

## PMNorthAnna3COLPEmails Resource

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**From:** Patel, Chandu  
**Sent:** Wednesday, June 11, 2014 4:39 PM  
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**Cc:** PMNorthAnna3COLPEmails Resource; Weisman, Robert; Carpentier, Marcia; Klos, John; Buckberg, Perry  
**Subject:** Draft RAI 7547, FSAR Section 19.2, North Anna COLA (52-017)  
**Attachments:** Draft RAI\_7547.docx

Hi,

Please see attached Draft RAI 7547 for FSAR Section 19.2. Please let me know if you need any clarifications. NRC's staff would like you to be prepared to discuss your plans for resolving this request for additional information during upcoming meeting on June 19, 2014.

Sincerely,  
Chandu Patel

**Hearing Identifier:** NorthAnna3\_Public\_EX  
**Email Number:** 1176

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**From:** Patel, Chandu

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## Request for Additional Information (Draft)

Issue Date:

Application Title: North Anna, Unit 3 - Docket Number 52-017

Operating Company: Dominion

Docket No. 52-017

Review Section: 19.02 - Review of Risk Information Used to Support Permanent Plant-Specific Changes to the Licensing Basis: General Guidance

Application Section: 19.2.3

### QUESTIONS

19.02-XX

10 CFR 52.79 (a) (46) requires that each application for combined license (COL) must include a description of the plant-specific probabilistic risk assessment (PRA) and its results. 10 CFR 52.79(d) (1) further requires that this plant-specific PRA must use the PRA information for the referenced design certification (DC) and must be updated to account for site-specific design information and any design changes or departures. Regulatory Guide 1.206, "Combined License Applications for Nuclear Power Plants (LWR Edition)" includes Regulatory Position Part I, "Standard Format and Content of Combined License Applications." According to Section C.I.19.3 of this part, the scope of the assessment should be "a Level 1 and Level 2 PRA that includes internal and external events and addresses all plant operating modes."

The NRC staff developed an Interim Staff Guidance (DC/COL-ISG-020, ML1004912330) which provides a detailed process that a COL applicant may use to update the PRA-based seismic margin analysis (SMA) of the referenced DC. Specifically, DC/COL-ISG-020, Section 5.2 includes four technical activities for COL updating as follows:

1. Updating plant system and sequence analysis (Section 5.2.1)
2. Updating seismic fragility evaluation including use of generic data (Section 5.2.2)
3. Updating plant-level capacity of high confidence of low probability of failure (HCLPF) (Section 5.2.3)
4. Post COL activities (Section 5.2.4)

DC/COL-ISG-020, Section 5.4 provides guidance on documenting the updated assessment for the COL applicant.

In support of the evaluation of the impact of the departure NAPS DEP 3.7-1 on the seismic margin assessment (SMA), FSAR Section 19.2.3.2.4 states that "The seismic margin earthquake for the PRA-based seismic margin assessment for Unit 3 is the SSE for each Seismic Category I structure as provided in Section 3.7.1." The FSAR also indicates that the site specific SMA will show that NA 3 is capable of safe shutdown in response to beyond design basis earthquakes and has a plant level HCLPF of at least 1.67 times the peak ground acceleration (PGA) of NA 3 site-specific SSE defined in the FSAR Section 3.7.1.

The staff notes that the site-specific ground motion response spectra defined as the foundation input response spectra (FIRS) at the foundation level of each Seismic Category I structure in the FSAR Section 3.7.1 are not enveloped by the ESBWR DC certified seismic design response spectra (CSDRS). The exceedance in seismic input resulted in the increase in seismic demand which exceeded seismic loads used for ESBWR designs for several SSCs. Since the applicant

only made a commitment in the FSAR that site-specific SMA will be performed before the fuel load, the staff could not determine the acceptability of the updated SMA for the NA 3 site. The staff believes that the site-specific SMA update needs to be completed before the issuance of the COL to reflect the actual site conditions. As such, the applicant is requested to revise the applicable FSAR Chapter 19.0 Sections providing a description of the updated analysis consistent with the guidance of DC/COL-ISG-020, Sections 5.2 and 5.4 to address the issues raised in this RAI or to provide an alternative approach to meeting the regulations that underlie the acceptance criteria in DC/COL-ISG-020.