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October 27, 2010

U. S. Nuclear Regulatory Commission Attention: Document Control Desk Washington, D. C. 20555 Serial No. NA3-10-018 Docket No. 52-017 COL/MWH

<u>NORTH ANNA UNIT 3</u> <u>COMBINED LICENSE APPLICATION – RESULTS OF FSAR CHAPTER 8 RAI REVIEW</u>

In a letter dated November 26, 2007 (Letter Serial No. NA3-07-001), Dominion Virginia Power (Dominion) submitted the North Anna Unit 3 Combined License Application (COLA) that incorporated the ESBWR DCD by reference. North Anna Unit 3 was designated by the ESBWR DCWG as the R-COLA. In a letter dated June 28, 2010 (Letter Serial No. NA3-10-011), Dominion revised the North Anna COLA to incorporate the US-APWR DCD by reference instead. That action resulted in the North Anna Unit 3 COLA being designated as an S-COLA for the US-APWR technology. Dominion is currently reviewing the NRC requests for additional information (RAI) and Dominion responses issued to date to determine whether the change in technology impacted the applicability of the RAIs to the June 28 COLA revision.

This letter provides the results of the review of RAIs associated with Final Safety Analysis Report (FSAR) Chapter 8, which was identified as priority information by the NRC project manager. The enclosed table identifies the Chapter 8 RAIs and classifies each in one of three categories: 1) RAI or RAI Response Not Applicable, 2) RAI Response Valid for the S-COLA, or 3) RAI Response Requires Revision. As a result of the evaluation, the response to RAI No. 08.02-37 requires revision. Dominion will provide a revised response by separate transmittal no later than sixty days from the date of this letter.

Additional reviews are in progress for the remaining RAIs and the results of those reviews will be reported separately.

Please contact Regina Borsh at (804) 273-2247 (regina.borsh@dom.com) if you have questions.

Very truly yours,

Eugene S. Grecheck

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COMMONWEALTH OF VIRGINIA

COUNTY OF HENRICO

The foregoing document was acknowledged before me, in and for the County and Commonwealth aforesaid, today by Eugene S. Grecheck, who is Vice President-Nuclear Development of Virginia Electric and Power Company (Dominion Virginia Power). He has affirmed before me that he is duly authorized to execute and file the foregoing document on behalf of the Company, and that the statements in the document are true to the best of his knowledge and belief.

Acknowledged before me this 0/

My registration number is

Commission expires: \mathcal{U}

Enclosure: FSAR Chapter 8 RAI Review Results

Commitments made by this letter:

A revised response to RAI 08.02-37 will be provided within sixty days of the date of this letter.

U. S. Nuclear Regulatory Commission, Region II CC:

C. P. Patel. NRC

J. B. Jessie, NRC

T. S. Dozier, NRC

J. T. Reece, NRC

Attachment

FSAR Chapter 8 RAI Review Results

Evaluation of the Applicability of ESBWR R-COLA FSAR Chapter 8 RAI Responses to US-APWR North Anna 3 S-COLA											
RAI#	NRC RAI Ltr#	. RAI Topic	NA3 RAI Response Ltr#	Date Response Submitted	RAI or RAI Response Not Applicable	RAI Response Valid for S- COLA (Note 1)	RAI Response Requires Revision (Note 1)	Comments			
	_	Switchyard figure									
08.02-1	9	discrepancy	NA3-08-056R	7/28/2008	X		-				
08.02-2	9	Cable routing in the intermediate switchyard	NA3-08-056R	7/28/2008	· x	_	_				
08.02-3	9	Intermediate transformer rating	NA3-08-056R	7/28/2008	х	_		_			
		In-situ monitoring programs to prevent degradation of cable insulation due to									
08.02-4	9	moisture	NA3-08-056R	7/28/2008	Х	-	-				
08.02-5	9	500kV transmission & bus ratings	NA3-08-056R	7/28/2008	_	x	_				
08.02-6	9	Discuss provisions for transformer protection	NA3-08-056R	7/28/2008	-	X	_				
08.02-7	9	Protective relay acceptance	NA3-08-056R	7/28/2008	-	х .	_				
08.02-8	9	Industry standards for switchyard protection	NA3-08-056R	7/28/2008	X			Conformance with the NERC standards is addressed in the S-COLA. Conformance with IEEE C37.013 standard is addressed in the DCD.			
08.02-9	9	Transformer testing inclusion	NA3-08-056R	7/28/2008	-	x					
08.02-10	9	Grid stability and stability analysis	NA3-08-056R	7/28/2008		х	_				
08.02-11	9	Grid stability and the modeling of the 34.5 kV line	NA3-08-056R	7/28/2008	-	x	·				
08.02-12	9	Twenty year grid outage history	NA3-08-056R	7/28/2008		х	_				

Evaluation of the Applicability of ESBWR R-COLA FSAR Chapter 8 RAI Responses to US-APWR North Anna 3 S-COLA RAI or RAI Response NRC RAI **RAI Response** Date Valid for S-NA3 RAI RAI# RAI **RAI Topic** Response Response Requires Revision Comments Response Ltr# COLA Ltr# Submitted (Note 1) Not (Note 1) **Applicable** Offsite power system unit technical NA3-08-056R 08.02-13 specifications 7/28/2008 X System Impact Study 08.02-14 (SIS) loadflow analysis NA3-08-056R 7/28/2008 Χ Maximum and minimum 08.02-15 9 7/28/2008 grid frequency NA3-08-056R X 08.02-16 9 GDC-5 applicability NA3-08-056R 7/28/2008 Х 08.02-17 9 GDC-4 applicability NA3-08-056R 7/28/2008 Х Χ 08.02-18 GDC-2 applicability NA3-08-056R 7/28/2008 Clarify compliance with the requirements of 10 CFR 50.65 Refer to S-COLA FSAR Table 08.02-19 "Maintenance Rule" NA3-08-056R 7/28/2008 Х 1.9-202 08.02-20 9 BTP 8-3 applicability NA3-08-56R 7/28/2008 Х 08.02-21 9 NA3-08-56R 7/28/2008 Х BTP 8-5 applicability 08.02-22 Х 9 BTP 8-6 applicability NA3-08-056R 7/28/2008 Transmission reliability consistent with analysis 08.02-23 in Chapter 19 NA3-08-056R 7/28/2008 Х Station ground grid 08.02-24 description NA3-08-056R Χ 7/28/2008 Adequacy of surge / lightning protection of 08.02-25 offsite power system NA3-08-056R 7/28/2008 Χ Impact on Unit 1 & 2 grid stability with addition of 08.02-26 9 Unit 3 NA3-08-056R 7/28/2008 Х Reliability and stability 08.02-27 16 analysis NA3-08-085RA 8/21/2008 Х Offsite electric power system for SSCs

X

8/21/2008

08.02-28

important to safety

NA3-08-085RA

Evaluation of the Applicability of ESBWR R-COLA FSAR Chapter 8 RAI Responses to US-APWR North Anna 3 S-COLA RAI or **RAI Response** NRC RAI RAI Response Date NA3 RAI Valid for S-RAI# RAI Requires Revision **RAI Topic** Response Response Comments Response Ltr# COLA Ltr# Submitted Not (Note 1) (Note 1) **Applicable** Provide justification for testing methods for detecting cable degradation and 08.02-29 frequency of testing NA3-08-121R 12/1/2008 Χ Identify transformers 1. 2,3,5 and 6 in Figure 08.02-30 29 8.2-201 NA3-08-121R 12/1/2008 X Stability analysis in comparison to Palo 08.02-31 Χ 29 Verde incident NA3-08-121R 12/1/2008 Explain why distribution loads have limited ability 08.02-32 to affect grid stability NA3-08-121R 12/1/2008 Χ Provide discussion on how the requirements of GDC 5 are met (Closed 08.02-33 by NRC Letter No 035) NA3-08-121R 12/1/2008 X Provide discussion on how the requirements of 08.02-34 29 GDC 4 are met NA3-08-121R 12/1/2008 Х Provide discussion on how the requirements of 08.02-35 GDC 2 are met NA3-08-121R 12/1/2008 Х Applicability of the "Maintenance Rule" to 08.02-36 switchyard equipment NA3-08-121R 12/1/2008 Х Describe existing and proposed grounding system at North Anna A revised response to this RAI 08.02-37 Station NA3-08-121R 12/1/2008 Х will be submitted. Discuss the effect of the largest unit trip on the switchyard voltage and 08.02-38 frequency NA3-09-007R 3/18/2009 Χ

Evaluation of the Applicability of ESBWR R-COLA FSAR Chapter 8 RAI Responses to US-APWR North Anna 3 S-COLA											
RAI#	NRC RAI Ltr#	RAI Topic	NA3 RAI Response Ltr#	Date Response Submitted	RAI or RAI Response Not Applicable	RAI Response Valid for S- COLA (Note 1)	RAI Response Requires Revision (Note 1)	Comments			
08.02-39	32	Periodic testing of underground 230kV cables (Closed by NRC Letter #35)	None		X	-					
08.02-40	33	Switchyard cables (Closed by NRC Letter #35)	None	,	X	_	_				
08.03.02-1	11	Station blackout response procedures	NA3-08-063R	8/4/2008	X	-					
08.03.02-2	11	RG 1.41, 1.128, 1.129 conformance clarification	NA3-08-063R	8/4/2008	х	_	_				

Note 1: References within the RAI and/or RAI response to COLA Section numbers and DCD Section numbers may be different for the S-COLA.