

PMNorthAnna3COLPEmails Resource

From: Kevern, Thomas
Sent: Friday, July 31, 2009 9:07 AM
To: Dominion.Naps3ColaRAI@DOM.COM
Cc: Regina.Borsh@dom.com; john.hayden@dom.com; Wanda.K.Marshall@dom.com;
NorthAnna3COL Resource; Jessie, Janelle
Subject: North Anna RAI Letter #040
Attachments: RAI Ltr#40 2.4&13.6ML092090567.pdf

Gina:

Attached is the subject RAI letter - re SRP SECTIONS: 2.4 and 13.6.

Please contact me if questions.

Tom

Hearing Identifier: NorthAnna3_Public_EX
Email Number: 783

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Subject: North Anna RAI Letter #040
Sent Date: 7/31/2009 9:06:50 AM
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From: Kevern, Thomas

Created By: Thomas.Kevern@nrc.gov

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Options

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Recipients Received:

July 29, 2009

Mr. Eugene S. Grecheck
Vice President - Nuclear Development
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SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 040
(SRP SECTIONS: 02.04.02 AND 13.06) RELATED TO THE NORTH ANNA
UNIT 3 COMBINED LICENSE APPLICATION

Dear Mr. Grecheck:

By letter dated November 26, 2007, Dominion Virginia Power (Dominion) submitted a combined license application for North Anna Unit 3 pursuant to 10 CFR Part 52. The Nuclear Regulatory Commission (NRC) staff is performing a detailed review of this application.

The staff has identified that additional information is needed to continue portions of the review and the request for additional information (RAI) is contained in the enclosure to this letter. To support the review schedule, Dominion is requested to respond within 60 days of the date of this letter. If the RAI response involves changes to application documentation, Dominion is requested to include the associated revised documentation with the response.

Should you have questions, please contact me at (301) 415-6775 or Janelle.Jessie@nrc.gov.

Sincerely,

/RA/

Janelle B. Jessie, Project Manager
ESBWR/ABWR Projects Branch 1
Division of New Reactor Licensing
Office of New Reactors

Docket No. 52-017

Enclosure: Request for Additional Information

July 29, 2009

Mr. Eugene S. Grecheck
Vice President - Nuclear Development
Dominion
Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, VA 23060-6711

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/RA/

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ESBWR/ABWR Projects Branch 1
Division of New Reactor Licensing
Office of New Reactors

Docket No. 52-017

Enclosure: Request for Additional Information

Distribution:

TKevern, NRO

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E-RAI Tracking No: 3370 and 3320

ADAMS Accession No.: ML092090567

OFFICE	TR:RHEB	BC:RHEB	PM:DNRL:NGE1	OGC (NLO)	PM:DNRL:NGE1
NAME	CCook*	RRaione*	IBerrios*	MCarpentier*	TKevern*
DATE	7/23/09	7/23/09	7/27/09	7/28/09	7/28/09
OFFICE	TR:DSP/DDRS/IS	BC: DSP/DDRS/IS	PM:DNRL:NGE1	OGC (NLO)	PM:DNRL:NGE1
NAME	WChalk*	CErlanger*	JJessie*	MCarpentier*	TKevern*
DATE	7/15/09	7/15/09	7/20/09	7/28/09	7/28/09

*Approval captured electronically in the electronic RAI system.

OFFICIAL RECORD COPY

**Request for Additional Information
North Anna, Unit 3
Dominion
Docket Number 52-017**

SRP Sections: 02.04.02 - Floods and 13.06 - Physical Security
Application Section: FSAR 02.04.02 and 13.7

QUESTIONS for Hydrologic Engineering Branch (RHEB)

02.04.02-4

This information request is in reference to RAI Response Letter 33 (ML090990451), dated April 3, 2009, and is associated with the local intense precipitation flood calculation described in FSAR Section 2.4.2. The regulatory basis for this request is associated with demonstrating reasonable assurance that LCOs for the existing units will not be exceeded as a result of construction activities associated with Unit 3 (10 CFR 52.79(a)(31)) and with design basis calculations for protection against floods (General Design Criterion 2 of Part 50, Appendix A).

In response to RAI 02.04.02-1, Part a, the applicant stated in RAI Response Letter 28 (ML082680033) that "Drawings issued for construction are checked against the finished grade drawings and the local PMP analysis prior to use. Likewise, once the Unit 3 combined license is issued, changes to site topography that would result in a change to the cross sections or parameters used in the HEC-RAS model will be assessed in accordance with 10 CFR 50.59 requirements." In response to RAI 02.04.02-2 (Response Letter 33), the applicant provided FSAR, Revision 1, sub-basin areas and updated HEC-RAS input files.

Staff request that the applicant provide a commitment in the FSAR that channels and overbanks will be checked prior to use; following the commitments in RAI 02.04.02-1, Part a, as quoted above. Staff also request that the applicant provide a commitment in the FSAR that channels and overbanks be maintained over the licensing period in the same condition as represented in the updated HEC-RAS model. For example, although the eastern edge of the Unit 3 site does not contain any Unit 3 safety-related SSCs, the drainage system and access roads in this area are critical structures for preventing flow from the Unit 3 site from entering the Units 1 and 2 site. Hence, these structures are critical for satisfying the requirements of 10 CFR 52.79(a)(31).

02.04.02-5

This information request is in reference to RAI Response Letter 33 (ML090990451), dated April 3, 2009, and is associated with the local intense precipitation flood calculation described in FSAR Section 2.4.2. The regulatory basis for this request is associated with design basis calculations for protection against floods (General Design Criterion 2 of Part 50, Appendix A). The applicant made numerous commitments in response to RAI 02.04.02-2, Part c. These commitments include: (i) all drainage ditches, overflow area and embankments at Unit 3 will be protected to withstand the predicted flood flow velocities resulting from the local PMP event for the Unit 3 site, (ii) the lining for the south drainage ditch at the location of the hydraulic jump will be designed to withstand the erosive forces generated by the hydraulic jump during the local PMP event, (iii) the lining of the north ditch and storm water management basin side slopes in the vicinity of the north ditch will be designed to withstand the erosive forces of the hydraulic

jump at the inlet to the storm water management basin, (iv) the embankment for the outfall channel will be provided with hardened surface protection designed to withstand the erosive forces associated with the supercritical flow and the potential occurrence of a hydraulic jump at the embankment section. Staff requests that these commitments be stated in the FSAR.

02.04.02-6

This information request is in reference to RAI Response Letter 33 (ML090990451), dated April 3, 2009, and is associated with the local intense precipitation flood calculation described in FSAR Section 2.4.2. The regulatory basis for this request is associated with design basis calculations for protection against floods (General Design Criterion 2 of Part 50, Appendix A). The applicant described surveillance and monitoring requirements imposed by the Commonwealth of Virginia in response to RAI 02.04.02-2, Part d. The staff request that the applicant incorporate these surveillance and monitoring requirements, including the frequencies at which the surveys will be conducted, as commitments in the FSAR. In addition, staff request that these FSAR commitments not be tied to permits issued by the Commonwealth of Virginia.

02.04.02-7

This information request is in reference to RAI Response Letter 33 (ML090990451), dated April 3, 2009, and is associated with the local intense precipitation flood calculation described in FSAR Section 2.4.2. The regulatory basis for this request is associated with demonstrating reasonable assurance that LCOs for the existing units will not be exceeded as a result of construction activities associated with Unit 3 (10 CFR 52. 79(a)(31)) and with design basis calculations for protection against floods (General Design Criterion 2 of Part 50, Appendix A).

The applicant submitted the updated Revision 1 HEC-RAS analysis in response to RAI 02.04.02-2, Part a. In Response to RAI 02.04.02-3, the applicant stated that super elevation of water flow in the south drainage ditch along the outer bank of the abrupt bend would be small. In combination with the computed water-surface elevation of 272.10 ft obtained from the one-dimensional HEC-RAS analysis, the applicant indicated that the peak water surface elevation would be less than elevation 272.25 ft by a margin of 0.15 ft. Elevation 272.25 ft is the high point along the safety-related dike (also a plant access road), which divides the Unit 3 site and the Units 1 and 2 site.

The NRC staff has conducted additional analyses of the south drainage ditch using a multi-dimensional model based on cross-sectional data extracted from the Revision 1 HEC-RAS input files. The analysis included the lateral-weir structure (topic of RAI 02.04.02-2, Part b) and the Unit 2 site on the opposite side of the safety-related dike from Unit 3. Staff computed water surface elevations that overtopped the safety-related dike, and flow from the Unit 3 site entered the Unit 2 site. Consequently, the NRC staff request that the applicant identify control measure(s) that will be used to prevent overtopping of the safety-related dike and to prevent flow from entering the Units 1 and 2 site due to construction of Unit 3.

QUESTIONS for Reactor Security Rulemaking and Licensing Branch (NSIR/DSP/RSRLB)

13.06-6

In the FSAR, table 13.4-201, under Item 15, applicant states that FFD for Construction - Mgt & Oversight personnel, 10 CFR 26, Subparts A-H, N, and O are referenced. Does the applicant intend to comply with the same requirements established in the FFD programs for North Anna 1 & 2 or the description and scope provided in NEI 06-06? For either case, if there are any important or substantial differences between the referenced program (i.e., either NEI 06-06 or the operating reactor FFD program) and the FFD program that will be implemented at its construction site, the applicant needs to describe these differences.

Regulatory Basis: 10 CFR 52.79(a)(44), (the applicant's FSAR must contain) a description of the fitness-for-duty program required by 10 CFR Part 26 and its implementation.

13.06-7

The applicant informed the staff on July 10, 2009, via a teleconference that the applicant is contemplating a revision to its STD SUP 13.7-1 submittal to describe its construction site random drug and alcohol testing program. The applicant should either submit a revision to its Combined License Application or provide this description to the staff in response to this request for additional information.

Regulatory Basis: 10 CFR 52.79(a)(44), (the applicant's FSAR must contain) a description of the fitness-for-duty program required by 10 CFR Part 26 and its implementation.

13.06-8

10 CFR Part 26, Subpart K, Section 26.407 requires licensees or other entities to implement a behavior observation program (BOP). On July 10, 2009, during a teleconference with the applicant, the staff informed the applicant that a BOP was required at construction sites. For the construction site, does the applicant intend to implement a construction site BOP based on that implemented at North Anna 1 & 2 or the description and scope provided in NEI 06-06 and 10 CFR 26.407? For either case, if there are any important or substantial differences between the referenced program (i.e., either NEI 06-06 or the operating reactor BOP) and the BOP program that will be implemented at its construction site, the applicant needs to describe these differences.

Regulatory Basis: 10 CFR 52.79(a)(44), (the applicant's FSAR must contain) a description of the fitness-for-duty program required by 10 CFR Part 26 and its implementation.