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Westinghouse



Proposed Alternative VEGP 3 & 4 Flow Skirt to Reactor Vessel Weld Code Jurisdictional Boundary

June 27, 2012

Agenda

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- **Basis For Request For Alternative**
- **Component / Item Classification**
- **Reactor Vessel Flow Skirt (RVFS) Attachment Weld Jurisdictional Boundary**
- **Hardship with Current Jurisdictional Boundary**
- **Proposed Alternative**
- **Conclusion**

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Executive Summary

Proposed Alternative

- Move jurisdictional boundary of RVFS attachment weld out of RV ASME Code jurisdiction

Hardship

- Installing RVFS at the RV fabricator's shop prohibits effective measurement and final machining of the RV core support clevises and clevis inserts

No Safety Impact

- Performing the RVFS installation at the VEGP site using ASME Section III NB rules assures the same level of quality and safety as if the weld were performed at the RV fabricator's shop

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Basis For Request For Alternative

Pursuant to 10 CFR 50.55a(a)(3)ii, Southern Nuclear Operating Company (SNC) requests NRC authorization to use an alternative to the requirements of the 1998 Edition, 2000 Addenda of ASME Code, Section III, Article NB-1132.2 (d) with regard to attachment of the flow skirt to the reactor pressure vessel, as compliance with all requirements of ASME Section III Code would pose a hardship without a compensating increase in the level of quality and safety

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Component /Item Classification

- FSAR (plant specific DCD), Table 3.2-3
 - Reactor Pressure Vessel is ASME Section III Safety Class A component
 - Reactor Vessel Flow Skirt is Safety Class D item
 - Non-Code item conservatively fabricated to ASME Section III rules
- ASME Section III Code Year of Record: 1998 Edition with 2000 Addenda

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RVFS Attachment Weld Jurisdictional Boundary Background

DCD RAI-SRP-3.9.5-EMB-01 Response

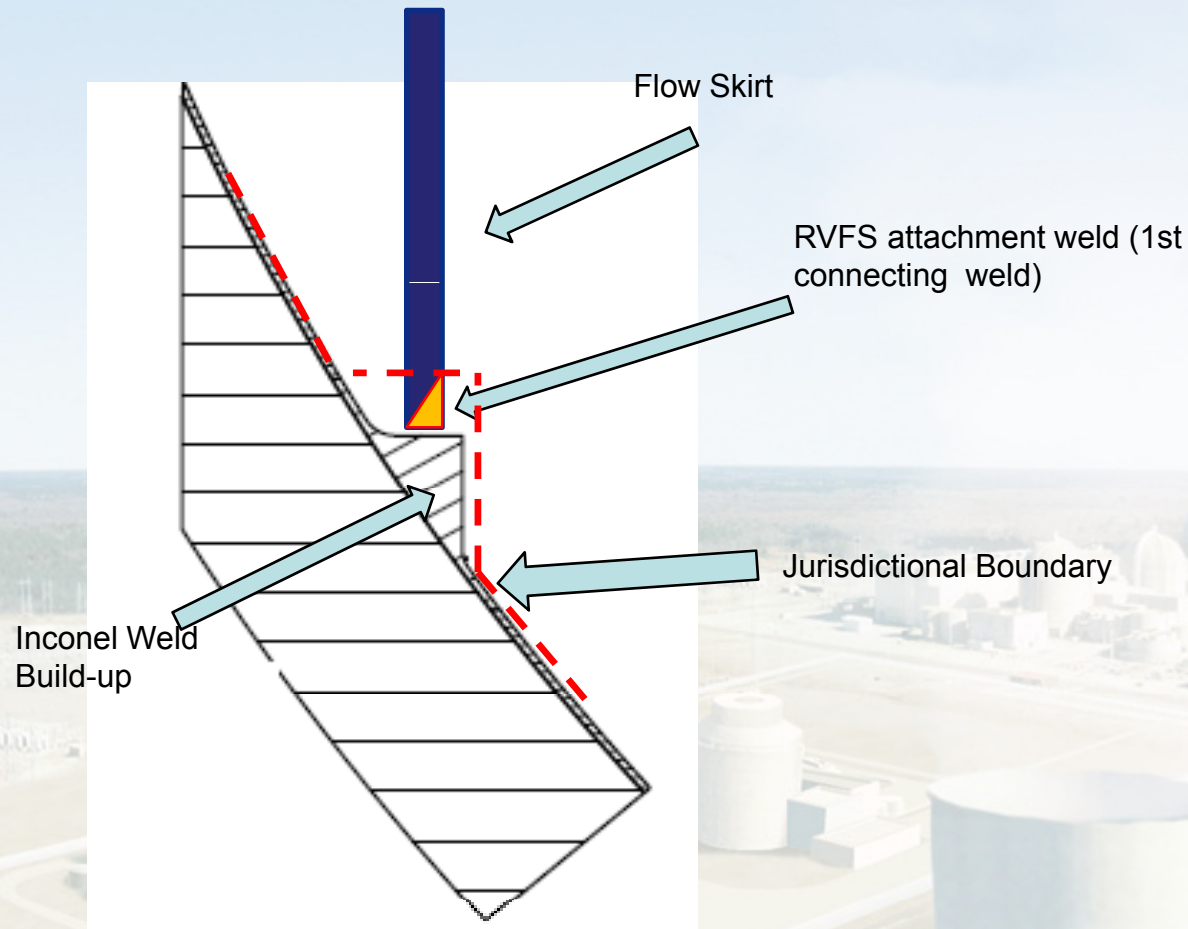
“Consistent with Article NB-1132.2(d), the jurisdictional boundary between the reactor vessel and the flow skirt is the first attachment weld; specifically the flow skirt to flow skirt support lug.”

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RVFS Attachment Weld Jurisdictional Boundary (Continued)



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Hardship with Current Jurisdictional Boundary

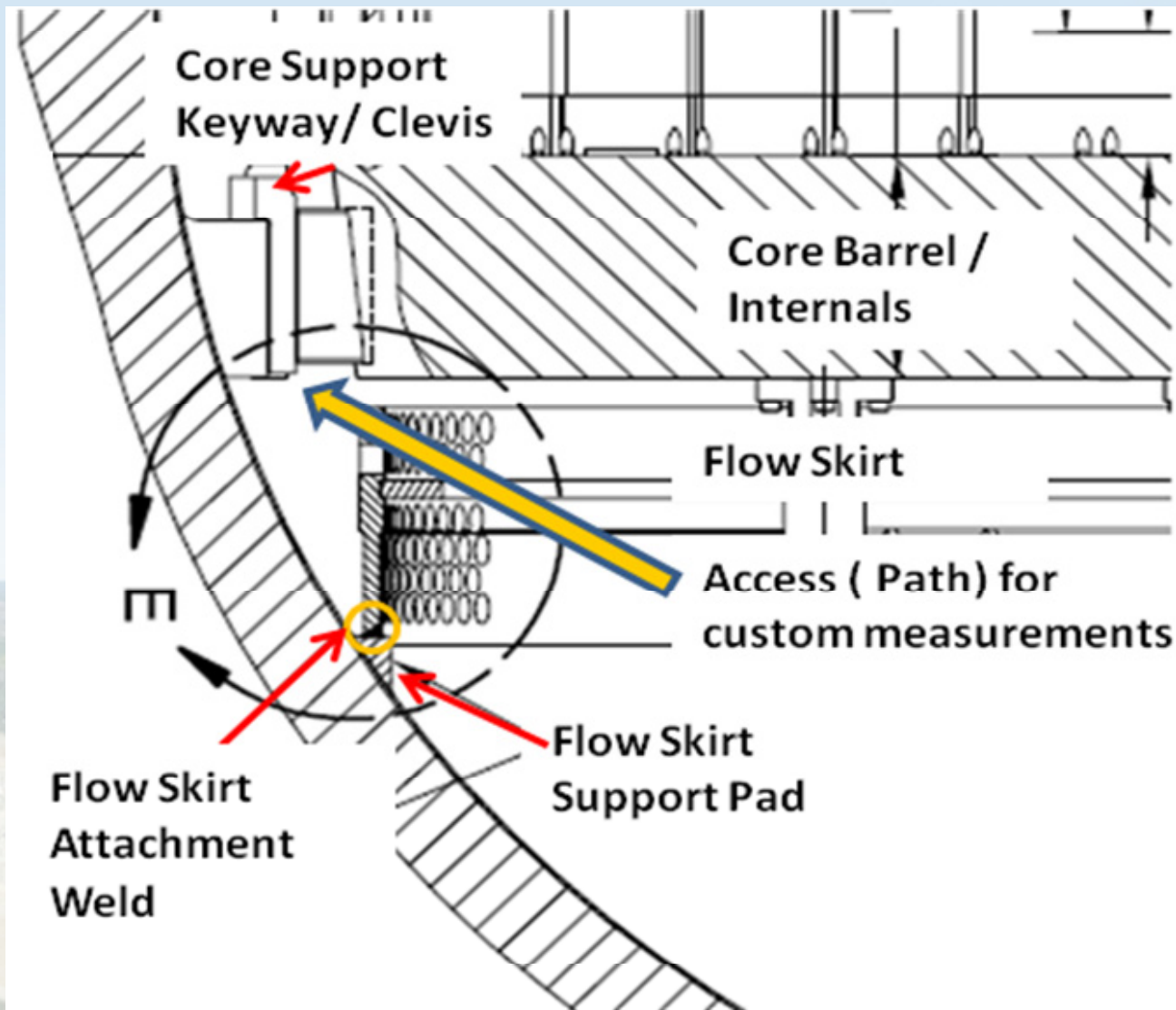
- Per ASME Section III NCA-8321, RVFS attachment welding needs to be completed prior to N-stamping of the RV
- RVFS cannot be installed prior to fit up and customization of Reactor Vessel Internals (RVI)
 - RVFS prohibits effective measurements required for fit up and customization of RVI
- Increased potential for shipping damage to RVI
- Installation of RVFS at RV fabricator shop is not as accurate as field installation due to construction variables

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Hardship (Continued)



**RVFS Configuration
(As-installed)**

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Hardship (Continued)

Reactor Vessel Flow Skirt



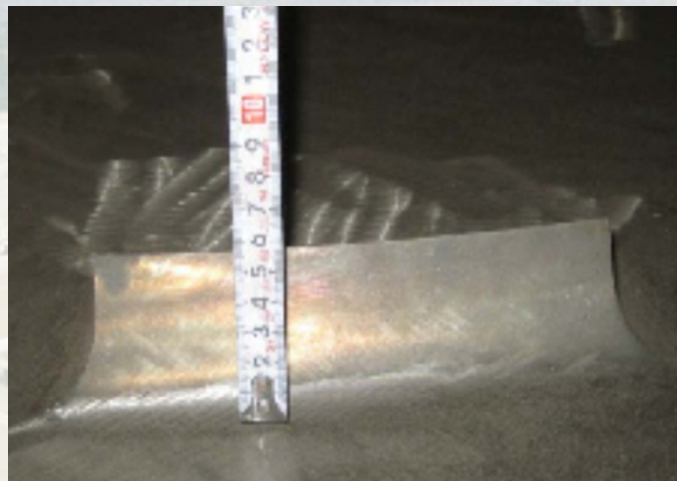
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Hardship (Continued)

RV Lower Flow Skirt Support Pad Build Up Welding



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Hardship (Continued)

Core Support Keyway/Clevis Region



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Hardship - Conclusion

Completing fabrication of RVFS attachment welding at RV fabricator's shop introduces unnecessary risk and hardship without any increase in the level of quality and safety.

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Proposed Alternative

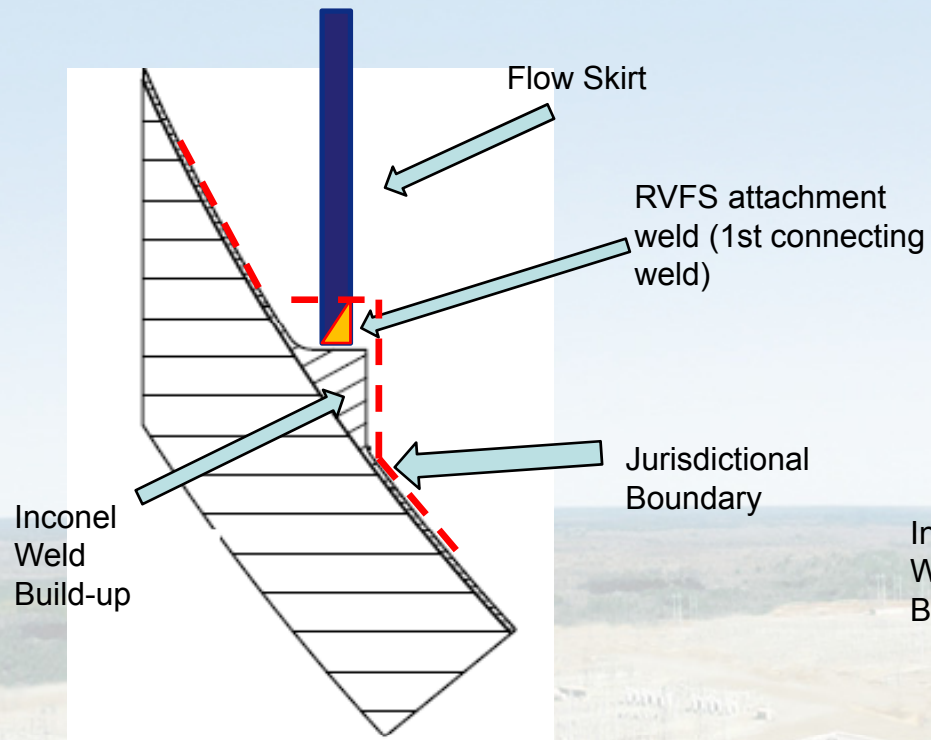
- It is proposed that RVFS attachment weld be removed from RV jurisdictional boundary
 - Weld to be completed by on-site NA certificate holder to the requirements of Subsection NB
 - Fabrication, inspection, and acceptance criteria for weld fabrication to be identified in the field installation manual which is a controlled document
 - Welding quality records will be included in a Code data report

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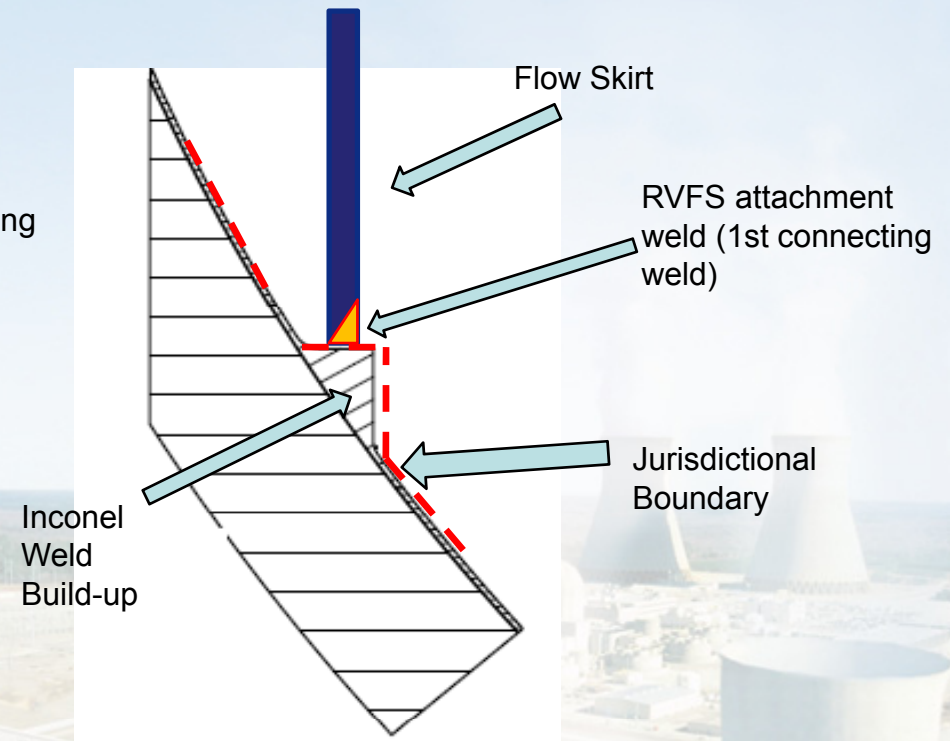
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Proposed Alternative Jurisdictional Boundaries



Current Jurisdictional Boundary



Proposed Jurisdictional Boundary

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Proposed Alternative Material Considerations

- RVFS attachment weld does not require Post Weld Heat Treatment (PWHT) per NB-4622.7(a)
 - RVFS support pads: Inconel weld build up
 - RVFS attachment weld: Inconel filler metal
 - RVFS: Inconel base metal

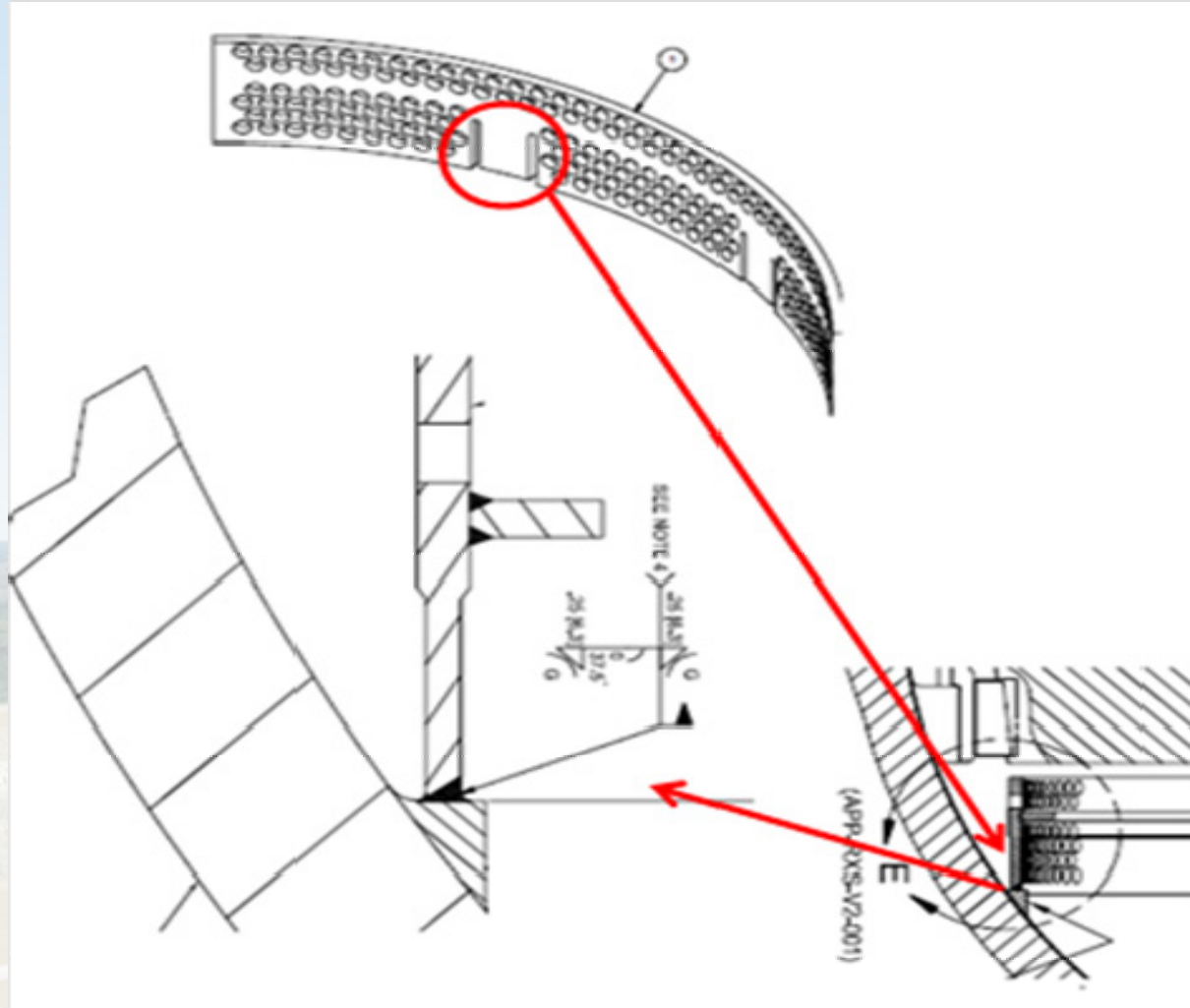


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Proposed Alternative No Changes to Weld Configuration



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Proposed Alternative General Installation Requirements

- Fabrication completed by NA Certificate holder
- Nondestructive Examination (NDE) completed in accordance with ASME Section III
- Quality records will be created and stored with a Code data report
- Activities monitored by 3rd party inspector
- Pre-service Inspection (PSI) of welds to be included in VEGP Units 3&4 PSI program plans
- In-service Inspection (ISI) of welds to be included in VEGP Units 3&4 10-year ISI program plans

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Conclusion

Hardship

- Installing RVFS at the RV fabricator's shop prohibits effective measurement and final machining of the RV core support clevises and clevis inserts

No Safety Impact

- Performing the RVFS attachment welds at the VEGP site using ASME Section III NB rules assures the same level of quality and safety as if the welds were performed at the RV fabricator's shop

Authorization of Request for Alternative

- NRC authorization is requested by September 7, 2012, to support the scheduled VEGP Unit 3 RV N-stamping

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