

PMNorthAnna3COLPEmails Resource

From: Patel, Chandu
Sent: Monday, September 19, 2011 4:46 PM
To: 'na3raidommailbox@dom.com'
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Subject: Draft RAI 5787 (FSAR Section 12.5) and Draft RAI 6021 (FSAR Section 19) for North Anna 3 COLA
Attachments: Draft RAI 5787.doc; Draft RAI 6021.doc

Hi All,

Please see attached draft RAIs 5787 and 6021 for North Anna 3 COLA. I would like to request Dominion to let me know if it needs any clarification on these RAIs before COB September 22, 2011. Otherwise, it will be issued as final after September 22, 2011. For other people, it is for information only.

Thanks,
Chandu Patel

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Draft RAI 5787.doc	34298	
Draft RAI 6021.doc	30714	

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Request for Additional Information No. 5787 (Draft)

North Anna, Unit 3

Dominion

Docket No. 52-017

SRP Section: 12.05 - Operational Radiation Protection Program

Application Section: 12.5

QUESTIONS for Health Physics Branch (CHPB)

12.05-***

10 CFR 20.1101 requires each licensee to have a Radiation Protection Program. Guidance for the content of this program is provided in Regulatory Guides 8.8 'Information Relevant to Ensuring that Occupational Radiation Exposures at Nuclear Power Stations will be as Low as is Reasonably Achievable, Revision 3 (June 1978) and 8.10, 'Operating Philosophy for Maintaining Occupational Radiation Exposures as Low as is Reasonably Achievable,' Revision 1-R (September 1975)), and RGs 8.2, 8.4, 8.6, 8.7, 8.9, 8.13, 8.15, 8.25, 8.27, 8.28, 8.29, 8.34, 8.35, 8.36, and 8.38. NUREG-0800, Standard Review Plan (SRP) Section 12.5 "Operational Radiation Protection Program" provides guidance regarding the content of the radiation protection program. North Anna Power Station Unit 3 (NAPS) COL FSAR Revision 3 Section 12.5 "Operational Radiation Protection Program" states that they address the required Radiation Protection Program elements with information provided in Nuclear Energy Institute (NEI) templates NEI 07-03A "Generic FSAR Template Guidance for Radiation Protection Program Description" and 07-08A, "Generic FSAR Template Guidance for Ensuring That Occupational Radiation Exposures Are As Low As Is Reasonably Achievable (ALARA)," in combination with existing or modified site program information. However, the applicant does not describe those programs elements or features of the proposed combined or modified site program information that deviate from the guidance provided in NEI Templates 07-03A and 07-08A.

Adherence to the guidance provided in NEI Templates 07-03A and 07-08A provides a basis for the staff to find that a radiation protection program is fully described and meets the requirements of 10 CFR 20.1101. Please revise and update the COL FSAR to describe any deviations from the guidance provided in the NEI templates that are present in the proposed protection program and describe why a radiation protection program including such deviations is justified for use at North Anna Unit 3.

12.05-***

10 CFR 20.1101(b) requires that the licensee develop and implement a radiation protection program that includes exposure reduction measures that implement the as low as reasonably achievable (ALARA) concept. Regulatory Guide (RG) 1.206 "Combined License Applications for Nuclear Power Plants (LWR Edition)" states that the applicant should describe the methods that will be used to maintain operational exposures ALARA. 10 CFR 20.1406 requires that the applicant minimize the contamination of the facility and the environment. RG 4.21 'Minimization of Contamination and Radioactive Waste Generation: Life Cycle Planning,' (June 2008) states that facility design can reduce the amount of activity present during decommissioning. RG 8.8 'Information Relevant to Ensuring that Occupational

Radiation Exposures at Nuclear Power Stations will be as Low as is Reasonably Achievable, Revision 3 Section C.1.a states that instructions provided to design personnel should reflect ALARA, while Section C.2.e states that reducing cobalt content is an integral part of maintaining radiation exposure ALARA. NUREG-0800, Standard Review Plan (SRP) Section 12.5 III.6 "Operational Programs" states that the radiation protection program is to be fully described.

The Design Certification (DC) applicant response to US-APWR Tier 2 DCD RAI 147-1850, dated February 6, 2009, and RAI 428-2910, Question 12.03-12.04-3, dated September 30, 2009 revised US-APWR Tier 2 DCD Section 12.3 "Radiation Protection Design Features" to include some design specifications for selection of materials employed for the purpose of implementing the as low as reasonably achievable (ALARA) concept during construction. However, the DC applicant's response did not describe the program elements, that when implemented, will provide an ongoing understanding of the plant source term, including knowledge of input mechanisms and the process to reduce unnecessary contributions to the plant source term from erosion and corrosion of plant components.

The ongoing effort to reduce the radiation source term in the plant is an essential element of meeting the requirements of 10 CFR 20.1101(b). The applicant is relying on Nuclear Energy Institute (NEI) templates NEI 07-03A "Generic FSAR Template Guidance for Radiation Protection Program Description" to describe the radiation protection program. However, since NEI 07-03A does not specifically address on going understanding and reduction of cobalt introduction to plant systems, the applicant is requested to describe those program elements related to establishing knowledge of the plant source term, understanding of input mechanisms and program content for reducing unnecessary cobalt content in components or describe an alternative approach that provides an acceptable method of complying with those rules or regulations of the Commission, or portions thereof, that underlie the corresponding SRP acceptance criteria.

Request for Additional Information No. 6021 (Draft)

North Anna, Unit 3

Dominion

Docket No. 52-017

SRP Section: 19 - Probabilistic Risk Assessment and Severe Accident Evaluation

Application Section: 19

QUESTIONS for PRA and Severe Accidents Branch (SPRA)

19-***

Based on staff review of FSAR Chapter 2.4.4, the staff understands that North Anna has partially buried water storage basins that provide the required 30 day water supply without makeup during accident conditions. Based on the availability of these water storage basins, the applicant has concluded that even if Lake Anna were to be drained due to a dam failure, no safety-related structures or systems for Unit 3 would be adversely affected. The staff then reviewed Table 17.4-201, Risk-Significant SSC's (Phase II D-RAP). The staff found that the partially buried water storage basins were not added to DRAP as plant specific SSCs. Given the US Bureau of Reclamation perspective of dam failure rates based on published literature, the failure rate of dams is very roughly estimated as 1/10,000 per year depending on age and failure mechanism. Based on this observation, the staff is requesting that the applicant add the partially buried water storage basins to Table 17.4-201, Risk Significant SSC's (Phase II D-RAP).