VIRGINIA ELECTRIC AND POWER COMPANY AND OLD DOMINION ELECTRIC COOPERATIVE
~~DOMINION NUCLEAR NORTH ANNA, LLC~~

NORTH ANNA ESP SITE

DOCKET NO. 52-008

EARLY SITE PERMIT

Early Site Permit No. ESP-003

1. The U.S. Nuclear Regulatory Commission (the NRC or the Commission) has found the following:

A. The application for an early site permit (ESP) ~~filed by Dominion Nuclear North Anna, LLC (Dominion or the permit holder)~~ complies with the applicable requirements of the Atomic Energy Act of 1954, as amended, and the applicable rules and regulations of the Commission, and all required notifications to other agencies or bodies have been duly made.

B. Based on consideration of the site criteria contained in Title 10, Part 100, "Reactor Site Criteria," of the *Code of Federal Regulations* (10 CFR Part 100), a reactor, or reactors, having design characteristics that fall within the site characteristics and controlling parameters of the North Anna ESP Site can be constructed and operated without undue risk to the health and safety of the public.

C. There is reasonable assurance that the permit ~~holder~~ holders will comply with the regulations in 10 CFR Chapter I and the health and safety of the public will not be endangered.

D. Issuance of an ESP to the permit ~~holder~~ holders will not be inimical to the common defense and security or the health and safety of the public.

E. There is no significant impediment to the development of emergency plans, as referenced in 10 CFR 52.17(b)(1), "Contents of Applications," and 10 CFR 52.18, "Standards for Review of Applications." The descriptions of contacts and arrangements made with Federal, State, and local governmental agencies with emergency planning responsibilities, as set forth in 10 CFR 52.17(b)(3), are acceptable. Major features A, B, C, D, E, F, G, I, J, K, L, O, and P of the emergency plan are acceptable to the extent specified in NUREG-1835, "Safety Evaluation Report for an Early Site Permit (ESP) at the North Anna ESP Site," issued September 2005.

F. The issuance of this ESP, subject to the Environmental Protection Plan (EPP) and the conditions for the protection of the environment set forth herein, is in accordance with the National Environmental Policy Act of 1969, as amended, and with applicable sections of 10 CFR Part 51, "Environmental Protection Regulations for Domestic Licensing and

Related Regulatory Functions," as referenced by Subpart A, "Early Site Permits," of 10 CFR Part 52, "Early Site Permits; Standard Design Certifications; and Combined Licenses for Nuclear Power Plants," and all applicable requirements therein have been satisfied.

G. The site redress plan incorporated into this permit demonstrates that there is reasonable assurance that redress carried out under the plan, if required, will achieve an environmentally stable and aesthetically acceptable site suitable for whatever nonnuclear use may conform with local zoning laws, and those activities described in the site redress plan will not result in any significant adverse environmental impact that cannot be redressed.

Virginia Electric and Power Company (Dominion) and Old Dominion Electric Cooperative (collectively, the permit holders)

2. Based on the foregoing findings, and pursuant to Sections 103 and 185 of the Atomic Energy Act of 1954, as amended, 10 CFR Part 52, the Initial Decision of the Atomic Safety and Licensing Board, dated June 29, 2007 (LBP-07-09), and the Commission Memorandum and Order dated November 20, 2007 (CLI-07-27), the NRC hereby issues Early Site Permit No. ESP-003 to ~~Dominion Nuclear North Anna, LLC,~~ for a site located in Louisa County, Virginia, approximately 40 miles north-northwest of Richmond, Virginia, and adjacent to existing North Anna Power Station Units 1 and 2, for additional nuclear power units, which may be modular, designed to operate at an individual power of no more than 4500 megawatts thermal and a combined power of no more than 9000 megawatts thermal, as described in the application and amendments thereto (the application) filed in this matter by the permit holder, and as described in the evidence received at the public hearing on that application.

3. This ESP shall be deemed to contain and is subject to the conditions specified in the Commission's regulations in 10 CFR Chapter I; is subject to all applicable provisions of the Atomic Energy Act of 1954, as amended, and the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the following conditions specified or incorporated below:

North Anna

A. The characteristics of the ~~Dominion~~ ESP site set forth in Appendix A to this ESP are hereby incorporated into this ESP.

B. The controlling values of parameters and design-basis accident source term plant parameters set forth in Appendix B to this ESP are hereby incorporated into this ESP.

C. The combined license (COL) action items set forth in Appendix C to this ESP are hereby incorporated into this ESP. These COL action items identify certain matters that an applicant submitting an application that references this ESP shall address in the final safety analysis report (FSAR). These items constitute information requirements but are not the only acceptable set of information in the FSAR. An applicant may depart from or omit these items, provided that it identifies and justifies the departure or omission in the FSAR. In addition, these items do not relieve an applicant from any requirement in 10 CFR Chapter I that governs the application. After issuance of a construction permit (CP) or

holders or licensees
COL, these items are not requirements for the permit ~~holder or licensee~~ unless such items are included in a permit or license condition.

D. The values of plant parameters considered in the environmental review of the application and set forth in Appendix D to this ESP are hereby incorporated into this ESP.

E. The following conditions apply:

(1) ~~An applicant for a CP or COL referencing this ESP shall execute an agreement providing for the applicant's control of the North Anna ESP site exclusion area and shall obtain all approvals required by State law in connection with that agreement before the commencement of construction of a nuclear power plant on the North Anna ESP site. The CP or COL applicant shall be deemed to control the North Anna ESP exclusion area if it obtains shared control of the exclusion area with the licensee or licensees of existing North Anna Units 1 and 2.~~ [Deleted]

Applicants
(2) ~~An applicant~~ for a CP or COL referencing this ESP for a second new unit shall use a dry cooling tower system to remove waste heat from the working fluid passed through the turbine/generator set during normal operation.

Applicants
(3) ~~An applicant~~ for a CP or COL referencing this ESP shall ensure that any new unit's radioactive waste management systems, structures, and components, as defined in Regulatory Guide 1.143, "Design Guidance for Radioactive Waste Management Systems, Structures, and Components Installed in Light-Water-Cooled Nuclear Power Plants," for a future reactor include features to preclude accidental releases of radionuclides into potential liquid pathways.

Applicants
(4) ~~An applicant~~ for a CP or COL referencing this ESP shall excavate weathered or fractured rock at the foundation level and replace it with lean concrete before the commencement of foundation construction for safety-related structures.

holders applicants
(5) The permit ~~holder~~ and ~~an applicant~~ for a CP or COL referencing this ESP shall not use an engineered fill with high compressibility and low maximum density, such as saprolite.

holders perform holders
(6) If the ESP ~~holder performs~~ an excavation for a safety-related structure, the ESP ~~holder~~ shall perform geologic mapping of such excavation, evaluate any unforeseen geologic features that are encountered, and notify the NRC no later than 30 days before any such excavation is open for NRC examination and evaluation. ~~An~~ Applicants ~~applicant~~ for a CP or COL referencing this ESP shall perform geologic mapping of any excavation for a safety-related structure,

evaluate any unforeseen geologic features that are encountered, and notify the NRC no later than 30 days before any such excavation is open for NRC examination and evaluation.

(7) Applicants ~~An applicant~~ for a CP or COL referencing this ESP shall improve Zone II saprolitic soils to reduce any liquefaction potential if safety-related structures are to be founded on them.

F. The activities and site redress plan specified in paragraphs F, G, H, and I below were reviewed and approved in accordance with the regulations in effect on September 25, 2003, and refer to the rules in effect at that time. The site redress plan set forth in Appendix E to this ESP is hereby incorporated into this ESP.

(1) holders The ~~holder~~ of this ESP may perform the activities authorized by 10 CFR 52.25, "Extent of Activities Permitted," only insofar as the site redress plan describes such activities. The ~~holder~~ of this ESP may perform activities not described in the site redress plan only with prior NRC approval. A request to perform such activities shall describe how such activities will be redressed, and, if the request is granted, the site redress plan shall be deemed to include this additional description of site redress.

(2) holders The ~~holder~~ of this ESP may change the site redress procedures set forth in the site redress plan in Appendix E without obtaining Commission approval provided that the changes do not decrease the effectiveness of the plan.

(3) ~~The permit holder shall obtain the right to implement the site redress plan set forth in Appendix E before initiating any activities authorized by 10 CFR 52.25.~~ [Deleted]

G. holders The permit ~~holder~~ shall notify the NRC Regional Administrators for Region II and the operator of North Anna Power Station of the permit holders' ~~holder's~~ plans to begin the site preparation and preliminary construction activities described in the site redress plan at least 120 days before commencement of such activities and shall certify in that notification to the NRC that it has obtained all other permits, licenses, and certifications required for these activities.

H. holders The ~~holder~~ of this ESP shall not perform any site preparation or preliminary construction activities authorized by 10 CFR 52.25 unless such holders obtain ~~such holder obtains~~ the certification required pursuant to Section 401 of the Federal Water Pollution Control Act from the Commonwealth of Virginia, or ~~obtains~~ a determination by the Commonwealth of Virginia that no certification is required and ~~submits~~ the certification or determination to the NRC before commencement of any such activities.

obtain submit

I. The following conditions apply:

(1) Any activities performed pursuant to 10 CFR 52.25 are subject to the conditions for the protection of the environment set forth in the EPP attached as Appendix F to this ESP.

(2) Dominion shall conduct a comprehensive instream flow incremental methodology (IFIM) study, designed and monitored in cooperation and consultation with the Virginia Department of Game and Inland Fisheries (VDGIF) and the Virginia Department of Environmental Quality (VDEQ,) to address potential impacts of the proposed Units 3 and 4 on the fishes and other aquatic resources of Lake Anna and downstream waters. Development of the scope of work for the IFIM study shall begin in 2007, and the IFIM study shall be completed before issuance of a combined license (COL) for this project. Dominion agrees to consult with VDGIF and VDEQ regarding analysis and interpretation of the results of that study and to abide by surface water management, release, and instream flow conditions prescribed by VDGIF and VDEQ upon review of the completed IFIM study, and implemented through appropriate State or Federal permits or licenses.

(3) The CP or COL applicant will conduct an IFIM study pursuant to the Coastal Zone Management Act consistency determination.

J. An applicant for a CP or COL referencing this ESP shall develop an EPP for construction and operation of the proposed reactor and include the EPP in the application. The portion of the EPP directed to operation shall include any environmental conditions derived in accordance with 10 CFR 50.36b, "Environmental Conditions."

holders are

4. The ~~holder~~ of this ESP ~~is~~ subject to the requirements of 10 CFR Part 21, "Reporting of Defects and Noncompliance," as of the date of issuance of this ESP.

5. This ESP is effective as of its date of issuance and shall expire at midnight on November 27, 2027.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

R.W. Borchardt, Director
Office of New Reactors

Attachments:

Appendix A: Characteristics of the ~~Dominion Nuclear~~ North Anna~~, LLC,~~ ESP Site

Appendix B: Controlling Values of Parameters and Design-Basis Accident Source Term Plant Parameters

Appendix C: Combined License Action Items

Appendix D: Values of Plant Parameters Considered in the Environmental Review of the Application

Appendix E: Site Redress Plan

Appendix F: Environmental Protection Plan (Nonradiological)

Appendix A: Characteristics of the ~~Dominion Nuclear~~ North Anna~~, LLC,~~ ESP Site

Table B-2: Main Steam Line Break Outside Containment (PWR)
Isotopic time-dependent fission product release rates to the environment (values in Ci)

Ref: North Anna ESP ~~Nuclear, LLC~~ Site Safety Analysis Report, Rev. 9, Table 15.4-2
Activity Releases for AP1000 Main Steam Line Break, Preexisting Iodine Spike

Isotope	0–2 hr	2–8 hr	8–24 hr	24–72 hr	Total
Kr-85m	2.30E-01	3.82E-01	2.26E-01	2.03E-02	8.58E-01
Kr-85	9.47E-01	2.83E+00	7.47E+00	2.17E+01	3.29E+01
Kr-87	9.24E-02	4.49E-02	1.76E-03	2.84E-07	1.39E-01
Kr-88	3.77E-01	4.59E-01	1.34E-01	2.72E-03	9.73E-01
Xe-131m	4.28E-01	1.27E+00	3.26E+00	8.78E+00	1.37E+01
Xe-133m	5.31E-01	1.51E+00	3.45E+00	6.69E+00	1.22E+01
Xe-133	3.95E+01	1.15E+02	2.87E+02	7.03E+02	1.14E+03
Xe-135m	1.02E-02	4.44E-05	0.00E+00	0.00E+00	1.02E-02
Xe-135	1.04E+00	2.31E+00	2.78E+00	1.11E+00	7.24E+00
Xe-138	1.34E-02	3.81E-05	0.00E+00	0.00E+00	1.34E-02
I-130	4.98E-01	4.74E-01	6.95E-01	4.36E-01	2.10E+00
I-131	3.37E+01	4.05E+01	1.03E+02	2.67E+02	4.44E+02
I-132	4.02E+01	1.39E+01	2.68E+00	2.16E-02	5.68E+01
I-133	6.03E+01	6.35E+01	1.17E+02	1.30E+02	3.71E+02
I-134	8.24E+00	5.47E-01	4.77E-03	1.50E-08	8.79E+00
I-135	3.56E+01	2.73E+01	2.51E+01	5.60E+00	9.36E+01
Cs-134	1.91E+01	6.52E-01	1.72E+00	5.00E+00	2.65E+01
Cs-136	2.84E+01	9.57E-01	2.47E+00	6.69E+00	3.85E+01
Cs-137	1.38E+01	4.70E-01	1.24E+00	3.61E+00	1.91E+01
Cs-138	1.02E+01	3.41E-03	1.48E-06	0.00E+00	1.02E+01
Total	2.93E+02	2.72E+02	5.58E+02	1.16E+03	2.28E+03

Table B-3: Main Steam Line Break Outside Containment (PWR)
Isotopic time-dependent fission product release rates to the environment (values in Ci)

Ref: North Anna ESP ~~Nuclear, LLC~~ Site Safety Analysis Report, Rev. 9, Table 15.4-4
Activity Releases for AP1000 Main Steam Line Break, Accident-Initiated Iodine Spike

Isotope	0–2 hr	2–8 hr	8–24 hr	24–72 hr	Total
Kr-85m	2.30E-01	3.82E-01	2.26E-01	2.03E-02	8.58E-01
Kr-85	9.47E-01	2.83E+00	7.47E+00	2.17E+01	3.29E+01
Kr-87	9.24E-02	4.49E-02	1.76E-03	2.84E-07	1.39E-01
Kr-88	3.77E-01	4.59E-01	1.34E-01	2.72E-03	9.73E-01
Xe-131m	4.28E-01	1.27E+00	3.26E+00	8.78E+00	1.37E+01
Xe-133m	5.31E-01	1.51E+00	3.45E+00	6.69E+00	1.22E+01
Xe-133	3.95E+01	1.15E+02	2.87E+02	7.03E+02	1.14E+03
Xe-135m	1.02E-02	4.44E-05	0.00E+00	0.00E+00	1.02E-02
Xe-135	1.04E+00	2.31E+00	2.78E+00	1.11E+00	7.24E+00
Xe-138	1.34E-02	3.81E-05	0.00E+00	0.00E+00	1.34E-02
I-130	6.84E-01	3.33E+00	5.27E+00	3.30E+00	1.26E+01
I-131	3.92E-01	1.92E+02	5.18E+02	1.35E+03	2.10E+03
I-132	9.12E+01	3.26E+02	7.46E+01	6.00E-01	4.92E+02
I-133	7.75E+01	3.81E+02	7.54E+02	8.34E+02	2.05E+03
I-134	3.03E+01	6.23E+01	8.85E-01	2.78E-06	9.35E+01
I-135	5.57E+01	2.59E+02	2.61E+02	5.82E+01	6.34E+02
Cs-134	1.91E+01	6.52E-01	1.72E+00	5.00E+00	2.65E+01
Cs-136	2.84E+01	9.57E-01	2.47E+00	6.69E+00	3.85E+01
Cs-137	1.38E+01	4.70E-01	1.24E+00	3.61E+00	1.91E+01
Cs-138	1.02E+01	3.41E-03	1.48E-06	0.00E+00	1.02E+01
Total	4.09E+02	1.35E+03	1.92E+03	3.00E+03	6.68E+03

Table B-4: Main Steam Line Break Outside Containment (BWR)
Activity released to the environment (values in Ci)

ESP

Ref: North Anna ~~Nuclear, LLC~~ Site Safety Analysis Report, Rev. 9, Table 15.4-19a Activity Releases for ESBWR Main Steam Line Break

Isotope	Pre-Existing	Equilibrium Activity
I-131	1.96E+02	9.79E+00
I-132	1.86E+03	9.45E+01
I-133	1.35E+03	6.75E+01
I-134	3.38E+03	1.72E+02
I-135	1.92E+03	9.45E+01
Kr-85m	1.72E-02	1.72E-02
Kr-85	6.75E-05	6.75E-05
Kr-87	5.74E-02	5.74E-02
Kr-88	5.74E-02	5.74E-02
Xe-133	2.46E-02	2.46E-02
Xe-135	6.75E-02	6.75E-02
Total	8.70E+03	4.39E+02

Table B-5: Feedwater System Pipe Break (PWR or BWR)
Activity released to the environment (values in Ci)

ESP
Ref: North Anna ~~Nuclear, LLC~~ Site Safety Analysis Report, Rev. 9, Table 15.4-5c
Activity Releases for ABWR Cleanup Water Line Break

Isotope	0-2 hr
I-131	4.39E-03
I-132	4.05E-02
I-133	2.94E-02
I-134	7.43E-02
I-135	4.05E-02
Total	1.89E-01

Table B-6: Reactor Coolant Pump Locked Rotor Accident (PWR)
Activity released to the environment (values in Ci)

Ref: North Anna ESP ~~Nuclear, LLC~~ Site Safety Analysis Report, Rev. 9, Table 15.4-6 Activity Releases for AP1000 Locked Rotor Accident

Isotope	0–2 hr
Kr-85m	4.09E+02
Kr-85	3.77E+01
Kr-87	6.05E+02
Kr-88	1.05E+03
Xe-131m	1.87E+01
Xe-133m	1.02E+02
Xe-133	3.33E+03
Xe-135m	1.63E+02
Xe-135	8.01E+02
Xe-138	6.48E+02
I-130	4.15E+00
I-131	1.83E+02
I-132	1.33E+02
I-133	2.31E+02
I-134	1.44E+02
I-135	2.04E+02
Cs-134	5.83E+00
Cs-136	1.85E+00
Cs-137	3.42E+00
Cs-138	3.05E+01
Rb-86	6.69E-02
Total	8.11E+03

Table B-7: Control Rod Ejection Accident (PWR)
Isotopic time-dependent fission product release rates to the environment (values in Ci)

ESP
Ref: North Anna ~~Nuclear, LLC~~ Site Safety Analysis Report, Rev. 9, Table 15.4-8
Activity Releases for AP1000 Rod Ejection Accident

Isotope	0–2 hr	2–8 hr	8–24 hr	24–96 hr	96–720 hr	Total
Kr-85m	2.85E+02	6.48E+01	3.87E+01	3.53E+00	5.01E-05	3.92E+02
Kr-85	1.24E+01	5.60E+00	1.49E+01	6.70E+01	5.71E+02	6.71E+02
Kr-87	4.86E+02	2.60E+01	1.03E+00	1.67E-04	0.00E+00	5.13E+02
Kr-88	7.49E+02	1.18E+02	3.49E+01	7.18E-01	1.68E-08	9.03E+02
Xe-131m	1.22E+01	5.46E+00	1.42E+01	5.72E+01	2.31E+02	3.20E+02
Xe-133m	6.62E+01	2.81E+01	6.49E+01	1.69E+02	1.06E+02	4.34E+02
Xe-133	2.18E+03	9.58E+02	2.40E+03	8.53E+03	1.68E+04	3.09E+04
Xe-135m	2.18E+02	5.30E-02	4.33E-09	0.00E+00	0.00E+00	2.18E+02
Xe-135	5.39E+02	1.72E+02	2.09E+02	8.69E+01	3.58E-01	1.01E+03
Xe-138	8.89E+02	1.38E-01	3.19E-09	0.00E+00	0.00E+00	8.89E+02
I-130	5.93E+00	7.28E+00	4.32E+00	4.06E-01	5.88E-04	1.79E+01
I-131	1.64E+02	2.45E+02	2.31E+02	6.20E+01	3.33E+01	7.35E+02
I-132	1.90E+02	9.94E+01	9.85E+00	1.65E-02	0.00E+00	2.99E+02
I-133	3.29E+02	4.40E+02	3.18E+02	4.56E+01	4.81E-01	1.13E+03
I-134	2.18E+02	2.85E+01	1.37E-01	8.96E-08	0.00E+00	2.47E+02
I-135	2.91E+02	2.97E+02	1.19E+02	4.79E+00	1.46E-04	7.12E+02
Cs-134	3.15E+01	6.22E+01	6.03E+01	1.55E+01	1.03E+01	1.80E+02
Cs-136	8.98E+00	1.75E+01	1.67E+01	4.10E+00	1.31E+00	4.86E+01
Cs-137	1.83E+01	3.62E+01	3.51E+01	9.04E+00	6.05E+00	1.05E+02
Cs-138	1.13E+02	7.05E+00	1.68E-03	0.00E+00	0.00E+00	1.20E+02
Rb-86	3.70E-01	7.27E-01	6.96E-01	1.73E-01	6.79E-02	2.03E+00
Total	6.81E+03	2.62E+03	3.57E+03	9.06E+03	1.78E+04	3.98E+04

Table B-8: Steam Generator Tube Rupture Accident (PWR)
Isotopic time-dependent fission product release rates to the environment (values in Ci)

ESP
Ref: North Anna ~~Nuclear, LLC~~ Site Safety Analysis Report, Rev. 9, Table 15.4-13
Activity Releases for AP1000 Steam Generator Tube Rupture, Preexisting Iodine Spike

Isotope	0–2 hr	2–8 hr	8–24 hr	Total
Kr-85m	5.67E+01	1.91E+01	2.50E-02	7.58E+01
Kr-85	2.25E+02	1.07E+02	4.44E-01	3.32E+02
Kr-87	2.46E+01	3.56E+00	3.02E-04	2.82E+01
Kr-88	9.44E+01	2.61E+01	1.80E-02	1.21E+02
Xe-131m	1.02E+02	4.82E+01	1.96E-01	1.50E+02
Xe-133m	1.26E+02	5.83E+01	2.19E-01	1.85E+02
Xe-133	9.37E+03	4.41E+03	1.75E+01	1.38E+04
Xe-135m	3.61E+00	5.78E-03	0.00E+00	3.62E+00
Xe-135	2.51E+02	1.00E+02	2.35E-01	3.51E+02
Xe-138	4.78E+00	4.99E-03	0.00E+00	4.78E+00
I-130	1.81E+00	6.12E-02	2.90E-01	2.16E+00
I-131	1.22E+02	5.97E+00	3.32E+01	1.61E+02
I-132	1.43E+02	8.53E-01	2.08E+00	1.46E+02
I-133	2.19E+02	8.68E+00	4.41E+01	2.72E+02
I-134	2.78E+01	5.16E-03	4.57E-03	2.78E+01
I-135	1.28E+02	3.06E+00	1.26E+01	1.44E+02
Cs-134	1.65E+00	6.35E-02	2.27E-01	1.94E+00
Cs-136	2.45E+00	9.30E-02	3.30E-01	2.87E+00
Cs-137	1.19E+00	4.58E-02	1.64E-01	1.40E+00
Cs-138	5.71E-01	3.07E-06	6.00E-07	5.71E-01
Total	1.09E+04	4.79E+03	1.12E+02	1.58E+04

Table B-9: Steam Generator Tube Rupture Accident (PWR)
Isotopic time-dependent fission product release rates to the environment (values in Ci)

ESP
Ref: North Anna ~~Nuclear, LLC~~ Site Safety Analysis Report, Rev. 9, Table 15.4-15
Activity Releases for AP1000 Main Steam Line Break, Accident-Initiated Iodine Spike

Isotope	0–2 hr	2–8 hr	8–24 hr	Total
Kr-85m	5.67E+01	1.91E+01	2.50E-02	7.58E+01
Kr-85	2.25E+02	1.07E+02	4.44E-01	3.32E+02
Kr-87	2.46E+01	3.56E+00	3.02E-04	2.82E+01
Kr-88	9.44E+01	2.61E+01	1.80E-02	1.21E+02
Xe-131m	1.02E+02	4.82E+01	1.96E-01	1.50E+02
Xe-133m	1.26E+02	5.83E+01	2.19E-01	1.85E+02
Xe-133	9.37E+03	4.41E+03	1.75E+01	1.38E+04
Xe-135m	3.61E+00	5.78E-03	0.00E+00	3.62E+00
Xe-135	2.51E+02	1.00E+02	2.35E-01	3.51E+02
Xe-138	4.78E+00	4.99E-03	0.00E+00	4.78E+00
I-130	7.30E-02	1.19E-02	3.13E-02	1.16E-01
I-131	4.90E+00	1.15E+00	3.55E+00	9.60E+00
I-132	5.79E+00	1.75E-01	2.30E-01	6.20E+00
I-133	8.79E+00	1.68E+00	4.73E+00	1.52E+01
I-134	1.12E+00	1.18E-03	5.21E-04	1.12E+00
I-135	5.15E+00	6.01E-01	1.36E+00	7.11E+00
Cs-134	1.65E+00	6.35E-02	2.27E-01	1.94E+00
Cs-136	2.45E+00	9.30E-02	3.30E-01	2.87E+00
Cs-137	1.19E+00	4.58E-02	1.64E-01	1.40E+00
Cs-138	5.71E-01	3.07E-06	6.00E-07	5.71E-01
Total	1.03E+04	4.78E+03	2.93E+01	1.51E+04

Table B-10: Failure of Small Lines Carrying Primary Coolant Outside Containment (BWR and PWR)

Isotopic time-dependent fission product release rates to the environment (values in Ci)

ESP

Ref: North Anna ~~Nuclear, LLC~~ Site Safety Analysis Report, Rev. 9, Table 15.4-12a Activity Releases for ESBWR Failure of Small Lines Carrying Primary Coolant Outside Containment

Isotope	0–2 hr	2–8 hr	Total
I-131	6.13E+00	1.05E+01	1.66E+01
I-132	8.03E+00	7.35E+00	1.54E+01
I-133	1.51E+01	2.35E+01	3.86E+01
I-134	8.78E+00	4.60E+00	1.34E+01
I-135	1.39E+01	1.85E+01	3.24E+01
Total	5.19E+01	6.45E+01	1.16E+02

Table B-11: Large-Break Loss-of-Coolant Accident (PWR)
Isotopic time-dependent fission product release rates to the environment (values in Ci)

ESP
Ref: North Anna ~~Nuclear, LLC~~ Site Safety Analysis Report, Rev. 9, Table 15.4-20
Activity Releases for AP1000 Loss-of-Coolant Accident

Isotope	0–2 hr	2–8 hr	8–24 hr	24–96 hr	96–720 hr	Total
Kr-85m	6.31E+02	3.14E+03	1.87E+03	1.71E+02	2.43E-03	5.82E+03
Kr-85	3.22E+01	2.64E+02	7.05E+02	3.17E+03	2.70E+04	3.12E+04
Kr-87	6.87E+02	1.26E+03	4.97E+01	8.11E-03	0.00E+00	1.99E+03
Kr-88	1.50E+03	5.76E+03	1.70E+03	3.49E+01	8.16E-07	8.99E+03
Xe-131m	3.20E+01	2.62E+02	6.79E+02	2.74E+03	1.11E+04	1.48E+04
Xe-133m	1.74E+02	1.37E+03	3.15E+03	8.21E+03	5.15E+03	1.80E+04
Xe-133	5.71E+03	4.62E+04	1.16E+05	4.11E+05	8.10E+05	1.39E+06
Xe-135m	3.33E+01	2.62E+00	2.14E-07	0.00E+00	0.00E+00	3.59E+01
Xe-135	1.31E+03	8.33E+03	1.01E+04	4.21E+03	1.73E+01	2.40E+04
Xe-138	1.14E+02	6.83E+00	1.58E-07	0.00E+00	0.00E+00	1.20E+02
I-130	3.22E+01	4.58E+01	2.96E+00	1.11E+00	1.99E-02	8.21E+01
I-131	9.13E+02	1.45E+03	1.56E+02	3.74E+02	1.12E+03	4.01E+03
I-132	8.77E+02	7.93E+02	7.64E+00	2.29E-02	0.00E+00	1.68E+03
I-133	1.81E+03	2.70E+03	2.16E+02	1.63E+02	1.62E+01	4.91E+03
I-134	7.16E+02	3.04E+02	1.26E-01	1.07E-07	0.00E+00	1.02E+03
I-135	1.53E+03	1.97E+03	8.31E+01	9.55E+00	4.95E-03	3.59E+03
Cs-134	1.46E+02	2.16E+02	8.06E+00	1.88E-01	1.59E+00	3.72E+02
Cs-136	4.15E+01	6.13E+01	2.25E+00	4.72E-02	2.03E-01	1.05E+02
Cs-137	8.50E+01	1.26E+02	4.70E+00	1.10E-01	9.39E-01	2.17E+02
Cs-138	2.67E+02	5.25E+01	6.92E-04	0.00E+00	0.00E+00	3.19E+02
Rb-86	1.72E+00	2.54E+00	9.37E-02	2.03E-03	1.05E-02	4.37E+00
Sb-127	1.10E+01	2.01E+01	7.13E-01	1.16E-02	1.60E-02	3.18E+01
Sb-129	2.63E+01	3.65E+01	4.83E-01	1.01E-04	1.00E-09	6.33E+01
Te-127m	1.42E+00	2.64E+00	9.83E-02	2.27E-03	1.77E-02	4.18E+00
Te-127	9.83E+00	1.59E+01	3.65E-01	5.63E-04	2.72E-06	2.61E+01
Te-129m	4.85E+00	9.00E+00	3.33E-01	7.47E-03	4.79E-02	1.42E+01
Te-129	1.35E+01	9.71E+00	8.54E-03	7.27E-10	0.00E+00	2.32E+01
Te-131m	1.46E+01	2.60E+01	8.29E-01	6.86E-03	1.60E-03	4.14E+01
Te-132	1.46E+02	2.68E+02	9.42E+00	1.44E-01	1.60E-01	4.24E+02
Sr-89	4.16E+01	7.74E+01	2.87E+00	6.54E-02	4.60E-01	1.22E+02
Sr-90	3.59E+00	6.68E+00	2.48E-01	5.82E-03	4.97E-02	1.06E+01
Sr-91	4.64E+01	7.52E+01	1.74E+00	2.76E-03	1.44E-05	1.23E+02
Sr-92	3.80E+01	4.50E+01	3.26E-01	1.06E-05	0.00E+00	8.33E+01

Table B-11: Large-Break Loss-of-Coolant Accident (PWR) Isotopic time-dependent fission product release rates to the environment (values in Ci) (cont.)

ESP

Ref: North Anna ~~Nuclear, LLC~~ Site Safety Analysis Report, Rev. 9, Table 15.4-20 Activity Releases for AP1000 Loss-of-Coolant Accident

Isotope	0–2 hr	2–8 hr	8–24 hr	24–96 hr	96–720 hr	Total
Ba-139	3.64E+01	2.98E+01	4.73E-02	2.03E-08	0.00E+00	6.63E+01
Ba-140	7.35E+01	1.36E+02	5.00E+00	1.05E-01	4.41E-01	2.15E+02
Mo-99	9.77E+00	1.78E+01	6.19E-01	8.79E-03	7.72E-03	2.82E+01
Tc-99m	7.30E+00	1.10E+01	1.94E-01	1.08E-04	2.73E-08	1.85E+01
Ru-103	7.82E+00	1.45E+01	5.38E-01	1.21E-02	8.11E-02	2.30E+01
Ru-105	4.19E+00	5.87E+00	7.97E-02	1.82E-05	2.40E-10	1.01E+01
Ru-106	2.57E+00	4.79E+00	1.78E-01	4.16E-03	3.46E-02	7.58E+00
Rh-105	4.71E+00	8.45E+00	2.76E-01	2.64E-03	8.48E-04	1.34E+01
Ce-141	1.76E+00	3.26E+00	1.21E-01	2.71E-03	1.72E-02	5.16E+00
Ce-143	1.59E+00	2.84E+00	9.20E-02	8.29E-04	2.34E-04	4.51E+00
Ce-144	1.32E+00	2.47E+00	9.19E-02	2.14E-03	1.77E-02	3.91E+00
Pu-238	4.13E-03	7.70E-03	2.86E-04	6.71E-06	5.73E-05	1.22E-02
Pu-239	3.63E-04	6.77E-04	2.52E-05	5.90E-07	5.04E-06	1.07E-03
Pu-240	5.34E-04	9.92E-04	3.69E-05	8.65E-07	7.39E-06	1.57E-03
Pu-241	1.19E-01	2.23E-01	8.30E-03	1.94E-04	1.66E-03	3.52E-01
Np-239	2.04E+01	3.72E+01	1.27E+00	1.67E-02	1.17E-02	5.89E+01
Y-90	3.68E-02	6.70E-02	2.32E-03	3.25E-05	2.75E-05	1.06E-01
Y-91	5.35E-01	9.94E-01	3.69E-02	8.43E-04	6.09E-03	1.57E+00
Y-92	4.18E-01	5.46E-01	5.77E-03	5.86E-07	0.00E+00	9.70E-01
Y-93	5.81E-01	9.48E-01	2.25E-02	4.05E-05	2.91E-07	1.55E+00
Nb-95	7.20E-01	1.34E+00	4.95E-02	1.11E-03	7.23E-03	2.12E+00
Zr-95	7.17E-01	1.33E+00	4.94E-02	1.13E-03	8.29E-03	2.11E+00
Zr-97	6.66E-01	1.15E+00	3.26E-02	1.38E-04	7.58E-06	1.84E+00
La-140	7.66E-01	1.38E+00	4.58E-02	4.84E-04	1.97E-04	2.19E+00
La-141	5.37E-01	7.26E-01	8.69E-03	1.31E-06	0.00E+00	1.27E+00
La-142	3.47E-01	3.06E-01	6.67E-04	6.96E-10	0.00E+00	6.53E-01
Nd-147	2.79E-01	5.16E-01	1.89E-02	3.88E-04	1.49E-03	8.16E-01
Pr-143	6.28E-01	1.16E+00	4.27E-02	9.01E-04	3.95E-03	1.84E+00
Am-241	5.40E-05	1.00E-04	3.74E-06	8.75E-08	7.48E-07	1.59E-04
Cm-242	1.27E-02	2.37E-02	8.81E-04	2.04E-05	1.64E-04	3.75E-02
Cm-244	1.56E-03	2.91E-03	1.08E-04	2.53E-06	2.16E-05	4.61E-03
Total	1.72E+04	7.52E+04	1.35E+05	4.30E+05	8.54E+05	1.51E+06

Table B-12: Large-Break Loss-of-Coolant Accident (BWR)
Isotopic time-dependent fission product release rates to the environment (values in Ci)

ESP
Ref: North Anna ~~Nuclear, LLC~~ Site Safety Analysis Report, Rev. 9, Table 15.4-23a
Activity Releases for ESBWR Loss-of-Coolant Accident

Isotope	0–2 hr	2–8 hr	8–24 hr	24–96 hr	96–720 hr	Total
Co-58	2.28E-03	2.22E-02	3.89E-02	4.18E-02	2.61E-02	1.31E-01
Co-60	2.19E-03	2.16E-02	3.76E-02	4.10E-02	2.89E-02	1.31E-01
Kr-85	6.59E+00	3.23E+02	2.72E+03	2.08E+04	5.31E+04	7.70E+04
Kr-85m	1.14E+02	3.01E+03	5.21E+03	8.50E+02	0.00E+00	9.19E+03
Kr-87	1.17E+02	8.60E+02	1.08E+02	0.00E+00	0.00E+00	1.09E+03
Kr-88	2.68E+02	5.12E+03	4.30E+03	1.63E+02	0.00E+00	9.85E+03
Rb-86	1.38E-01	1.00E+00	1.72E+00	1.79E+00	8.25E-01	5.48E+00
Sr-89	3.53E+00	3.46E+01	6.01E+01	6.43E+01	3.88E+01	2.01E+02
Sr-90	3.48E-01	3.42E+00	5.98E+00	6.51E+00	4.63E+00	2.09E+01
Sr-91	3.95E+00	3.06E+01	2.63E+01	5.00E+00	0.00E+00	6.58E+01
Sr-92	3.18E+00	1.45E+01	2.88E+00	1.25E-01	0.00E+00	2.06E+01
Y-90	6.34E-03	1.70E-01	9.06E-01	2.51E+00	4.25E+00	7.84E+00
Y-91	4.59E-02	4.70E-01	8.96E-01	1.03E+00	6.38E-01	3.08E+00
Y-92	4.89E-01	1.01E+01	8.31E+00	3.75E-01	0.00E+00	1.93E+01
Y-93	4.94E-02	3.87E-01	3.45E-01	7.25E-02	0.00E+00	8.54E-01
Zr-95	6.39E-02	6.26E-01	1.09E+00	1.18E+00	7.25E-01	3.68E+00
Zr-97	6.16E-02	5.28E-01	6.10E-01	2.25E-01	0.00E+00	1.43E+00
Nb-95	6.43E-02	6.30E-01	1.11E+00	1.20E+00	8.25E-01	3.83E+00
Mo-99	8.30E-01	7.86E+00	1.23E+01	9.88E+00	1.00E+00	3.19E+01
Tc-99m	7.46E-01	7.24E+00	1.19E+01	1.01E+01	8.75E-01	3.09E+01
Ru-103	6.66E-01	6.52E+00	1.13E+01	1.21E+01	6.88E+00	3.75E+01
Ru-105	3.48E-01	2.09E+00	8.88E-01	3.75E-02	0.00E+00	3.36E+00
Ru-106	2.33E-01	2.28E+00	3.99E+00	4.34E+00	3.04E+00	1.39E+01
Rh-105	4.05E-01	3.88E+00	5.85E+00	3.74E+00	1.25E-01	1.40E+01
Sb-127	9.09E-01	8.69E+00	1.40E+01	1.23E+01	1.75E+00	3.76E+01
Sb-129	2.18E+00	1.30E+01	5.25E+00	1.25E-01	0.00E+00	2.05E+01
Te-127	9.29E-01	8.96E+00	1.49E+01	1.39E+01	3.13E+00	4.18E+01
Te-127m	1.22E-01	1.20E+00	2.09E+00	2.29E+00	1.54E+00	7.24E+00
Te-129	2.41E+00	1.62E+01	1.15E+01	6.75E+00	3.50E+00	4.04E+01
Te-129m	4.09E-01	4.02E+00	6.98E+00	7.35E+00	4.13E+00	2.29E+01
Te-131m	1.22E+00	1.11E+01	1.53E+01	8.75E+00	2.50E-01	3.66E+01

Table B-12: Large-Break Loss-of-Coolant Accident (BWR) Isotopic time-dependent fission product release rates to the environment (values in Ci) (cont.)

Ref: North Anna ESP ~~Nuclear, LLC~~ Site Safety Analysis Report, Rev. 9, Table 15.4-23a Activity Releases for ESBWR Loss-of-Coolant Accident

Isotope	0–2 hr	2–8 hr	8–24 hr	24–96 hr	96–720 hr	Total
Te-132	1.24E+01	1.19E+02	1.88E+02	1.59E+02	1.88E+01	4.96E+02
I-131	6.66E+01	5.13E+02	9.33E+02	1.44E+03	7.00E+02	3.65E+03
I-132	7.88E+01	3.44E+02	2.45E+02	1.89E+02	2.25E+01	8.79E+02
I-133	1.31E+02	9.10E+02	1.22E+03	7.63E+02	1.25E+01	3.04E+03
I-134	4.96E+01	5.10E+01	3.75E-01	0.00E+00	0.00E+00	1.01E+02
I-135	1.11E+02	6.07E+02	4.16E+02	5.38E+01	0.00E+00	1.19E+03
Xe-133	1.08E+03	5.19E+04	4.08E+05	2.51E+06	1.20E+06	4.18E+06
Xe-135	3.68E+02	1.40E+04	5.13E+04	3.80E+04	0.00E+00	1.04E+05
Cs-134	1.16E+01	8.50E+01	1.48E+02	1.63E+02	1.14E+02	5.21E+02
Cs-136	4.03E+00	2.92E+01	5.00E+01	5.05E+01	2.00E+01	1.54E+02
Cs-137	7.54E+00	5.52E+01	9.60E+01	1.05E+02	7.50E+01	3.39E+02
Ba-139	2.96E+00	7.50E+00	3.00E-01	0.00E+00	0.00E+00	1.08E+01
Ba-140	6.26E+00	6.10E+01	1.04E+02	1.06E+02	4.00E+01	3.18E+02
La-140	1.40E-01	4.41E+00	2.37E+01	5.83E+01	4.35E+01	1.30E+02
La-141	4.50E-02	2.56E-01	9.13E-02	2.50E-03	0.00E+00	3.95E-01
La-142	2.84E-02	8.09E-02	4.50E-03	0.00E+00	0.00E+00	1.14E-01
Ce-141	1.49E-01	1.46E+00	2.54E+00	2.69E+00	1.46E+00	8.30E+00
Ce-143	1.35E-01	1.23E+00	1.75E+00	1.05E+00	2.50E-02	4.19E+00
Ce-144	1.21E-01	1.19E+00	2.08E+00	2.26E+00	1.55E+00	7.20E+00
Pr-143	5.46E-02	5.40E-01	9.68E-01	1.06E+00	4.63E-01	3.09E+00
Nd-147	2.38E-02	2.31E-01	3.94E-01	3.95E-01	1.39E-01	1.18E+00
Np-239	1.69E+00	1.59E+01	2.44E+01	1.88E+01	1.38E+00	6.21E+01
Pu-238	2.98E-04	2.93E-03	5.11E-03	5.54E-03	4.00E-03	1.79E-02
Pu-239	3.59E-05	3.53E-04	6.19E-04	6.80E-04	4.75E-04	2.16E-03
Pu-240	4.65E-05	4.56E-04	7.98E-04	8.75E-04	6.13E-04	2.79E-03
Pu-241	1.35E-02	1.33E-01	2.31E-01	2.53E-01	1.78E-01	8.08E-01
Am-241	6.08E-06	5.97E-05	1.06E-04	1.15E-04	9.25E-05	3.79E-04
Cm-242	1.43E-03	1.40E-02	2.44E-02	2.65E-02	1.76E-02	8.39E-02
Cm-244	6.91E-05	6.77E-04	1.19E-03	1.29E-03	9.13E-04	4.14E-03
Total	2.46E+03	7.82E+04	4.76E+05	2.58E+06	1.25E+06	4.39E+06

Table B-13: Fuel Handling Accidents (PWR and BWR)
Activity released to the environment (values in Ci)

Ref: North Anna ESP ~~Nuclear, LLC~~ Site Safety Analysis Report, Rev. 9, Table 15.4-24 Activity Releases for AP1000 Fuel Handling Accident

Isotope	0–2 hr
Kr-85m	2.68E-03
Kr-85	1.10E+03
Xe-131m	5.36E+02
Xe-133m	1.29E+03
Xe-133	6.94E+04
Xe-135m	4.37E-01
Xe-135	1.32E+02
I-130	3.52E-02
I-131	2.90E+02
I-132	1.54E+02
I-133	1.91E+01
I-135	1.36E-02
Total	7.29E+04

Table B-14: Reactor Cleanup Water Line Break
Activity released to the environment (values in Ci)

Ref: North Anna ESP ~~Nuclear, LLC~~ Site Safety Analysis Report, Rev. 9, Table 15.4-30 Activity Releases for ESBWR Cleanup Water Line Break

Isotope	0–2 hr
I-131	3.48E+01
I-132	7.05E+01
I-133	9.28E+01
I-134	1.22E+02
I-135	9.59E+01
Total	4.16E+02

Appendix E: Site Redress Plan

1. Site Redress

This section describes early site permit (ESP) site preparation activities that might occur after the U.S. Nuclear Regulatory Commission (NRC) issues an ESP. This section also describes the site redress plan that would be implemented if those site preparation activities were performed but the ESP then expired before being referenced in a combined license (COL) application.

1.1 Description of Site Preparation Activities

The ~~Dominion Nuclear North Anna, LLC (Dominion) submitted the~~ site redress plan was submitted pursuant to Title 10, Section 52.17(c) of the *Code of Federal Regulations* (10 CFR 52.17(c)) to allow the holders of the ESP ~~Dominion~~ to perform, after being granted the ESP, the site preparation activities for new nuclear units at the ESP site allowed by 10 CFR 50.10(e)(1).

The site preparation activities that ~~Dominion~~ the holders of the ESP for the North Anna ESP Site may perform include the following:

- preparation of the site for construction of the facility (including such activities as clearing, grading, construction of temporary access roads, and preparation of borrow areas)
- installation of temporary construction support facilities (including items such as warehouse and shop facilities, utilities, concrete mixing plants, docking and unloading facilities, and construction support buildings)
- excavation for facility structures
- construction of service facilities (including items such as roadways, paving, railroad spurs, fencing, exterior utility and lighting systems, switchyard interconnects, and sanitary sewage treatment facilities)
- construction of structures, systems, and components that do not prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public, including but not limited to the following:
    - cooling towers
    - intake and discharge structures
    - circulating water lines
    - fire protection equipment
    - switchyard and onsite interconnections
    - microwave towers

- underground utilities

the permit holders
Before commencing any of these activities after the ESP is granted, ~~Dominion~~ would do the following:

1. Create a record of the existing site conditions within the proposed ESP site by way of photographs, surveys, listings of existing facilities and structures, or other documentation. This record would serve as the baseline for redressing the site if ESP site preparation activities are terminated as a result of project cancellation or expiration of the ESP.

2. Obtain any State and local permits and authorizations necessary to perform the site preparation activities.

~~3. Obtain the appropriate regulatory approvals of an agreement between Virginia Power and Dominion. This agreement would authorize Dominion to conduct the preconstruction activities subject to Dominion's obligation to perform such site redress as may be required to comply with the site redress plan approved by the NRC.~~

~~4. Provide to the NRC a guaranty by Dominion Resources, Inc. (DRI) of $10 million as financial assurance for Dominion's obligation to comply with the site redress plan. Dominion is an indirect, wholly owned subsidiary of DRI. DRI is the largest fully integrated natural gas and electric provider in the United States with over $37 billion in assets, over $10 billion in annual revenue, and over $2 billion in annual operating cash flow.~~

1.2 Site Redress Plan

the permit holders'
This section constitutes ~~Dominion's~~ plan for redress of the North Anna site in the event that activities allowed by 10 CFR 50.10(e)(1) are performed but the ESP then expires before being referenced in an application for a combined license under 10 CFR Part 52, "Early Site Permits; Standard Design Certifications; and Combined Licenses for Nuclear Power Plants," Subpart C, "Combined Licenses." This site redress plan provides reasonable assurance that redress carried out under the plan would achieve an environmentally stable and aesthetically acceptable site condition suitable for whatever nonnuclear use may conform with local zoning laws. The following sections describe the objective of the site redress plan and activities that would be considered to redress the site; a general description of proposed redress activities; and the procedure for NRC notification and final acceptance of the redressed site.

1.2.1 Site Redress Plan Objective and Considerations

The objective of the site redress plan is to ensure that the site, should it not be fully developed for the intended purpose of new nuclear power generation, would be returned to an unattended, environmentally stable, and aesthetically acceptable condition suitable for such nonnuclear use as is consistent with local zoning laws. Site redress activities would be commensurate with the level of site modification created by the proposed site preparation activities. Redress activities would reflect applicable land use and/or zoning requirements of local, State, and Federal agencies. Redress activities would consider the following:

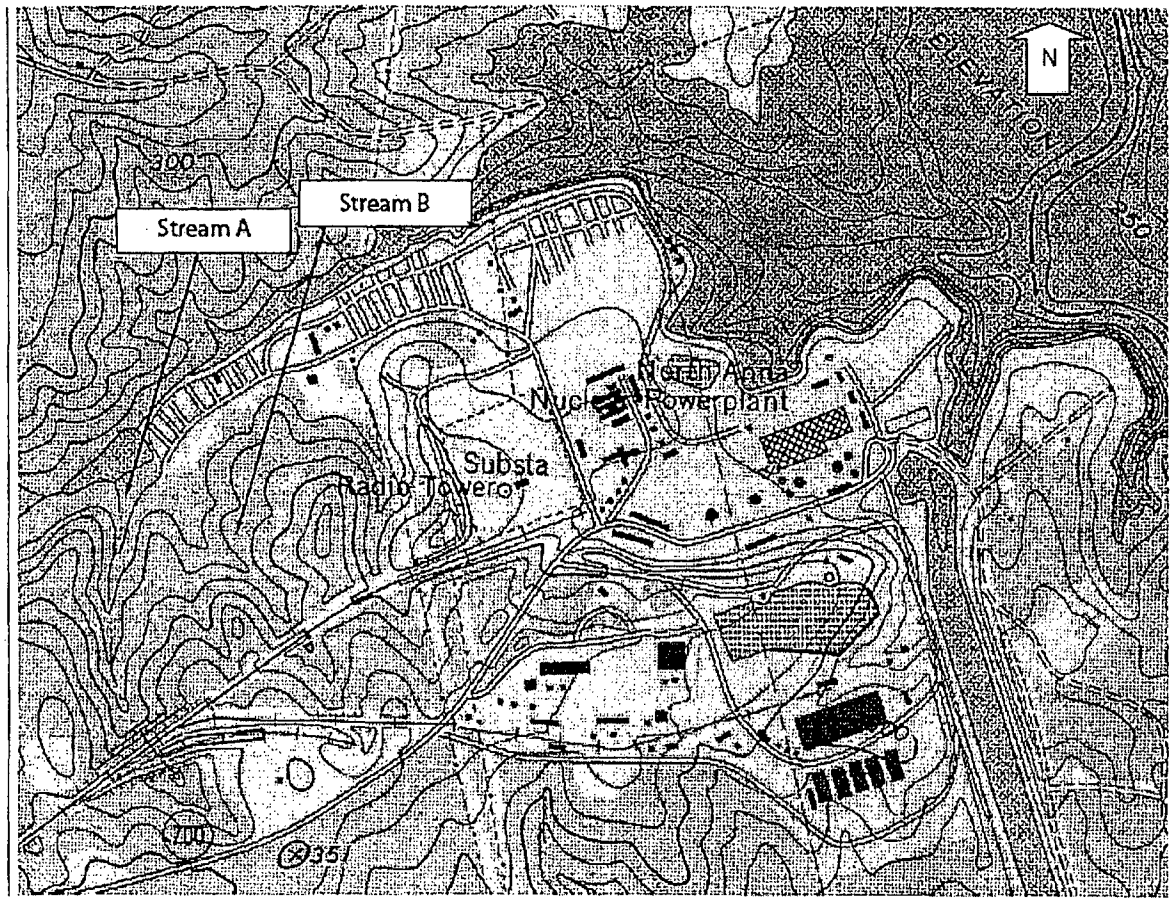

Figure 3 (Revision 9 ER Figure 1.2-1). Ephemeral Stream Locations
Source: *Lake Anna West, VA*, USGS 7.5 Minute Topographic Map, 1983.

1.2.3 NRC Notification upon Completion

The permit holders
~~Dominion Nuclear North Anna, LLC,~~ will notify the NRC upon completion of activities addressed by this site redress plan. The site would be made available for inspection, and any documentation that the NRC may require would be provided to confirm the satisfactory completion of the redress activities.

1.0 Objectives of the Environmental Protection Plan

The purpose of the environmental protection plan (EPP) is to provide for protection of nonradiological environmental resources during any site preparation or preliminary construction activities authorized by Title 10, Section 52.25, "Extent of Activities Permitted," of the *Code of Federal Regulations* (10 CFR 52.25). The principal objective of the EPP is to inform the U.S. Nuclear Regulatory Commission (NRC) of the environmental effects of any site preparation or preliminary construction activities and of actions taken to control those effects.

Environmental concerns identified in the final environmental impact statement (FEIS) that relate to water quality matters will be regulated by way of the ~~permit holder's~~ National Pollutant Discharge Elimination System (NPDES) permit.

2.0 Environmental Protection Issues

North Anna

In the FEIS dated December 2006, the staff considered the environmental impacts associated with the construction of reactors with characteristics that fall within the plant parameter envelope identified in Appendix D of this permit at the ~~Dominion~~ early site permit (ESP) site. The environmental impacts associated with the site preparation or preliminary construction activities authorized by 10 CFR 52.25 and in accordance with this permit will be less than or equal to the impacts assessed in the FEIS.

3.0 Consistency Requirements

3.1 Site Preparation and Preliminary Construction Activities

holders

The permit ~~holder~~ shall take the necessary mitigating actions identified in Revision 9 of the environmental report of the application and Chapter 4.0 of the FEIS (and summarized in Section 4.10 of the FEIS) to avoid any unnecessary adverse environmental impacts from the site preparation and preliminary construction activities described in the site redress plan.

holders

The permit ~~holder~~ shall maintain records of all site preparation and preliminary construction activities; these records shall include an assessment of whether the environmental impact of such activities is consistent with that evaluated in the EIS.

3.2 Reporting Related to the NPDES Permit and State Certification

holders

The permit ~~holder~~ shall provide the NRC with Section 401 certification (a Virginia Water Protection Permit under Virginia's State Water Control Law at Virginia Code Section 62.1-44.15:20 constitutes the certification required under the Federal Water Pollution Control Act Section 401), issued by the Commonwealth of Virginia, within 30 days of approval. The permit ~~holder~~ shall report any changes to the Virginia Water Protection Permit to the NRC within 30 days of the date the change is approved.

holders

4.0 Environmental Conditions

4.1 Unusual or Important Environmental Events

holders
The permit ~~holder~~ shall evaluate and report to the NRC Operations Center within 24 hours (followed by a written report in accordance with Subsection 5.4) any occurrence of an unusual or important event that indicates or could result in a significant environmental impact causally related to the site preparation or preliminary construction activities authorized (pursuant to 10 CFR 52.25) under this permit. The following are examples of unusual or important environmental events:

- excessive impacts on birds
- onsite plant or animal disease outbreaks
- mortality or unusual occurrence of any species protected by the Endangered Species Act of 1973
- fish kills
- unusual increase in nuisance organisms or conditions
- unanticipated or emergency discharge of waste water or chemical substances

Routine monitoring programs are not required to implement this condition.

5.0 Administrative Procedures

5.1 Review and Audit

holders

holders
The permit ~~holder~~ shall provide for review and audit of compliance with the EPP. The audits shall be conducted independently; the individual or groups responsible for performing the specific activity may not conduct the audit. The permit ~~holder~~ shall maintain and make available for inspection a description of the organizational structure utilized to achieve the independent review and audit function and results of the audit activities.

5.2 Records Retention

holders
The permit ~~holder~~ shall make and retain records associated with this EPP in a manner convenient for review and inspection and shall make them available to the NRC on request.

holders
The permit ~~holder~~ shall retain records of site preparation and preliminary construction activities determined to potentially affect the continued protection of the environment until the date of termination of the permit. If an application for a construction permit (CP) or combined license (COL) references this ESP and the CP or COL is issued, then the permit ~~holder or licensee~~ holders or licensees should retain these records until the date of termination of that permit or license. The permit ~~holder or licensee~~ shall retain all other records relating to this EPP for 5 years or, where applicable, in accordance with the requirements of other agencies.

holders or licensees

5.3 Changes in the Environmental Protection Plan

Requests for changes in the EPP shall include an assessment of the environmental impact of the proposed change and a supporting justification. Implementation of such changes in the EPP shall not commence before the NRC approves the proposed changes in the form of a permit amendment incorporating the appropriate revision to the EPP.

5.4 Reporting Requirements

holders

The permit ~~holder~~ shall submit a written report to the NRC within 30 days of occurrence of any event described in Section 4.1 of this plan. The report should (1) describe, analyze, and evaluate the event, including the extent and magnitude of the impact and site preparation and preliminary construction activities underway at the time of the event, (2) describe the likely cause of the event, (3) indicate the action taken to correct the reported event, (4) indicate the corrective action taken to preclude repetition of the event and to prevent similar occurrences involving similar site preparation and preliminary construction activities, and (5) indicate the agencies notified and their preliminary responses. For events reportable under this subsection that also require reports to other Federal, State, or local agencies, the permit ~~holder~~ shall report in accordance with those reporting requirements in lieu of the requirements of this subsection. The permit ~~holder~~ shall provide the NRC with a copy of such report at the time it submits the report to the other agency.

holders

holders