

June 7, 2006

APPLICANT: Dominion Nuclear North Anna LLC

FACILITY: North Anna Early Site Permit

SUBJECT: SUMMARY OF TELEPHONE CONFERENCES WITH DOMINION NUCLEAR
NORTH ANNA LLC REGARDING THE NORTH ANNA EARLY SITE PERMIT
REVIEW (TAC NOS. MC1127 AND MC1128)

On June 2 and 5, 2006, the U.S. Nuclear Regulatory Commission (NRC) staff conducted teleconferences with Dominion Nuclear North Anna, LLC (Dominion) to discuss Revision 6 of the ESP application. Enclosure 1 is a list of participants in the teleconferences. The purposes of the teleconferences were to discuss apparent discrepancies and clarify statements in the application and to identify additional information needed to complete the review (see Enclosure 2).

Dominion agreed to explain/resolve the discrepancies and provide the additional information needs.

/RA/

Nitin Patel, Project Manager
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Division of New Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No.: 52-008

Enclosure: As stated

cc w/encls: See next page

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*See previous concurrence

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TELECONFERENCES SUMMARY DATED 6/02/2006 AND 6/05/2006
NORTH ANNA EARLY SITE PERMIT APPLICATION
(dated April 13, 2006, Rev. 6)

The staff has reviewed revision 06 of the ESP application and it has discovered apparent discrepancies in the application. It is our understanding that ER Table 3.1-1 indicates various reactor designs that were used to develop the bounding site specific plant parameter envelope (PPE) values contained in ER Table 3.1-9. The values in ER Table 3.1-1 are generic values and not site specific values. Therefore, the site specific values in ER Table 3.1-9 differ from the values in ER Table 3.1-1. Likewise, ER Tables 3.1-7 and 3.1-8 provide radionuclide activity values for various designs whereas, ER Tables 5.4-6 and 5.4-7 provide bounding values for radionuclide activity.

Based on the above observations, the staff is requesting that Dominion provide responses to the following questions:

1. Clarify the purpose of the ER Tables 3.1-1, 3.1-9, 5.4-6 and 5.4-7 in ER section 3.1.3 and 3.1.6. Make consistent changes to the corresponding tables in the SSAR.
2. The reference of ER Table 3.1-1 in ER Table 3.1-9 should be removed due to differences between the site specific and generic PPE values.
3. The footnote in ER Tables 5.4-6 and 5.4-7 is misleading. Please clarify the footnote to indicate that the radionuclide values in ER Tables 5.4-6 and 5.4-7 are the bounding values for the application.
4. The staff has identified the following discrepancies in SSAR tables 1.3-1, 1.3-2, 1.3-7, 1.3-8, 1.9-1, and ER tables 3.1-1, 3.1-2, 3.1-7, 3.1-8, 3.1-9, 5.4-6 and 5.4-7, and the bounding notes of various tables:
 - a. SSAR Table 1.3-1 (Item 10) indicates that the source term is based on "Bounding Notes" or "Bound Notes" 1, 3, 4, 5 and 13 out of SSAR Table 1.3-2. SSAR Table 1.3-2 indicates that notes 1, 3, 4 and 5 reflect the designs of the AP1000, ABWR/ESBWR, PBMR, and the ACR-700, while note 13 cites the ABWR, AP1000, and ACR-700 as the basis, but it excludes the PBMR design. However, ER Table 3.1-2 redefines note 13 as being comprised of the ABWR, AP1000, ACR-700, and the ESBWR designs.
 - b. SSAR Table 1.3-7 indicates that its footnotes refer to the ACR-700, ABWR, and AP1000 designs. However, ER Table 3.1-7 indicates that the basis for the source term is different as it refers to the ACR-700, ESBWR with a 25% margin, ABWR, and the AP1000 designs.
 - c. ER Table 3.1-9 indicates that the basis of the liquid effluent source term is ER Table 3.1-1 (Item 10) and ER Table 5.4-6. However, the source term in ER Table 5.4-6 has been maximized and is higher than that given in SSAR Table 1.3-7 and ER Table 3.1-7 supporting the use of the PPE concept.

- d. There are inconsistent values of liquid effluent source term radioactivity levels (by radionuclides and as totals) among SSAR and ER Tables 1.3-7, 3.1-7, 5.4-6, with some radionuclides being excluded, e.g., Zn-69m, Br-83, Ru-105, Ba-139, and La-142 from SSAR Table 1.3-7. Also, some total activity levels cited in SSAR Table 1.3-7 and ER Table 3.1-7 seem to be inconsistent with those given in Tables 1.3-1 and 3.1-1.
- e. **ER Table 3.1-1 provides a link to the various reactor designs from which the bounding values in ER Table 3.1-9 are derived. ER Table 3.1-9 contains the site specific bounding values (or PPE values) that the reactor design selected at the COL stage must be fit within. Please explain this discrepancy or clarify the titles of ER Table 3.1-1 and ER Table 3.1-9 to remove the confusion.**

The above examples are based on using ER Table 5.4-6 for liquid effluents, similar discrepancies were also noted using ER Table 5.4-7 for gaseous effluents. Dominion should review the application for inconsistencies/discrepancies elsewhere in the application and provide the corrected information in revision 07 of the application.

5. Provide a conversion for liquid and gaseous effluents releases (from Ci/yr to $\mu\text{Ci/ml}$) that meets the requirements of 10 CFR Part 20, Appendix B, Table 2, Columns 1 and 2 (e.g., refer to ESBWR DCD Revision 1, Tier 2, **Table 12.2-17 and 12.2-19b**). The derivation of effluent concentrations ($\mu\text{Ci/ml}$) should be based on the source terms (Ci/yr) presented in ER Tables 5.4-6 and 5.4-7 using North Anna specific data. Dominion should include this information in the SSAR.