

## Vogle PEmails

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**From:** Patel, Chandu  
**Sent:** Tuesday, August 09, 2016 3:45 PM  
**To:** 'Jpredd@southernco.com'; Arice@Scana.com; Chamberlain, Amy Christine  
**Cc:** Vogle PEmails  
**Subject:** Draft RAI for Steam generator to RCP weld  
**Attachments:** RAIs for SG to RCP alternative\_Draft.docx

Hi,

Please see attached draft RAIs for ALT- 5 regarding Steam Generator nozzle to RCP casing weld pre-service inspection request. Please let me know if you need a clarification call on this issue.

Sincerely,

**Chandu Patel, Senior Project Manager**  
**U.S. NRC, Office of New Reactors**  
**NRC/NRO/DNRL/LB4,**  
**Washington, DC 20555-0001**  
**301.415.3025**  
**MS T6C20M**

**Hearing Identifier:** Vogtle\_COL\_Docs\_Public  
**Email Number:** 40

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**Subject:** Draft RAI for Steam generator to RCP weld  
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**From:** Patel, Chandu

**Created By:** Chandu.Patel@nrc.gov

**Recipients:**

"Vogtle PEmails" <Vogtle.PEmails@nrc.gov>  
Tracking Status: None  
"Jpredd@southernco.com" <Jpredd@southernco.com>  
Tracking Status: None  
"Arice@Scana.com" <Arice@Scana.com>  
Tracking Status: None  
"Chamberlain, Amy Christine" <ACCHAMBE@southernco.com>  
Tracking Status: None

**Post Office:** HQPWMSMRS05.nrc.gov

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MESSAGE	390	8/9/2016 3:45:25 PM
RAIs for SG to RCP alternative_Draft.docx		19367

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### **Question 1**

Alternative request VEGP3&4-PSI-ALT-05 describes in detail how the ultrasonic examination of the steam generator nozzle-to-reactor coolant pump casing welds (SG-to-RCP welds) will be done using a procedure and personnel qualified in accordance with the Electric Power Research Institute Performance Demonstration Initiative (EPRI/PDI) program. In this description, the licensee indicates that ultrasonic detection and length sizing qualification was extended to the full thickness of the aforementioned weld and that the examination volume is not limited. The staff notes that this capability would allow the licensee to meet the NRC proposed condition on American Society of Mechanical Engineers (ASME) Code Case N-799 which states, in part, that the examination of dissimilar metal welds between steam generator nozzles and pumps must be full volume.

In lieu of examining the full weld volume as proposed in the condition, the licensee proposes to perform an ultrasonic examination of the inner 1/3 of the weld and a surface examination of the inner and outer weld surfaces. However, there is no technical justification provided to support the licensee's proposal to volumetrically examine only the inner 1/3 of the weld volume. Therefore, the staff is unable to determine whether the proposed alternative examinations provide an acceptable level of quality and safety in accordance with 10 CFR 50.55a(z).

To resolve this issue, the staff requests that the licensee provide additional information or analyses to justify why the proposed examinations are an acceptable alternative to examining the full weld volume. Specifically, the staff requests that the licensee, at a minimum, provide an analysis which considers the size and nature of the largest potential defect which could be expected to be present in the outer 2/3 of the weld as well as the operating loads to which the weld will be subject for the licensed lifetime of the facility. To support the requested alternative, this analysis would be expected to demonstrate that the initiation of active degradation of the weld would not be expected to occur from the postulated defect in the outer 2/3 of the weld over the licensed lifetime of the facility.

### **Question 2**

Alternative request VEGP3&4-PSI-ALT-05, Figure 2, indicates that the configuration of the SG-to-RCP weld will be a double-sided joint (i.e., double V). However, the figures used to illustrate the examination requirements in ASME Code Case N-799 and ASME Section XI (2013 Edition), IWB-2500-8 are for a single-sided weld joint. The staff requests that the licensee describe why the examination requirements proposed for a single-sided weld are applicable and acceptable for use on the SG-to-RCP weld, which is double-sided weld.