

Vogle PEmails

From: Patel, Chandu
Sent: Monday, October 30, 2017 11:24 AM
To: Chamberlain, Amy Christine
Cc: Vogle PEmails; Terry, Leslie
Subject: Drat RAI for ALT 7 for Vogle 3 and 4
Attachments: RAI for Vogle 34 ALT-7.pdf

Hi,

Please review the attached RAI for ALT-7 for Vogle 3 and 4 and let me know if you need any clarification call. Otherwise it will be issued as final after November 2, 2017. Please let me know as soon as possible.

Thanks,
Chandu Patel

Hearing Identifier: Vogtle_COL_Docs_Public
Email Number: 173

Mail Envelope Properties (12119c4da13146d3ba09896acc3e28c3)

Subject: Drat RAI for ALT 7 for Vogtle 3 and 4
Sent Date: 10/30/2017 11:23:42 AM
Received Date: 10/30/2017 11:23:43 AM
From: Patel, Chandu

Created By: Chandu.Patel@nrc.gov

Recipients:

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

Post Office: HQPWMSMRS05.nrc.gov

Files	Size	Date & Time
MESSAGE	264	10/30/2017 11:23:43 AM
RAI for Vogtle 34 ALT-7.pdf	82144	

Options

Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received:

REQUEST FOR ADDITIONAL INFORMATION (Draft)

REQUEST FOR ALTERNATIVE NO. 7

REACTOR VESSEL NOZZLE INNER RADIUS SECTIONS

SOUTHERN NUCLEAR OPERATING COMPANY

VOGTLE ELECTRIC GENERATING PLANT, UNITS 3 AND 4

DOCKET NOS. 52-025 AND 52-026 (CAC NO. 000463 (RP9630))

By letter dated July 6, 2017, Southern Nuclear Operating Company (Southern Nuclear) requested U.S. Nuclear Regulatory Commission (NRC) approval of an alternative to the requirements of American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (ASME Code), Section XI, Table IWB-2500-1, Examination Category B-D, Item B3.100, for Vogtle Electric Generating Plant (VEGP), Units 3 and 4 (Accession No. ML17192A125 in the NRC's Agencywide Documents Access and Management System). Specifically, Southern Nuclear requested application of VT-1 visual examination for preservice inspection (PSI) of the inner radius sections of the inlet, outlet, and direct vessel injection nozzles for VEGP, Units 3 and 4.

Staff of the Materials and Chemical Engineering Branch in the Office of New Reactors reviewed and evaluated the information provided by Southern Nuclear, and has determined that the following information is needed in order to complete its review of the request.

1. Pursuant to § 50.55a(g)(3)(ii) of Title 10 of the *Code of Federal Regulations* (10 CFR), ASME Code Class 1, 2, and 3 components (including supports) must meet the PSI requirements set forth in ASME Code Section III or Section XI. ASME Code Section XI, Table IWB-2500-1, Examination Category B-D, Item B3.100, requires a PSI volumetric examination of the reactor vessel nozzle inner radius sections. Your proposed PSI examinations include a liquid penetrant testing (PT) examination prior to the VT-1 visual examination, and an ultrasonic testing (UT) examination prior to the VT-1 but after the PT. Please provide the following information regarding your proposed PSI examinations:
 - a. 10 CFR 50.55a provides conditions on ASME Code Section XI examinations including that UT examinations shall be performed by qualified procedures and personnel in accordance with ASME Code Section XI, Appendix VIII (performance based). Confirm that the examinations will be performed in accordance with the ASME Code as conditioned in 10 CFR 50.55a.
 - b. If any of the examinations will not be performed in accordance with the ASME Code as conditioned in 10 CFR 50.55a, then provide the following information:
 - i. Discuss how the performance of the examinations will not meet the ASME Code and your basis for not performing the examinations in accordance with the ASME Code.
 - ii. Describe the alternative(s) to the examination(s) not being performed in accordance with the ASME code as conditioned in 10 CFR 50.55a, including a clear discussion

of how the alternative(s) will meet 10 CFR 50.55a(z)(1) by providing an acceptable level of quality and safety.

- iii. Discuss the impacts and acceptability concerning flaw characterization and sizing since there will be no performance-based examination baseline data for comparison purposes if subsequent ISI examination (UT) is necessary when indications are found during the VT-1 inspection.
2. The request notes that you plan to adopt Code Case N-648-1, "Alternative Requirements for Inner Radius Examinations of Class 1 Reactor Vessel Nozzles," for future ISI, however, even though you do not reference Code Case N-648-2, it appears that your technical basis for application of VT-1 for PSI is based on that code case. Code Case N-648-1 applies only to ISI and is conditionally approved for use by the NRC in Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1." Code Case N-648-2 applies to both PSI and ISI, and is currently being reviewed by the NRC staff for incorporation into Regulatory Guide 1.147 based on comments provided during ASME Code meetings. Please confirm that you are basing application of VT-1 for PSI on Code Case N-648-2 and discuss how you have addressed potential NRC staff comments regarding use of this code case for new reactors with no previous operating experience.
 3. The request notes that your elastic plastic fracture mechanics method followed the guidelines of Code Case N-749, "Alternative Acceptance Criteria for Flaws in Ferritic Steel Components Operating in the Upper Shelf Temperature Range." This code case is not currently approved for use, however, conditions on its use were proposed in the proposed rule published in the *Federal Register* on March 2, 2016 ([81 FR 10780](#)). Please discuss how you have addressed the proposed conditions.