

Dominion Nuclear North Anna, LLC  
5000 Dominion Boulevard, Glen Allen, VA 23060



July 15, 2004

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D.C. 20555

Serial No. 04-434  
ESP/JDH  
Docket No. 52-008

**DOMINION NUCLEAR NORTH ANNA, LLC**  
**NORTH ANNA EARLY SITE PERMIT APPLICATION**  
**REVISION 2**

Enclosed is Revision 2 to the North Anna Early Site Permit application. The application consists of four parts: Part 1, Administrative Information, Part 2, Site Safety Analysis Report, Part 3, Environmental Report, and Part 4, Programs and Plans. Revision 2 primarily updates the Environmental Report to support the NRC staff's ongoing environmental review and planned issuance of a draft environmental impact statement. Revision 2 incorporates Dominion's responses to NRC requests for additional environmental information, Dominion's letter to the NRC responding to Virginia Department of Environmental Quality comments, and other information discussed with the NRC.

Certain information in the North Anna ESP application is common to both the Environmental Report and the Site Safety Analysis Report. Because only information in the Environmental Report is being changed by Revision 2, the corresponding common information in the Site Safety Analysis Report will require separate revision. That revision will occur in the next update, Revision 3, of the ESP application. Revision 3 is intended to be a comprehensive update.

A summary of the changes is provided in Enclosure 1. A CD containing Revision 2 of the ESP application is provided in Enclosure 2.

If you have any questions or require additional information, please contact us.

Very truly yours,

Eugene S. Grecheck  
Vice President-Nuclear Support Services

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- Enclosures: 1. Description of Changes in Revision 2.  
2. One CD-ROM labeled "North Anna Early Site Permit Application, Docket No. 52-008, September 2003; Revision 2, July 2004, NRC ADAMS Edition," containing the following 9 files:

001 North Anna ESP Application R2 (1 of 9).pdf; 2,989 KB; publicly available  
002 North Anna ESP Application R2 (2 of 9).pdf; 19,202,736 bytes, publicly available  
003 North Anna ESP Application R2 (3 of 9).pdf; 49,572,480 bytes, publicly available  
004 North Anna ESP Application R2 (4 of 9).pdf; 40,897,951 bytes, publicly available  
005 North Anna ESP Application R2 (5 of 9).pdf; 37,328,818 bytes, publicly available  
006 North Anna ESP Application R2 (6 of 9).pdf; 26,629,982 bytes, publicly available  
007 North Anna ESP Application R2 (7 of 9).pdf; 1,153,004 bytes, publicly available  
008 North Anna ESP Application R2 (8 of 9).pdf; 44,908,018 bytes, publicly available  
009 North Anna ESP Application R2 (9 of 9).pdf; 24,746,868 bytes, publicly available

Commitments made in this letter: None.

cc: U.S. Nuclear Regulatory Commission, Region II  
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Washington, D.C. 20555

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COMMONWEALTH OF VIRGINIA

COUNTY OF HENRICO

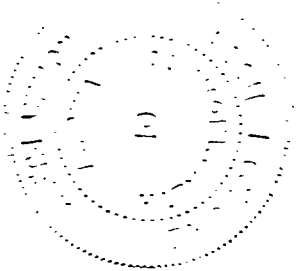
The foregoing document was acknowledged before me, in and for the County and Commonwealth aforesaid, today by Eugene S. Grecheck, who is Vice President, Nuclear Support Services, of Dominion Nuclear North Anna, LLC. He has affirmed before me that he is duly authorized to execute and file the foregoing document on behalf of Dominion Nuclear North Anna, LLC, and that the statements in the document are true to the best of his knowledge and belief.

Acknowledged before me this 15<sup>th</sup> day of July, 2004

My Commission expires: 3/31/08

Maggie McClure  
Notary Public

(SEAL)



Serial No. 04-434  
Docket No. 52-008  
Response to VDEQ Comments

**Enclosure 1**

**Description of Changes in Revision 2  
North Anna Early Site Permit Application**

<b>North Anna Early Site Permit Application Description of Changes in Revision 2</b>	
Affected Section, Table, or Figure	Reason for Change
<b>Acronyms/Abbreviations/Initialisms</b>	
<ul style="list-style-type: none"> <li>▪ New entries</li> </ul>	Added new entries for changes made in Revision 2
<b><u>Part 1, Administrative Information</u></b>	
<ul style="list-style-type: none"> <li>▪ Section 1.2.2.5</li> </ul>	Added section describing notation of changes.
<b><u>Part 3, Environmental Report (ER) Chapter 1</u></b>	
<ul style="list-style-type: none"> <li>▪ Section 1.1.4</li> </ul>	Change in Unit 4 cooling approach from wet towers to dry towers; Reference Dominion's 3/31/04 Letter to NRC, Serial No. 04-194.
<b><u>Part 3, ER Chapter 2</u></b>	
<ul style="list-style-type: none"> <li>▪ Sections 2.3.1.1, 2.3.3.1</li> </ul>	Change in Unit 4 cooling approach from wet towers to dry towers; Reference Dominion's 3/31/04 Letter to NRC, Serial No. 04-194.
<ul style="list-style-type: none"> <li>▪ Sections 2.5.1.2, 2.5.1.3.1</li> <li>▪ Tables 2.5-5, 2.5-8, 2.5-10, 2.5-13, 2.5-15, 2.5-16</li> <li>▪ Figures 2.5-3, 2.5-4, 2.5-5, 2.5-6, 2.5-7, 2.5-9, 2.5-10, 2.5-11, 2.5-12</li> </ul>	Corrected and updated population figures. Reference May 13, 2004 telecon advising NRC of population figure errors and of intent to correct with next revision.
<ul style="list-style-type: none"> <li>▪ Section 2.7.5.2</li> <li>▪ Tables 2.7-9, 2.7-10, 2.7-11, 2.7-12</li> </ul>	Response to RAI 2.3.4-1; Reference Dominion's 7/12/04 Letter to NRC, Serial No. 04-170A.
<b><u>Part 3, ER Chapter 3</u></b>	
<ul style="list-style-type: none"> <li>▪ Sections 3.1.2.2, 3.1.5</li> </ul>	Change in Unit 4 cooling approach from wet towers to dry towers; Reference Dominion's 3/31/04 Letter to NRC, Serial No. 04-194.
<ul style="list-style-type: none"> <li>▪ Table 3.1-1, Section 9.1</li> </ul>	Response to RAI E3.1-1; Reference Dominion's 5/17/04 Letter to NRC, Serial No. 04-170.
<ul style="list-style-type: none"> <li>▪ Sections 3.2.3, 3.3, 3.3.1</li> <li>▪ Table 3.3-2</li> <li>▪ Figure 3.3-2</li> <li>▪ Sections 3.4.1.1, 3.4.1.3.1, 3.4.1.3.3, 3.4.1.3.4, 3.4.2.1, 3.4.2.2, 3.4.2.3</li> <li>▪ Figures 3.4-3, 3.4-4</li> </ul>	Change in Unit 4 cooling approach from wet towers to dry towers; Reference Dominion's 3/31/04 Letter to NRC, Serial No. 04-194.
<ul style="list-style-type: none"> <li>▪ Section 3.8.2.3</li> </ul>	Response to Follow-up Environmental RAI

<b>North Anna Early Site Permit Application Description of Changes in Revision 2</b>	
Affected Section, Table, or Figure	Reason for Change
	2 and revised response to RAI E3.8-7; Reference Dominion's 7/12/04 Letter to NRC, Serial No. 04-170A.
<ul style="list-style-type: none"> <li>▪ Section 3.8.2.5</li> <li>▪ Table 3.8-2</li> </ul>	Response to Follow-up Environmental RAI 2; Reference Dominion's 7/12/04 Letter to NRC, Serial No. 04-170A.
<b>Part 3, ER Chapter 4</b>	
<ul style="list-style-type: none"> <li>▪ Section 4.2.1.1</li> </ul>	Change in Unit 4 cooling approach from wet towers to dry towers; Reference Dominion's 3/31/04 Letter to NRC, Serial No. 04-194.
<ul style="list-style-type: none"> <li>▪ Section 4.2.3</li> <li>▪ Section 4.2 References</li> </ul>	Response to RAI E4.2.2-2; Reference Dominion's 5/17/04 Letter to NRC, Serial No. 04-170.
<ul style="list-style-type: none"> <li>▪ Section 4.3.2</li> </ul>	Change in Unit 4 cooling approach from wet towers to dry towers; Reference Dominion's 3/31/04 Letter to NRC, Serial No. 04-194.
<ul style="list-style-type: none"> <li>▪ Section 4.5.3.1</li> </ul>	Response to RAI E4.5-4; Reference Dominion's 5/17/04 Letter to NRC, Serial No. 04-170.
<ul style="list-style-type: none"> <li>▪ Section 4.5.3.2</li> </ul>	Response to RAI E4.5-7; Reference Dominion's 5/17/04 Letter to NRC, Serial No. 04-170.
<ul style="list-style-type: none"> <li>▪ Section 4.5.4.1</li> </ul>	Response to RAI E4.5-4; Reference Dominion's 5/17/04 Letter to NRC, Serial No. 04-170.
<ul style="list-style-type: none"> <li>▪ Section 4.5.4.2</li> </ul>	Response to RAI E4.5-7; Reference Dominion's 5/17/04 Letter to NRC, Serial No. 04-170.
<ul style="list-style-type: none"> <li>▪ Section 4.5.4.4</li> </ul>	Response to RAI E4.5-4; Reference Dominion's 5/17/04 Letter to NRC, Serial No. 04-170.
<ul style="list-style-type: none"> <li>▪ Table 4.5-1</li> </ul>	Response to RAI E4.5-3; Reference Dominion's 5/17/04 Letter to NRC, Serial No. 04-170.
<ul style="list-style-type: none"> <li>▪ Tables 4.5-2, 4.5-3, 4.5-4</li> </ul>	Response to RAI E4.5-4; Reference Dominion's 5/17/04 Letter to NRC, Serial No. 04-170.
<ul style="list-style-type: none"> <li>▪ Table 4.5-5</li> </ul>	Response to RAI E4.5-7; Reference Dominion's 5/17/04 Letter to NRC, Serial No. 04-170.

<b>North Anna Early Site Permit Application Description of Changes in Revision 2</b>	
Affected Section, Table, or Figure	Reason for Change
<b>Part 3, ER Chapter 5</b>	
<ul style="list-style-type: none"> <li>▪ Sections 5.1.1, 5.1.1.2, 5.2.1, 5.2.1.1, 5.2.1.2, 5.2.1.3, 5.2.1.4</li> <li>▪ Table 5.2-1</li> <li>▪ Sections 5.2.1.5, 5.2.2, 5.2.2.1.2, 5.2.2.1.3</li> </ul>	Change in Unit 4 cooling approach from wet towers to dry towers; Reference Dominion's 3/31/04 Letter to NRC, Serial No. 04-194.
<ul style="list-style-type: none"> <li>▪ Section 5.2.2.2</li> </ul>	Response to VDEQ Comment AA1; Reference Dominion's 6/28/04 Letter to NRC, Serial No. 04-364.
<ul style="list-style-type: none"> <li>▪ Sections 5.2.2.3, 5.2.2.4</li> </ul>	Change in Unit 4 cooling approach from wet towers to dry towers; Reference Dominion's 3/31/04 Letter to NRC, Serial No. 04-194.
<ul style="list-style-type: none"> <li>▪ Section 5.2 References</li> <li>▪ Tables 5.2-5, 5.2-6, 5.2-7, and 5.2-8</li> </ul>	Response to VDEQ Comment AA1; Reference Dominion's 6/28/04 Letter to NRC, Serial No. 04-364.
<ul style="list-style-type: none"> <li>▪ Sections 5.3, 5.3.1, 5.3.1.1, 5.3.1.1.2, 5.3.1.2.1.b</li> <li>▪ Table 5.3-4 (Deleted)</li> <li>▪ Sections 5.3.1.2.2, 5.3.1.2.3.a, 5.3.1.2.3.b</li> <li>▪ Table 5.3-8 (Deleted)</li> <li>▪ Sections 5.3.1.2.4, 5.3.2.1, 5.3.2.1.2, 5.3.2.1.3, 5.3.2.2.3, 5.3.3, 5.3.3.1, 5.3.3.2, 5.3.3.2.1, 5.3.3.2.2, 5.3.3.2.3, 5.3.3.2.4, 5.3.4, 5.3.4.1,</li> <li>▪ Section 5.3 References</li> <li>▪ Tables 5.3-14, 5.3-15, 5.3-16</li> <li>▪ Figure 5.3-4</li> </ul>	Change in Unit 4 cooling approach from wet towers to dry towers; Reference Dominion's 3/31/04 Letter to NRC, Serial No. 04-194.
<ul style="list-style-type: none"> <li>▪ Section 5.4.2</li> </ul>	Response to RAI E5.4.2-1; Reference Dominion's 5/17/04 Letter to NRC, Serial No. 04-170.
<ul style="list-style-type: none"> <li>▪ Section 5.4.4.2</li> </ul>	Response to RAI E5.4.4-1; Reference Dominion's 5/17/04 Letter to NRC, Serial No. 04-170.
<ul style="list-style-type: none"> <li>▪ Section 5.4 References</li> <li>▪ Table 5.4-12</li> </ul>	Response to Follow-up Environmental RAI 6; Reference Dominion's 7/12/04 Letter to NRC, Serial No. 04-170A.
<ul style="list-style-type: none"> <li>▪ Section 5.5.13, 5.8.1.2, 5.8.1.3, 5.8.1.4, 5.8.1.5, 5.8.1.6, 5.8.2.3</li> </ul>	Change in Unit 4 cooling approach from wet towers to dry towers; Reference Dominion's 3/31/04 Letter to NRC, Serial No. 04-194.
<ul style="list-style-type: none"> <li>▪ Table 5.10-1</li> </ul>	Change in Unit 4 cooling approach from wet towers to dry towers; Reference

<b>North Anna Early Site Permit Application Description of Changes in Revision 2</b>	
Affected Section, Table, or Figure	Reason for Change
	Dominion's 3/31/04 Letter to NRC, Serial No. 04-194.
<b>Part 3, ER Chapter 7</b>	
<ul style="list-style-type: none"> <li>▪ Section 7.1.4</li> <li>▪ Tables 7.1-1, 7.1-2, 7.1-4, 7.1-6, 7.1-8, 7.1-10, 7.1-11, 7.1-13, 7.1-15, 7.1-17, 7.1-19, 7.1-20, 7.1-22, 7.1-24, 7.1-26, 7.1-28</li> </ul>	Response to RAI E7.1-1; Reference Dominion's 7/12/04 Letter to NRC, Serial No. 04-170A.
<ul style="list-style-type: none"> <li>▪ Section 7.2.2.1</li> </ul>	Response to RAI E7.2-1; Reference Dominion's 7/12/04 Letter to NRC, Serial No. 04-170A.
<b>Part 3, ER Chapter 9</b>	
<ul style="list-style-type: none"> <li>▪ Section 9.1</li> </ul>	Added description of "No-Action Alternative" in response to June 21-22, 2004 ASLB pre-hearing conference.
<ul style="list-style-type: none"> <li>▪ Sections 9.4.1, 9.4.1.1, 9.4.1.1.1, 9.4.1.1.2, 9.4.1.2, 9.4.1.2.1, 9.4.1.2.2, 9.4.2, 9.4.2.1, 9.4.2.3, 9.4.2.4, 9.4.2.5</li> <li>▪ Section 9.4 References</li> <li>▪ Tables 9.4-1, 9.4-2, 9.4-3, 9.4-4, 9.4-5, 9.4-6</li> </ul>	Change in Unit 4 cooling approach from wet towers to dry towers; Reference Dominion's 3/31/04 Letter to NRC, Serial No. 04-194.
<b>Part 3, ER Chapter 10</b>	
<ul style="list-style-type: none"> <li>▪ Section 10.1.3</li> <li>▪ Table 10.1-2</li> <li>▪ Sections 10.2.1.2, 10.2.1.6, 10.3.2</li> </ul>	Change in Unit 4 cooling approach from wet towers to dry towers; Reference Dominion's 3/31/04 Letter to NRC, Serial No. 04-194.