PMNorthAnna3COLPEmails Resource

From: Patel, Chandu
Sent: Thursday, June 30, 2011 3:13 PM
To: 'na3raidommailbox@dom.com'
Cc: Weisman, Robert; NorthAnna3COL Resource; Otto, Ngola; Pal, Amar
Subject: Draft RAI 5832, Section 8.2, North Anna 3 COLA
Attachments: Draft RAI 5832.doc

Please see attached supplemental Draft RAI 5832 for Section 8.2 of North Anna 3 COLA. Please let me know if you need any clarification by COB July 6, 2011. Otherwise, it will be issued as final after July 6, 2011.

Sincerely,
Chandu Patel
Lead Project Manager for North Anna 3 COLA
DNRL, NRO

Hearing Identifier: NorthAnna3_Public_EX
Email Number: 986

Mail Envelope Properties (8C658E9029C91D4D90C6960EF59FC0D630EA8BCB57)

Subject: Draft RAI 5832, Section 8.2, North Anna 3 COLA
Sent Date: 6/30/2011 3:13:01 PM
Received Date: 6/30/2011 3:13:03 PM
From: Patel, Chandu

Created By: Chandu.Patel@nrc.gov

Recipients:
"Weisman, Robert" <Robert.Weisman@nrc.gov>
Tracking Status: None
"NorthAnna3COL Resource" <NorthAnna3COL.Resource@nrc.gov>
Tracking Status: None
"Otto, Ngola" <Ngola.Otto@nrc.gov>
Tracking Status: None
"Pal, Amar" <Amar.Pal@nrc.gov>
Tracking Status: None
"'na3raidommailbox@dom.com'" <na3raidommailbox@dom.com>
Tracking Status: None

Post Office: HQCLSTR02.nrc.gov

Files	**Size**	**Date & Time**
MESSAGE	322	6/30/2011 3:13:03 PM
Draft RAI 5832.doc	34298	

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

Request for Additional Information No. 5832 (Draft)

North Anna, Unit 3
Dominion
Docket No. 52-017
SRP Section: 08.02 - Offsite Power System
Application Section: 8.2

QUESTIONS for Electrical Engineering Branch (EEB)

08.02-***

In response to RAI 5181, Question 08.02-43, Dominion deleted over current relay protection for transformers 1 and 2. Explain why over current relays are not required for transformer 1 and 2.

08.02-***

In response to RAI 5181, Question 08.02-45, Dominion stated that North Anna switchyard lightning protection system design is not fully compliant with IEEE Std. C62.23 which is endorsed by RG 1.204. Identify the parts of IEEE Std. C62.23 that are not met and provide justification for acceptability of your position.

08.02-***

In response to RAI 5181, Question 08.02-47, Dominion stated that condition monitoring of underground or inaccessible cables within the scope of maintenance rule will be implemented. Confirm that 230 kV (normal preferred power supply) cable is included in the cable monitoring program.

08.02-***

The response to RAI 5181, Question 08.02-49 did not address the following: (a) Duty cycle of batteries, (b) Battery Voltage rating, (c) Battery capacity adequacy to close necessary breakers for offsite power restoration after an SBO event of 8-hours, (d) Number of switchyard transformers (19.9kV/120-240V), (e) Sources of 19.9 kV power for these transformers. Please address these items.

08.02-***

Response to RAI 5181, Question 08.02-54, stated that results of the study show that the most limiting maximum and minimum voltage variation of all cases studied is +2.68% (maximum deviation from nominal) to -1.67% (minimum deviation from nominal). Please provide the following information: (a) What is the nominal value? [500 kV nominal gives 491.65 kV as minimum voltage whereas FSAR indicates 505 kV as the minimum voltage] (b)The staff finds that the maximum switchyard voltage is 538.75kV (500x1.0775) per Revised System Impact study dated April 2011. Whereas FSAR specifies 534 kV. Revise FSAR to reflect the

new maximum switchyard voltage of 538.75kV. (c) Provide basis for initial conditions of 1.048 and 1.0494 in stability study. Also, explain why the initial condition of 1.0494 is higher for contingency NP3 [Units 1 and 2 in refueling with trip of Unit 3]. (d) Short Circuit Study assumptions for pre-fault voltage is from linear network solution. What is the pre-fault voltage for short circuit analysis and its basis?

08.02-***

In response to RAI 5181, Question 08.02-56, Dominion indicated that the results of a transmission system reliability study show that the reliability of the NA-3 site-specific offsite power system is consistent with the assumptions in the APWR PRA which has been incorporated by reference in Section 19 of the FSAR. The staff did not find the quantitative information necessary to confirm that the reliability of the NA-3 offsite power system is consistent with the assumptions in the PRA. Please provide quantitative information that shows that the expected frequency of loss of offsite power and likelihood of recovering offsite power once it is lost are bounded conservatively by the assumptions in the APWR PRA which has been incorporated by reference in Section 19 of the FSAR.

08.02-***

The response to RAI 5181, Question 08.02-57 requires additional information. The NRC staff needs the following to understand why loss of a dc power system in conjunction with a station blackout event will not prevent restoration of offsite power: (a) Typical schematic diagram including dc power supplies and, closing and trip coils, (b) Indicate which battery supplies power to the closing coil of 500 kV breakers. (c) Scenario 2 assumes 230 kV transmission line is recovered. Please address if only 500kV transmission is recovered in Scenario 2. (d) Address if only 230 kV transmission line is recovered in Scenario 3.