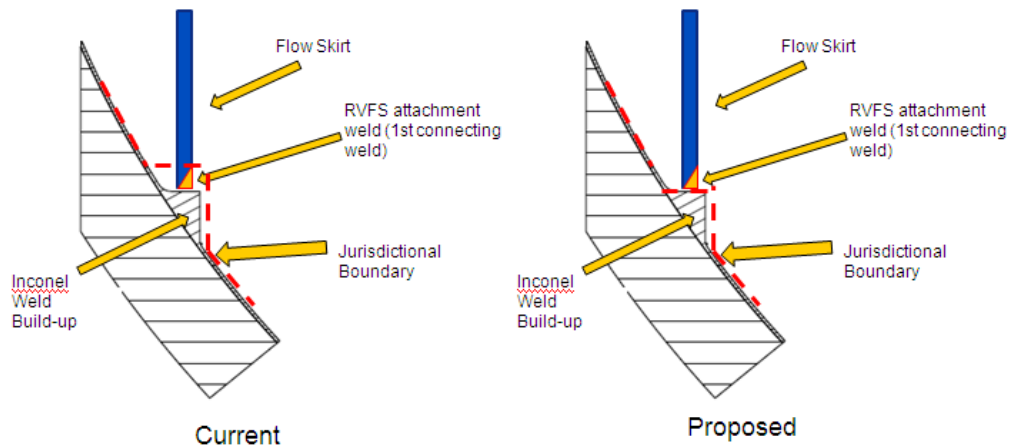
Figure 2

As shown in Figure 2, there is no clear line of site between the inner diameter of the RVFS and the RV core support keyways and clevises. Furthermore, the distance between the top of the RVFS and the bottom of the RV internals lower core support plate is no more than two inches and therefore does not provide sufficient access to the core support keyways and clevises.

Although highly undesirable, it is possible to ship the RVI assembly to the RV fabricator's shop for customization and fit up. However, there is a technical risk that field assembly activities, such as Reactor Coolant System (RCS) loop pipe welding and RV setting and installation, could nullify any customization and fit-up exercises performed at the RV fabricator's shop by causing changes in the alignment between the RVI core barrel and the RV.

As shown above, welding the RVFS to the RV at the fabricator's shop creates a hardship without an increase in level of quality and safety.

Proposed Alternative VEGP 3&4-PSI/ISI-ALT-01, Version 0.0
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Proposed Alternative:	<p>It is proposed that the RVFS attachment weld be excluded from the jurisdictional boundary requirements of the <i>1998 Edition, 2000 Addenda of ASME B&PV Code, Section III, Article NB-1132.2 (d)</i>, but will be performed in the field in accordance with ASME Code requirements for a weld governed by Subsection NB. Figure 3 below illustrates the jurisdictional boundary contained in the current licensing basis versus the proposed jurisdictional boundary.</p> <p style="text-align: center;">Jurisdictional Boundaries</p>  <p style="text-align: center;">Figure 3</p>
Basis for Use:	<p>Although the RVFS attachment weld would not be covered under any ASME certification (N-1 or N-5 form), the attachment weld is proposed to be field installed in accordance with ASME Code requirements for a weld governed by Subsection NB. Requirements for the fabrication, inspection, and acceptance criteria of the attachment weld shall be identified in a controlled document such as a field installation manual. Detailed instructions, such as maintaining a minimum distance between the inner cladded surface of the vessel (pressure retaining material) and the RVFS weld region, shall also be included in the field installation manual.</p> <p>The RVFS support pads are weld buildups and will be constructed from ERNiCrFe-7 (UNS N06052) or ERNiCrFe-7A (UNS N06054) material, the filler material for the attachment weld will be SB-166 (UNS N06690), and the RVFS will be constructed from SB-168 (UNS N06690) material. The RVFS attachment welds to the RVFS support pads do not require a post weld heat treatment. The weld configuration given in Figure 4 shows that a full penetration weld is completed between the RVFS and eight (8) RVFS support pads included on the bottom head dome of the RV. This full penetration weld is performed from the inner diameter of the RVFS.</p>

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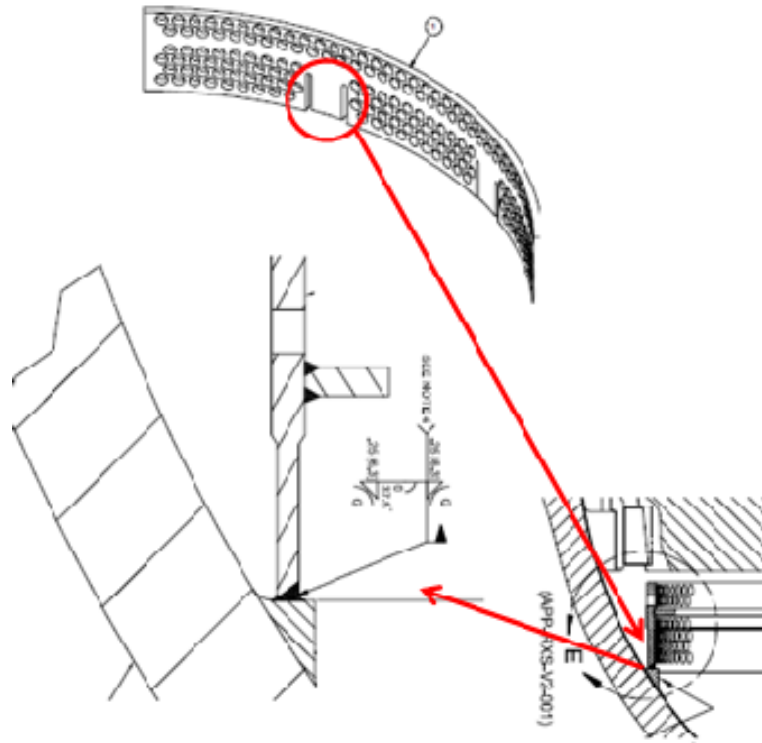


Figure 4

The following outlines the general requirements to execute welding necessary to install the RVFS in the field as described above.

1. Welding will be performed on the power plant site by an ASME NA-stamp holder.
2. NDE of welds will be in accordance with ASME Section V.
3. Acceptance criteria for weld examinations will be in accordance with the requirements of ASME Section III, Subsection NB.
4. Quality records for the following, as a minimum, will be created and stored as a permanent plant quality record:
 - a. Weld qualification records
 - b. Welder qualification records
 - c. Filler metal CMTR's/CFC's
 - d. Weld traveler or work package identifying witness & hold points.
 - e. NDE recordsThese records will be made available to any inspector on request.
5. Activities to install the flow skirt at the Vogtle 3 & 4 site, including but not limited to welding and NDE, will be monitored & inspected by a third party inspector.
6. Requirements for PSI of these welds will be included in the VEGP Units 3 & 4 PSI program plans.

Proposed Alternative VEGP 3&4-PSI/ISI-ALT-01, Version 0.0
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	<p>7. Requirements for In-ISI of these welds will be included in the VEGP Units 3 & 4 10-year ISI program plans.</p> <p>As shown above, the proposal to perform the RVFS to the RV attachment weld in the field in accordance with ASME Code requirements for a weld governed by Subsection NB assures the structural integrity of the weld with the same level of quality and safety as if the weld were in the RV ASME Code jurisdictional boundary; whereas, performing the RVFS to the RV attachment weld in the fabricator's shop creates a hardship without a compensating increase in level of quality and safety. Therefore, permission is requested to exclude the RVFS attachment weld from the jurisdictional boundary requirements of the <i>1998 Edition, 2000 Addenda of ASME B&PV Code, Section III, Article NB-1132.2 (d)</i> in accordance with 10 CFR 50.55a(a)(3)ii.</p>
Duration of Proposed Alternative:	Life of the facility
Precedents:	None identified
References:	AP1000 Design Control Document
Status:	Awaiting NRC authorization