

From: Santos, Cayetano
Sent: Monday, December 6, 2021 10:56 AM
To: Vogtle PEmails
Cc: Gleaves, Billy; Gonzalez, Carlos
Subject: Draft ALT-02 for pre-submittal discussion
Attachments: ND-21-0000 IST-ALT-02 for PSM 20211216.pdf

Hearing Identifier: Vogtle_COL_Docs_Public
Email Number: 629

Mail Envelope Properties (MN2PR09MB5244414126FDDDEB11C8FB3EE56D9)

Subject: Draft ALT-02 for pre-submittal discussion
Sent Date: 12/6/2021 10:56:04 AM
Received Date: 12/6/2021 10:56:06 AM
From: Santos, Cayetano

Created By: Cayetano.Santos@nrc.gov

Recipients:

"Gleaves, Billy" <Bill.Gleaves@nrc.gov>

Tracking Status: None

"Gonzalez, Carlos" <Carlos.Gonzalez@nrc.gov>

Tracking Status: None

"Vogtle PEmails" <Vogtle.PEmails@usnrc.onmicrosoft.com>

Tracking Status: None

Post Office: MN2PR09MB5244.namprd09.prod.outlook.com

Files	Size	Date & Time
MESSAGE	3	12/6/2021 10:56:06 AM
ND-21-0000 IST-ALT-02 for PSM 20211216.pdf		182221

Options

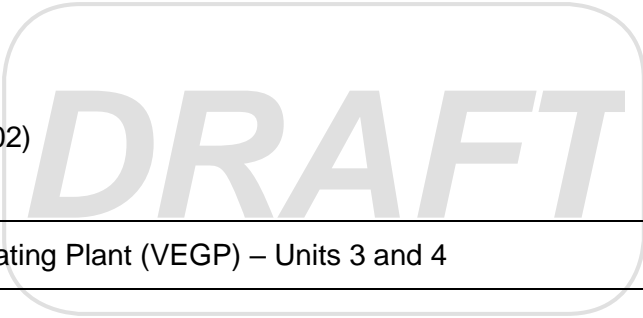
Priority: Normal

Return Notification: No

Reply Requested: No

Sensitivity: Normal

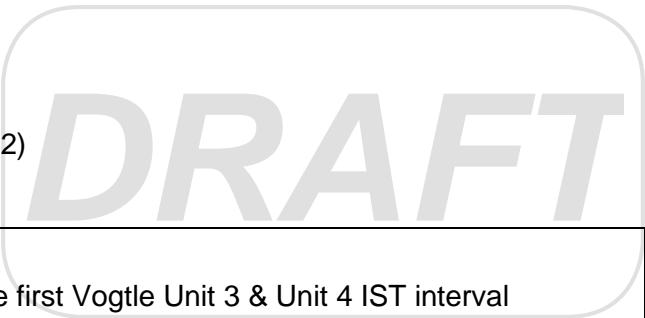
Expiration Date:



Plant Site-Unit:	Vogtle Electric Generating Plant (VEGP) – Units 3 and 4
Interval-Interval Dates:	Applies to the initial inservice test (IST) interval for Units 3 and 4
Requested Date for Approval:	Authorization is requested by [6 months following submittal]
ASME Code Components Affected:	<p>Specific alternative requested is applicable to Main Turbine System (MTS):</p> <ul style="list-style-type: none"> - Turbine stop valves: MTS-PL-V001A/B and MTS-PL-V003A/B, and - Turbine control valves: MTS-PL-V002A/B and MTS-PL-V004A/B. <p>These are Class N, Active, Category B valves.</p>
Applicable Code Edition and Addenda:	ASME Operation and Maintenance of Nuclear Power Plants (OM) Code, 2012 Edition for 1 st Inservice Test Interval
Applicable Code Requirements:	Quarterly exercise (ISTC-3510), full stroke exercise (ISTC-3521(a))
Reason for Request:	<p>10 CFR 50.55a(z) allows for alternatives to the requirements when the licensee can demonstrate that: 1) the proposed alternative would provide an acceptable level of quality and safety; or 2) compliance with the specified requirements of this section would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.</p> <p>The proposed alternative test methodology and frequency provides an acceptable level of quality and safety, while reducing the risk of a unplanned turbine trip and associated potential challenges to safety systems.</p>



<p>Proposed Alternative and Basis for Use:</p>	<p>Proposed Alternative:</p> <p>In lieu of the Code requirement for full-stroke testing of these valves on a quarterly frequency per ISTC-3510 and ISTC-3521(a), it is proposed to establish partial stroke testing on a semi-annual basis (six-month frequency per Code Case OMN-20).</p> <p>Basis for Use:</p> <p>The turbine stop and control valves close to perform the function of providing backup isolation in the event of a main steam line break (MSLB) with the single failure of a main steam isolation valve (MSIV) to mitigate the event, and to prevent the generation of turbine missiles in the event of a turbine overspeed condition. When Westinghouse was designing the AP1000, the stroking of these valves was assumed, as documented in the DCD, to be informed by industry initiatives to minimize the chances of an unanticipated turbine trip (turbine valve testing is the most common cause of unplanned reactor trips), while maintaining the probability of generating a turbine missile at an appropriately low probability (see UFSAR Subsection 10.2.3.6). This testing frequency (every six months) was input into the PRA which demonstrated an acceptable overall risk, including the use of these valves in their MSIV backup function. Additionally, the change from full-stroke to partial stroke exercising minimizes the required power reduction (to 90% for partial stroke testing vs. to 75% for full stroke testing) and associated secondary transient which also contributes to reducing the risk of a turbine trip event. The UFSAR discussion of the turbine maintenance and inspection program in Subsection 10.2.3.6 indicates:</p> <p>“Turbine valve testing is performed at six-month intervals. The semi-annual testing frequency is based on nuclear industry experience that turbine-related tests are the most common cause of plant trips at power. Plant trips at power may lead to challenges of the safety-related systems. Evaluations show that the probability of turbine missile generation with a semi-annual valve test is less than the evaluation criteria.”</p> <p>The Unit 3 Turbine Maintenance and Inspection Program (submitted on July 9, 2020) identifies this testing at six-month intervals as partial stroke testing.</p> <p>The partial stroke testing on a six-month frequency, provides an acceptable level of quality and safety. As such, SNC proposes this alternative to the OM Code under 10 CFR 50.55a(z)(1).</p>
---	---



Duration of Proposed Alternative:	Through the end of the first Vogtle Unit 3 & Unit 4 IST interval
References:	<ol style="list-style-type: none">1. Vogtle Electric Generating Plant Units 3&4 INSERVICE TESTING PROGRAM PLAN - 1st INTERVAL (ADAMS Accession No. ML#####) submitted to NRC on December ##, 20212. Vogtle Electric Generating Plant Units 3&4 TURBINE MAINTENANCE AND INSPECTION PROGRAM (ADAMS Accession No. ML20192A048) submitted to NRC on July 09, 20203. UFSAR Subsection 10.2.3.6, Maintenance and Inspection Program Plan (relative to turbine rotor integrity)
Status:	Awaiting NRC authorization

ND-21-0000
 Enclosure 2
 Markup of Vogtle Unit 3 Inservice Testing Program Plan – 1st Interval

Revise the MTS stop and control valve stroke testing Frequencies as follows:

MTS

Valve ID Description	Class	Aug	Cat	A/P	Valve Size	Valve Type	Act. Type	Drawing & Coord	Normal	Safety	Fail-Safe	Required Test	Freq	Code Dev.	Plan Notes
SV3-MTS-PL-V001A Main Stop Valve #1	N	Y	B	A	28"	GL	EH	SV3-MTS-M6-002 F-6	O	C	C	PI STC STC FST	2y SA CS Q	CSJ-MTS-1	Note X Note Z
SV3-MTS-PL-V001B Main Stop Valve #3	N	Y	B	A	28"	GL	EH	SV3-MTS-M6-002 C-6	O	C	C	PI STC STC FST	2y SA CS Q	CSJ-MTS-1	Note X Note Z
SV3-MTS-PL-V002A Control Valve #1	N	Y	B	A	28"	GL	EH	SV3-MTS-M6-002 F-6	O	C	C	PI STC STC FST	2y SA CS Q	CSJ-MTS-1	Note X Note Z
SV3-MTS-PL-V002B Control Valve #3	N	Y	B	A	28"	GL	EH	SV3-MTS-M6-002 C-6	O	C	C	PI STC STC FST	2y SA CS Q	CSJ-MTS-1	Note X Note Z
SV3-MTS-PL-V003A Main Stop Valve #2	N	Y	B	A	28"	GL	EH	SV3-MTS-M6-002 E-6	O	C	C	PI STC STC FST	2y SA CS Q	CSJ-MTS-1	Note X Note Z
SV3-MTS-PL-V003B Main Stop Valve #4	N	Y	B	A	28"	GL	EH	SV3-MTS-M6-002 D-6	O	C	C	PI STC STC FST	2y SA CS Q	CSJ-MTS-1	Note X Note Z
SV3-MTS-PL-V004A Control Valve #2	N	Y	B	A	10"	GL	AO	SV3-MSS-M6-001 E-6	C	C	C	PI STC STC FST	2y SA CS Q	CSJ-MTS-1	Note X Note Z
SV3-MTS-PL-V004B Control Valve #4	N	Y	B	A	10"	GL	AO	SV3-MSS-M6-001 D-6	C	C	C	PI STC STC FST	2y SA CS Q	CSJ-MTS-1	Note X Note Z

ND-21-0000
Enclosure 1
Request for Alternative (VEGP 3&4-IST-ALT-02)

Unit 3 IST Program Plan markups shown – Unit 4 markups would show identical changes...

Select IST Program Plan Legend information (for reviewer information):

Class N – non-safety related
Aug Y - Augmented scope (not required by ASME OM Code)
Cat. B - OM Code Category “B” Valve (see OM Code)
A/P A – Active valve
Valve Type GL – Globe Valve
Act. Type AO - Air Operated actuator
Act. Type EH - Electro-Hydraulic Operated actuator
Position O – Open
Position C – Closed
Required Test PI - Remote Position Indication Verification
Required Test STC – Stroke Time Closed test
Required Test FST - Fail-Safe Test
Freq 2y – Two-year frequency
Freq Q – Quarterly frequency
Freq SA –Semi-Annually or six-month frequency (new – not previously used)
Freq CS – Cold shutdown frequency