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

Dominion®

August 20, 2004

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

Serial No. 04-354
ESP/JDH
Docket No. 52-008

DOMINION NUCLEAR NORTH ANNA, LLC
NORTH ANNA EARLY SITE PERMIT APPLICATION
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION NO. 7

In its June 3, 2004 letter titled "Request for Additional Information Letter No. 7," the NRC requested additional information regarding certain aspects of Dominion Nuclear North Anna, LLC's (Dominion) Early Site Permit application. This letter contains our responses to the following requests for additional information (RAIs):

1.8-1, 2.2.3-1, 2.3.5-1, 2.3.5-2, 13.3-10, 13.3-11

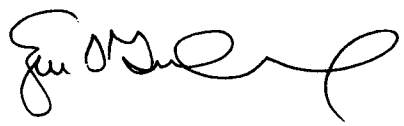
Two RAI No. 7 questions have been addressed separately. A response to RAI 2.3.1-6 was provided in Dominion's August 2, 2004 letter, Serial No. 04-318. A response to RAI 2.3.4-1 was provided in Dominion's July 12, 2004 letter, Serial No. 04-170A. Responses to RAIs 13.3-12, 13.3-13, and 13.3-14 will be submitted at a later date.

Also, in response to RAI 17.1-1 contained in Dominion's August 2, 2004 letter, Serial No. 04-318, Dominion committed to update the Site Safety Analysis Report for any updated website reference information. Enclosure 2 to this letter contains updates to the list of groundwater users.

It is our intent to update the North Anna ESP application to reflect our responses to these and other RAIs to support issuance of the NRC staff's draft safety and environmental evaluations scheduled for later this year. Planned changes to the application are identified following the response to each RAI.

If you have any questions or require additional information, please contact Mr. Joseph D. Hegner at 804-273-2770.

Very truly yours,



Eugene S. Grecheck
Vice President-Nuclear Support Services

Enclosures:

1. Response to NRC RAI Letter No. 7
2. Revisions to SSAR Section 1.8 in Response to RAI 1.8-1
3. Updated List of Groundwater Users Identified by EPA
4. One CD-ROM containing XOQDOQ input file in response to RAI 2.3.5-1. The CD-ROM is labeled, "North Anna Early Site Permit Application, Docket No. 52-008, Serial No. 04-xxx, Response to RAI Letter No. 7, XOQDOQ Input File in Response to RAI 2.3.5-1," and contains the following file:

   RAI 2.3.5-1 XOQ_Inp.DAT.txt; 5KB; publicly available

Commitments made in this letter:

1. Revise North Anna ESP application to reflect RAI responses.

cc: (with Enclosures 1 through 3)

U. S. Nuclear Regulatory Commission, Region II
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Suite 23T85
Atlanta, Georgia 30303

Mr. Mike Scott (Enclosures 1 through 4)
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Mr. M. T. Widmann
NRC Senior Resident Inspector
North Anna Power Station

Mr. Andy Kugler
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Ms. Ellie Irons
Virginia Department of Environmental Quality
Office of Environmental Impact Review
P.O. Box 10009
Richmond, VA 23240

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 20TH day of August, 2004.

My Commission expires: May 31, 2006

Vicki L. Hull
Notary Public

(SEAL)

Enclosure 1

Response to NRC RAI Letter No. 7

RAI 1.8-1 (NRC 6/3/04 Letter)

Please provide a comprehensive listing of NRC regulations and regulatory guidance applicable to the Dominion early site permit (ESP) SSAR and the affected SSAR sections. For example, please state whether 10 CFR 100.21(f) and Regulatory Guide (RG) 4.7 apply to SSAR Section 13.6, and whether Regulatory Guide 1.183 applies to SSAR Section 15.0.

Response

SSAR Section 1.8 will be revised to provide a comprehensive listing of applicable NRC regulations and regulatory guidance applicable to the SSAR and affected SSAR sections.

In response to the specific examples, 10 CFR 100.21(f) and Regulatory Guide 4.7 do apply to SSAR Section 13.6, and Regulatory Guide 1.183 does apply to SSAR Chapter 15.

Several discrepancies in SSAR and ER references will also be corrected.

Application Revision

SSAR Section 1.8 will be revised as shown in Enclosure 2.

Reference 11 of SSAR Section 2.1 References will be revised to read as follows:

11. NRC Review Standard RS-002, Processing Applications of Early Site Permits: Draft for Interim Use and Public Comment, U.S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation, December 23, 2002, as supplemented.

Reference 27 of SSAR Section 2.3 References will be revised to read as follows:

27. Regulatory Guide 1.23, *Meteorological Programs in Support of Nuclear Power Plants*, Proposed Revision 1, U.S. Nuclear Regulatory Commission, September 1980.

Reference 3 of SSAR Section 15.2 References will be revised to read as follows:

3. Regulatory Guide 1.145, *Atmospheric Dispersion Models for Potential Accident Consequence Assessments at Nuclear Power Plants,* Revision 1, U. S. Nuclear Regulatory Commission, November 1982.

Reference 2 of SSAR Section 15.3 References will be revised to read as follows:

2. Regulatory Guide 1.3, *Assumptions Used for Evaluating the Potential Radiological Consequences of a Loss of Coolant Accident for Boiling Water Reactors,* Revision 2, U. S. Nuclear Regulatory Commission, June 1974.

References 6 and 10 of ER Section 7.1 References will be revised to read as follows:

6. Regulatory Guide 1.145, *Atmospheric Dispersion Models for Potential Accident Consequence Assessments at Nuclear Power Plants*, Revision 1, U. S. Nuclear Regulatory Commission, November 1982.

10. Regulatory Guide 1.3, *Assumptions Used for Evaluating the Potential Radiological Consequences of a Loss of Coolant Accident for Boiling Water Reactors*, Revision 2, U. S. Nuclear Regulatory Commission, June 1974.

RAI 2.2.3-1 (NRC 6/3/04 Letter)

Please identify hazards, if any, associated with the existing North Anna Units 1 and 2 that could pose an undue risk to new reactor(s) that might be constructed and operated at the ESP site.

Response

No hazards have been identified with the existing Units 1 and 2 that could pose an undue risk to new reactors that might be constructed and operated at the ESP site.

Application Revision

None.

RAI 2.3.5-1 (NRC 6/3/04 Letter)

Please provide a copy of the input file(s) used to execute XOQDOQ in support of calculating the long term (routine release) X/Q and D/Q values presented in SSAR Section 2.3.5.

Response

A copy of the input file used to execute XOQDOQ in support of the model results reported in SSAR Section 2.3.5 is provided on the enclosed compact disc (CD).

Application Revision

None.

RAI 2.3.5-2 (NRC 6/3/04 Letter)

SSAR Section 2.3.5 and Table 2.3-16 present bounding maximum annual χ /Q and D/Q values at or beyond the site boundary for routine releases. However, the SSAR Section 1.8.1 discussion on Regulatory Guide 1.70 (top of SSAR Page 2-1-63, Revision 0) states that the maximum annual average χ/Q values at or beyond the site boundary for each venting location will be provided in the COL application. Please explain the difference between these two statements.

Response

Venting locations, structural dimensions, and layout are unique to each reactor design. Therefore, an evaluation was performed of maximum annual average χ/Q and D/Q values at or beyond the site boundary for routine releases using a conservative set of values for the venting locations, structural dimensions, and layout.

Furthermore, the bounding χ/Q and D/Q analysis addressed in SSAR Section 2.3.5 and the maximum values summarized in SSAR Table 2.3-16 are based on conservative dispersion modeling assumptions (i.e., those that lead to higher relative concentration and deposition values). Assumptions that result in relatively less dispersion between the release point and downwind, ground-level receptors were used. They include a ground-level (as opposed to an elevated) release, identifying the shortest, direction-specific distances between any point on the ESP plant envelope boundary and the EAB, and assigning the shortest distance between the plant envelope boundary and the LPZ to all downwind direction sectors on the LPZ.

Actual values for venting locations, structural dimensions, and layout would be established during detailed engineering for the selected reactor design. The COL application would provide confirmation that the actual values are acceptable with respect to the evaluation in the ESP SSAR.

Application Revision

In SSAR Section 1.8.1 pertaining to conformance to 10 CFR 50, Appendix I, the "Clarifications," will be revised to read as follows:

Clarifications	Section 2.3.5 - Actual values for venting locations, structural dimensions, and layout would be established during detailed engineering for the selected reactor design. The COL application would provide confirmation that the actual values are

acceptable with respect to the evaluation in the ESP SSAR.

In SSAR Section 1.8.2 pertaining to conformance to NRC Regulatory Guide 1.70, the "Exceptions" with respect to SSAR Section 2.3.5 will be revised to read as follows:

> Section 2.3.5 - Actual values for venting locations, structural dimensions, and layout would be established during detailed engineering for the selected reactor design. The COL application would provide confirmation that the actual values are acceptable with respect to the evaluation in the ESP SSAR.

In SSAR Section 1.8.3 pertaining to conformance to draft RS-002 for Section 2.3.5, the "Clarifications" will be revised to read as follows:

Clarifications	Section 2.3.5 - Actual values for venting locations, structural dimensions, and layout would be established during detailed engineering for the selected reactor design. The COL application would provide confirmation that the actual values are acceptable with respect to the evaluation in the ESP SSAR.

RAI 13.3-10 (NRC 6/3/04 Letter)

SSAR Section 13.3.2.2.2.k (Radiological Exposure Control) relies on the existing North Anna units' radiological protection procedures, stating that the procedures would be applicable to the ESP site or would be addressed in future radiological protection procedures. SSAR Section 13.3.2.2.2.k.4 (Authorization of Exposure Above Dose Limits), which substantively repeats a portion of NAEP Section 6.4.1 (Emergency Exposure Limits), states that approval from the "emergency coordinator" is necessary for planned exposures greater than the 10 CFR 20 annual limits. NAEP Section 6.4.1 states that this approval will be from the "Station Emergency Manager." Please explain the difference in the designated approval source.

Response

NUREG-0654/FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Evaluation Criterion II.B.2, refers to designation of an individual as emergency coordinator. Evaluation Criterion II.K.2 refers to identification of the individual(s) who can authorize emergency workers to receive doses in excess of 10 CFR Part 20 limits. NAEP Sections 5.2.1.1 and 6.4.1 identify this individual who presently functions as the emergency coordinator and who can authorize emergency workers to receive doses in excess of the Part 20 limits at the existing units as the Station Emergency Manager.

NUREG-0654/FEMA-REP-1, Supplement 2, Criteria for Emergency Planning in an Early Site Permit Application, did not contain an evaluation criterion corresponding with NUREG-0654/FEMA-REP-1 Evaluation Criterion II.B.2. Thus, as stated in SSAR Section 13.3.2.2.2.b, a description of the onsite emergency organization would be provided in a COL application. The NUREG-0654/FEMA-REP-1, Supplement 2, evaluation criterion corresponding with NUREG-0654/FEMA-REP-1 Evaluation Criterion II.K.2 referenced general guidance on dose limits for workers performing emergency services. Dominion has made no decisions regarding organizational details at this time. However, it was not the intent of SSAR Section 13.3.2.2.2.k to infer any substantial difference between provisions of the NAEP and SSAR Section 13.3 in this regard.

Application Revision

None.

RAI 13.3-11 (NRC 6/3/04 Letter)

Please provide a conclusion and supporting analysis, based on extrapolation of data on permanent resident and transient population to future years, regarding whether increases in population during the term of an ESP could pose a significant impediment to development of emergency plans. Include the population increase (including staff at the North Anna Power Station) that would be expected to occur as a result of operation of new reactors at the site.

Response

The Evacuation Time Estimates for the North Anna Power Station and Surrounding Jurisdictions (SSAR Section 13.3 Reference Number 42) identified no areas of congestion during the evacuation analyses. The evacuation time estimates presented in the study results are based on a combination of warning time, warning diffusion, mobilization time and travel time. As can be inferred from the minimal effect adverse weather has on the evacuation time estimate, travel time is relatively inelastic with respect to anticipated changes in road capacity, i.e., loading of the road network. Thus, a reduction in road capacity by 40% results in no more than a 5-minute increase in any of the evacuation time estimate scenarios.

Population projections are provided in SSAR Section 2.1.3. The population increase is projected to be gradual over time. The study did indicate that planning and consideration of new roads or modification of existing roads and intersections could offset any large influx of new permanent or transient population within the plume exposure pathway emergency planning zone.

Onsite and offsite emergency planners work with their local governments counterparts on an ongoing basis. Their planning and development processes ensure that the public notification system coverage and evacuation plans for North Anna site (including the ESP site) remain adequate to protect public health and safety.

Application Revision

None.

Enclosure 2

Revisions to SSAR Section 1.8 in Response to RAI 1.8-1

Revisions to SSAR Section 1.8 in Response to RAI 1.8-1

SSAR Section 1.8 will be revised to read as shown on the following pages.

1.8 Conformance to NRC Regulations and Regulatory Guidance

This section discusses the conformance of the ESP application SSAR with applicable NRC regulations and guidance. NRC regulations are contained in Title 10 of the Code of Federal Regulations. NRC guidance is contained in NRC Regulatory Guides (RGs) and the draft NRC review standard for ESP applications (Reference 1). Exemptions, exceptions, and clarifications to the requirements and guidance are described below.

NRC regulations are legally binding requirements. If a legally binding requirement applicable to ESP cannot be met, an *exemption* from the applicable regulation is needed. No *exemptions* to NRC regulations are required to support this ESP application. In certain instances, a regulation is listed because it could have applied under certain conditions. If the conditions are not met, conformance is specified as "not required" or "not applicable" and an explanation provided.

Exceptions are identified when the guidance cannot be met as stated, but the intent or objective can be achieved by acceptable alternatives.

Clarifications are identified when guidance is met, but additional information is needed to provide complete understanding of the method of conformance. Conformance with NRC regulations is described in Section 1.8.1, conformance with NRC RGs is described in Section 1.8.2, and conformance with NRC Review Standard RS-002 is described in Section 1.8.3.

1.8.1 Conformance with NRC Regulations

This section describes conformance with the applicable requirements of NRC regulations. Conformance with the regulation was determined using the acceptance criteria sections of NUREG-0800, as modified by draft RS-002 (Reference 1, Attachment 2). The NRC regulation number, title, description of applicable requirements, affected SSAR sections, and statement of conformance are provided. Exceptions and clarifications to conformance with the regulation are noted, as appropriate.

Regulation	**10 CFR 20**
Title	Standards for Protection Against Radiation
Description	2.1.1 - Describe the restricted area boundaries in order to determine whether releases in excess of limits may occur. 13.3.2 - Establishes occupational dose limits for emergencies.
Affected Sections	2.1.1, 13.3.2
Conformance	Conforms
Exceptions	None
Clarifications	None

Regulation	**10 CFR 20, Appendix B, Table 2**
Title	Annual Limits on Intake and Derived Air Concentrations of Radionuclides for Occupational Exposure; Effluent Concentrations; Concentrations for Release to Sewerage
Description	Provides radionuclide-specific concentration limits for ingestion of water.
Affected Sections	2.4.13
Conformance	Conforms
Exceptions	None
Clarifications	Defer to the COL application. The types of facilities that would be used to store radioactive liquids and any associated inventory are unique to each design. Therefore, it is not feasible to complete this evaluation until a reactor design is selected.

Regulation	**10 CFR 50.34(a)(1)**
Title	Contents of Applications; Technical Information
Description	Requires that reactors reflect an extremely low probability for accidents that could result in the release of significant quantities of radioactive fission products. Section (a)(1)(ii)(D) further states that EAB and LPZ accident doses should be within 25 Rem TEDE.
Affected Sections	2.1.3, Chapter 15
Conformance	Conforms
Exceptions	None
Clarifications	None

Regulation	**10 CFR 50.34(a)(12) [referenced in 52.17]**
Title	Contents of Applications; Technical Information
Description	Requires conformance to current (i.e., probabilistic) NRC seismic criteria

Affected Sections	2.5.2
Conformance	Conforms
Exceptions	None
Clarifications	None

Regulation	**10 CFR 50.34(b)(10) [referenced in 52.17]**
Title	Contents of Applications; Technical Information
Description	Requires conformance to current (i.e., probabilistic) NRC seismic criteria
Affected Sections	2.5.2
Conformance	Conforms
Exceptions	None
Clarifications	None

Regulation	**10 CFR 50.47**
Title	Emergency Plans
Description	Describe additional meteorological measurements taken for emergency preparedness planning.
Affected Sections	2.3.3
Conformance	Conforms
Exceptions	None
Clarifications	None

Regulation	**10 CFR 50.47(b)(4)**
Title	Emergency Plans
Description	Provides requirement for standard emergency classification and action level scheme.
Affected Sections	13.3.2
Conformance	Conforms
Exceptions	None
Clarifications	Following initial approval, any necessary updates in the emergency planning information would be handled in a COL application.

Regulation	**10 CFR 50.55a**
Title	Codes and Standards
Description	Requires structures, systems, and components to be designed and constructed to quality standards commensurate with the importance of the safety function to be provided.
Affected Sections	2.4.8, 2.4.10, 2.5.5

Conformance	Conforms
Exceptions	None
Clarifications	None

Regulation	**10 CFR 50, Appendix A, GDC 2**
Title	Design Bases for Protection Against Natural Phenomena
Description	Requires structures, systems, and components important to safety to be designed to withstand the effects of natural phenomena.
Affected Sections	2.3.1, 2.3.2, 2.4.1, 2.4.8, 2.4.10, 2.4.11, 2.5.1, 2.5.3
Conformance	Conforms
Exceptions	None
Clarifications	Section 2.5.3 – This section evaluates the potential for surface deformation only.

Regulation	**10 CFR 50, Appendix A, GDC 4**
Title	Environmental and Dynamic Effects Design Bases
Description	Provide information on tornadoes that could generate missiles.
Affected Sections	2.3.1
Conformance	Conforms
Exceptions	None
Clarifications	None

Regulation	**10 CFR 50, Appendix A, GDC 44**
Title	Cooling Water
Description	Requires an ultimate heat sink capable of accepting the plant's heat load under normal and accident conditions.
Affected Sections	2.4.8, 2.4.9, 2.4.11, 2.5.4, 2.5.5
Conformance	Conforms
Exceptions	None
Clarifications	None

Regulation	**10 CFR 50, Appendix B**
Title	Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants
Description	Provide a description of the Quality Assurance Program/Plan.
Affected Sections	17.1
Conformance	Conforms
Exceptions	None

Clarifications	None

Regulation	**10 CFR 50, Appendix E**
Title	Emergency Planning and Preparedness for Production and Utilization Facilities
Description	2.3.3 - Describe additional meteorological measurements taken for emergency preparedness planning. 13.3.2 – Provide a discussion of plans for coping with emergencies.
Affected Sections	2.3.3, 13.3.2
Conformance	Conforms
Exceptions	None
Clarifications	Section 13.3.2 - Following initial approval, any necessary updates in the emergency planning information would be handled in a COL application.

Regulation	**10 CFR 50, Appendix I**
Title	Numerical Guides for Design Objectives and Limiting Conditions for Operation to Meet the Criterion "As Low As Reasonably Achievable" for Radioactive Material in Light-Water-Cooled Nuclear Power Reactor Effluents
Description	Section 2.1.1 – Provides guidelines for radiation exposures to meet ALARA criterion at the 5000 ft. radius Exclusion Area Boundary. Section 2.3.3 – Describe meteorological data used in the compliance with the numerical guides for doses to meet the criterion of ALARA. Section 2.3.5 – Demonstrate compliance by characterizing atmospheric transport and diffusion conditions in order to estimate the radiological consequences of routine releases of materials to the atmosphere.
Affected Sections	2.1.1, 2.3.3, 2.3.5
Conformance	Conforms
Exceptions	None
Clarifications	Section 2.3.5 - Actual values for venting locations, structural dimensions, and layout would be established during detailed engineering for the selected reactor design. The COL application would provide confirmation that the actual values are acceptable with respect to the evaluation in the ESP SSAR.

Regulation	**10 CFR 50, Appendix S IV(a)**
Title	Earthquake Engineering Criteria for Nuclear Power Plants
Description	The SSE ground motion must be characterized by free-field ground motion response spectra at the free ground surface. The OBE must be characterized by response spectra.
Affected Sections	2.5.2

Conformance	Conforms
Exceptions	None
Clarifications	Surface rock conditions are assumed. The OBE has been defined as one third of the SSE ground motion design response spectra.

Regulation	**10 CFR 50, Appendix S IV(b)**
Title	Earthquake Engineering Criteria for Nuclear Power Plants
Description	The potential for surface deformation must be taken into account in the design of the nuclear power plant by providing reasonable assurance that in the event of deformation, certain structures, systems, and components will remain functional.
Affected Sections	2.5.3
Conformance	Conforms
Exceptions	None
Clarifications	This section evaluates the potential for surface deformation only.

Regulation	**10 CFR 50, Appendix S IV(c)**
Title	Earthquake Engineering Criteria for Nuclear Power Plants
Description	Account for seismically induced floods and water waves from either locally or distantly generated seismic activity and other design conditions.
Affected Sections	2.4.2, 2.4.5
Conformance	Conforms
Exceptions	None
Clarifications	None

Regulation	**10 CFR 52, Subpart A**
Title	Early Site Permits
Description	1.1 – Provides requirements for Early Site Permit application. 2.5.1, 2.5.2 - Describe the seismic and geologic characteristics of the proposed site.
Affected Sections	1.1, 2.5.1, 2.5.2
Conformance	Conforms
Exceptions	None
Clarifications	None

Regulation	**10 CFR 52.17(a)**
Title	Contents of Applications
Description	Section 2.4.1, 2.4.2, 2.4.5, 2.4.6, 2.4.10, 2.4.12 – Describe the hydrologic characteristics of the site. Section 2.4.7 – Provide a description of any icing phenomena with the potential to result in adverse effects to the intake structure or other safety-related facilities for a nuclear power plant or plants of specified type that might be constructed on the proposed site. Section 2.4.9 – Requires that physical characteristics of the site are taken into account to determine acceptability of site for nuclear power plants.
Affected Sections	2.4.1, 2.4.2, 2.4.5, 2.4.6, 2.4.7, 2.4.9, 2.4.10, 2.4.12
Conformance	Conforms
Exceptions	None
Clarifications	Section 2.4.6 – The North Anna site is not located in a coastal region and not subject to tsunami flooding.

Regulation	**10 CFR 52.17(a)(1)**
Title	Contents of Applications
Description	Provide an analysis and evaluation of the major structures, systems, and components of the facility that bear significantly on the acceptability of the site under the radiological consequence evaluation factors identified in 10 CFR 50.34(a)(1).
Affected Sections	Chapter 15
Conformance	Conforms
Exceptions	None
Clarifications	The PPE provides this information. Results conform to 10 CFR 50.34(a)(1).

Regulation	**10 CFR 52.17(a)(1)(i)**
Title	Contents of Applications
Description	Specify the number, type and thermal power level of the facilities for which the ESP site may be used.
Affected Sections	1.3
Conformance	Conforms
Exceptions	None
Clarifications	None

Regulation	**10 CFR 52.17(a)(1)(ii)**
Title	Contents of Applications
Description	Provide the site boundaries.

Affected Sections	2.1.1
Conformance	Conforms
Exceptions	None
Clarifications	None

Regulation	**10 CFR 52.17(a)(1)(vi)**
Title	Contents of Applications
Description	Describe the hydrologic characteristics of the proposed site.
Affected Sections	2.4.3, 2.4.4
Conformance	Conforms
Exceptions	None
Clarifications	None

Regulation	**10 CFR 52.17(a)(1)(vii)**
Title	Contents of Applications
Description	Provide the location and description of any nearby industrial, military, or transportation facilities and routes.
Affected Sections	2.2.1, 2.2.2
Conformance	Conforms
Exceptions	None
Clarifications	None

Regulation	**10 CFR 52.17(a)(1)(viii)**
Title	Contents of Applications
Description	Provide the existing and projected population profiles for the area around the site.
Affected Sections	2.1.3
Conformance	Conforms
Exceptions	None
Clarifications	None

Regulation	**10 CFR 52.17(b)(1)**
Title	Contents of Applications
Description	This section of the regulation requires that certain emergency preparedness information be submitted. The application must identify physical characteristics unique to the proposed site that could pose a significant impediment to the development of emergency plans.
Affected Sections	13.3
Conformance:	Conforms

Exceptions:	None
Clarifications:	None

Regulation	**10 CFR 52.17(b)(2)**
Title	Contents of Applications
Description	Provides an option in the regulation to submit a major features emergency plan as part of an ESP application.
Affected Sections	13.3
Conformance	Conforms
Exceptions	Certain EP criteria are not implementable at the ESP stage. See Section 4.0 of the Major Features Emergency Plan.
Clarifications	The applicant has the option to submit the Major Features of an Emergency Plan or a complete and integrated Emergency Plan. Dominion has elected to exercise the major features option and has included the required information.

Regulation	**10 CFR 52.17(b)(3)**
Title	Contents of Applications
Description	Requires the applicant to identify contacts and arrangements with local, state and federal agencies with emergency preparedness responsibilities.
Affected Sections	13.3
Conformance	Conforms
Exceptions	None
Clarifications	None

Regulation	**10 CFR 73.55**
Title	Requirements for Physical Protection of Licensed Activities in Nuclear Power Reactors Against Radiological Sabotage
Description	Specifies requirements for physical protection of licensed activities against radiological sabotage.
Affected Sections	13.6
Conformance	Conforms
Exceptions	None
Clarifications	None

Regulation	**10 CFR 100**
Title	Reactor Site Criteria
Description	All Sections Not Listed Below – Evaluate the hydrologic characteristics of the site. Sections 2.5.1, 2.5.2, 2.5.4, 2.5.5 – Provides general criteria that guide

	the evaluation of the suitability of the site for nuclear power reactors. Sections 15.2, 15.4 – Provides requirements that radiological dose consequences meet site acceptance criteria.
Affected Sections	2.4.1, 2.4.5, 2.4.6, 2.4.7, 2.4.8, 2.4.9, 2.4.11, 2.4.13, 2.5.1, 2.5.2, 2.5.4, 2.5.5, 15.2, 15.4
Conformance	Conforms
Exceptions	None
Clarifications	Section 2.4.13 – Defer to the COL application. The types of facilities that would be used to store radioactive liquids and any associated inventory are unique to each design. Therefore, it is not feasible to complete this evaluation until a reactor design is selected.

Regulation	**10 CFR 100.3**
Title	Definitions
Description	Defines exclusion area, low population zone and population center distance as they apply to 10 CFR 100.
Affected Sections	2.1.2, 2.1.3
Conformance	Conforms
Exceptions	None
Clarifications	None

Regulation	**10 CFR 100, Subpart B**
Title	Evaluation Factors for Stationary Power Reactor Site Applications on or After January 10, 1997
Description	Provide information on the exclusion area, low population zone, and population center distance to the site.
Affected Sections	2.1.1, 2.1.3
Conformance	Conforms
Exceptions	None
Clarifications	None

Regulation	**10 CFR 100.20**
Title	Reactor Site Criteria
Description	Sections 2.2.1, 2.2.2 - Provide details of the use characteristics of the site environs. Section 2.2.3 - The nature and proximity of man-made hazards must be evaluated to establish site parameters for use in determining whether a plant design can accommodate commonly occurring hazards, and whether the risk of others hazards is low.
Affected Sections	2.2.1, 2.2.2, 2.2.3
Conformance	Conforms
Exceptions	None

Clarifications	None

Regulation	**10 CFR 100.20(c)**
Title	Reactor Site Criteria
Description	Sections 2.3.1, 2.3.2 – Describe the consideration that has been given the meteorological characteristics of the site. Section 2.3.3 – Describe meteorological data collected for use in characterizing the meteorological conditions of the site. Sections 2.4.1, 2.4.2, 2.4.3, 2.4.5, 2.4.6, 2.4.10 – Describe the hydrologic characteristics of the proposed site. Section 2.4.4 – Requires that the physical characteristics of the site, including hydrology, be taken into account when determining site acceptability. 2.4.5 – Provide a description of the surface and subsurface hydrologic characteristics of the region and an analysis of the potential for flooding due to surges and seiches. 2.4.6 – Provide a description of the hydrologic characteristics of the coastal region in which the proposed site is located and an analysis of severe seismically induced waves. Section 2.4.7 – Provide a description of any icing phenomena with the potential to result in adverse effects to the intake structure or other safety-related facilities for a nuclear power plant or plants of specified type that might be constructed on the proposed site. Section 2.4.9, 2.4.12 – Requires that physical characteristics of the site be taken into account to determine acceptability of site for nuclear power plants.
Affected Sections	2.3.1, 2.3.2, 2.3.3, 2.4.1, 2.4.2, 2.4.3, 2.4.4, 2.4.5, 2.4.6, 2.4.7, 2.4.9, 2.4.10, 2.4.12
Conformance	Conforms
Exceptions	None
Clarifications	Section 2.4.6 – The North Anna Site is not located in a coastal region and, therefore, not subject to tsunami flooding.

Regulation	**10 CFR 100.21**
Title	Non-seismic Siting Criteria
Description	Discuss meteorological considerations used in the evaluation to determine an acceptable EA and LPZ.
Affected Sections	2.3.4
Conformance	Conforms
Exceptions	None
Clarifications	None

Regulation	**10 CFR 100.21(c)(2)**
Title	Non-seismic Siting Criteria
Description	Radiological dose consequences of postulated accidents shall meet the criteria in 10 CFR 50.34(a)(1).
Affected Sections	2.1.3, Chapter 15
Conformance	Conforms
Exceptions	None
Clarifications	None

Regulation	**10 CFR 100.21(d)**
Title	Non-seismic Siting Criteria
Description	Sections 2.3.1, 2.3.2 – Describe the consideration that has been given the meteorological characteristics of the site. Section 2.3.3 – Describe meteorological data collected for use in characterizing the meteorological conditions of the site.
Affected Sections	2.3.1, 2.3.2, 2.3.3
Conformance	Conforms
Exceptions	None
Clarifications	None

Regulation	**10 CFR 100.21(f)**
Title	Non-seismic Siting Criteria
Description	Describe the security-related characteristics of the site.
Affected Sections	13.6
Conformance	Conforms
Exceptions	None
Clarifications	None

Regulation	**10 CFR 100.23**
Title	Geologic and Seismic Siting Criteria
Description	Section 2.4.12 - Sets forth the criteria to determine the suitability of design bases with respect to seismic characteristics of the site. Section 2.5.1, 2.5.3, 2.5.5 - Obtain the seismic and geologic data necessary to address site suitability and identify seismic and geologic factors to be taken into account in the siting and design of the nuclear power plant.
Affected Sections	2.4.12, 2.5.1, 2.5.3, 2.5.5
Conformance	Conforms
Exceptions	None

Clarifications	None

Regulation	**10 CFR 100.23(c)**
Title	Geologic and Seismic Siting Criteria
Description	Section 2.4.4 – Requires an investigation to obtain geologic and seismic data for evaluating seismically induced floods, including failure of an upstream dam during an earthquake or low water levels from failure of a downstream dam. Section 2.4.6 – Investigate distantly and locally generated waves or tsunami that have affected or could affect the proposed site, including available evidence regarding the runup or drawdown associated with historic tsunami in the same coastal region and local features of coastal topography that might modify runup or drawdown. Section 2.4.7 – Provide a description of any icing phenomena with the potential to result in adverse effects to the intake structure or other safety-related facilities for a nuclear power plant or plants of specified type that might be constructed on the proposed site. Section 2.4.11, 2.4.12 – Requires that physical characteristics of the site be taken into account to determine acceptability of site for nuclear power plants. Sections 2.5.1, 2.5.2, 2.5.3 – Determine the SSE and its uncertainty, the potential for surface tectonic and nontectonic deformations, the design bases for seismically induced floods and water waves, and other design conditions. Section 2.5.4, 2.5.5 – Consider the geologic and seismic conditions at the site during the siting and design of the nuclear plant. Investigate the geological and seismological characteristics of the site in sufficient scope and detail to permit an adequate evaluation of the proposed site.
Affected Sections	2.4.4, 2.4.6, 2.4.7, 2.4.11, 2.4.12, 2.5.1, 2.5.2, 2.5.3, 2.5.4, 2.5.5
Conformance	Conforms
Exceptions	None
Clarifications	Section 2.4.6 – Since the site is inland and not subject to tsunami flooding, no wave analysis was performed or investigated. The site is protected from tsunami flooding.

Regulation	**10 CFR 100.23(d)(4)**
Title	Geologic and seismic siting factors
Description	Section 2.4.12 – Requires that the physical properties of materials underlying the site be considered when designing a system to supply cooling water for emergency and long-term shutdown decay heat removal.
Affected Sections	2.4.12
Exceptions	None
Clarifications	None

Regulation	**10 CFR 100, Appendix A**
Title	Seismic and Geologic Siting Criteria for Nuclear Power Plants
Description	Investigate the seismic and geologic data necessary to determine site suitability and identify seismic and geologic factors to be taken into account in the siting and design of the nuclear power plant.
Affected Sections	2.5.1, 2.5.3, 2.5.5
Conformance	Conforms
Exceptions	None
Clarifications	None

1.8.2 Conformance to NRC Regulatory Guides

This section describes conformance with the applicable guidance in published NRC RGs, as specified in the acceptance criteria sections of NUREG-0800, as modified by draft RS-002 Reference 1, Attachment 2. The RG title, description of applicable guidance, revision number, date, affected SSAR sections, and statement of conformance are provided. Exceptions and clarifications to conformance with the guidance in the RG are noted, as appropriate.

Document	**Regulatory Guide 1.3**
Title	Assumptions Used for Evaluating the Potential Radiological Consequences of a Loss of Coolant Accident for Boiling Water Reactors
Description	Identifies acceptable methods for implementing AST.
Revision	Rev. 2
Date	June 1974
Affected Sections	15.3
Conformance	Conforms
Exceptions	None
Clarifications	None

Document	**Regulatory Guide 1.5**
Title	Assumptions Used for Evaluating the Potential Radiological Consequences of a Steam Line Break Accident for Boiling Water Reactors
Description	Provides information, recommendations, and guidance and in general describes an acceptable basis to implement the requirements of 10 CFR 100.
Revision	[Initial Issue]

Date	March 1971
Affected Sections	2.3.4
Conformance	Conforms
Exceptions	None
Clarifications	None

Document	**Regulatory Guide 1.23**
Title	Onsite Meteorological Programs
Description	Provides the criteria for an acceptable onsite meteorological measurements program.
Revision	[Initial Issue]/Proposed Revision 1
Date	1972/1980
Affected Sections	2.3.2, 2.3.3, 2.3.4
Conformance	Conforms
Exceptions	None
Clarifications	None

Document	**Regulatory Guide 1.24**
Title	Assumptions Used for Evaluating the Potential Radiological Consequences of a Pressurized Water Reactor Radioactive Gas Storage Tank Failure
Description	Provides information, recommendations, and guidance and in general describes an acceptable basis to implement the requirements of 10 CFR 100.
Revision	[Initial Issue]
Date	March 1972
Affected Sections	2.3.4
Conformance	Conforms
Exceptions	None
Clarifications	None

Document	**Regulatory Guide 1.25**
Title	Assumptions Used for Evaluating the Potential Radiological Consequences of a Fuel Handling Accident in the Fuel Handling and Storage Facility for Boiling and Pressurized Water Reactors
Description	Provides information, recommendations, and guidance and in general describes an acceptable basis to implement the requirements of 10 CFR 100.
Revision	[Initial Issue]
Date	March 1972

Affected Sections	2.3.4, 15.3
Conformance	Conforms
Exceptions	None
Clarifications	None

Document	**Regulatory Guide 1.27**
Title	Ultimate Heat Sink for Nuclear Power Plants
Description	Section 2.3.1 – The ultimate heat sink meteorological data should be based on long-term regional records that represent site conditions. Section 2.4.7 – Describes the ultimate heat sink capabilities that apply. Section 2.4.8 – Use as a basis for the adequacy of design criteria and provisions where canals or reservoirs comprise a part of the ultimate heat sink. Sections 2.4.9, 2.4.11, 2.4.12, 2.4.13, 2.5.4, 2.5.5 – Provides guidance on acceptable criteria for the ultimate heat sink.
Revision	Rev. 2
Date	January 1976
Affected Sections	2.3.1, 2.4.7, 2.4.8, 2.4.9, 2.4.11, 2.4.12, 2.4.13, 2.5.4, 2.5.5
Conformance	Conforms (all sections except as noted below) Not Required (Sections 2.4.8, 2.4.11, 2.4.13) Not Applicable (Section 2.4.12)
Exceptions	Section 2.4.8 – Canals or reservoirs do not comprise a part of the ultimate heat sink. Sections 2.4.11, 2.4.13 - The design of the ultimate heat sink would be provided in the COL application. Section 2.4.12 – Groundwater will not be used as part of any safety-related function.
Clarifications	None

Document	**Regulatory Guide 1.29**
Title	Seismic Design Classification
Description	Identifies the seismic design classification of structures, systems, and components.
Revision	Rev. 3
Date	September 1978
Affected Sections	2.4.2, 2.4.3, 2.4.4, 2.4.5, 2.4.6, 2.4.7, 2.4.8, 2.4.10, 2.4.12
Conformance	Conforms
Exceptions	None
Clarifications	None

Document	**Regulatory Guide 1.58**
Title	Qualification of Nuclear Power Plant Inspection, Examination, and Testing Personnel
Description	Provides qualification requirements for inspection, examination and testing personnel.
Revision	Rev. 1
Date	September 1980
Affected Sections	17.1
Conformance	Conforms
Exceptions	None
Clarifications	Some of the activities described in this section are included in the operational QA program and may not be needed for ESP application development.

Document	**Regulatory Guide 1.59**
Title	Flood Design Basis for Nuclear Power Plants
Description	Provides guidance for estimating the design basis for flooding, considering the worst single phenomenon and combinations for less severe phenomena.
Revision	Rev. 2
Date	August 1977
Affected Sections	2.4.2, 2.4.3, 2.4.4, 2.4.5, 2.4.6, 2.4.7, 2.4.8, 2.4.10
Conformance	Conforms
Exceptions	None
Clarifications	None

Document	**Regulatory Guide 1.60**
Title	Design Response for Seismic Design of Nuclear Power Plants
Description	Smoothed response spectra are generally used for design purposes -- for example, a standard spectral shape that has been used in the past is presented in RG 1.60. These smoothed spectra are still acceptable when the smoothed design spectra compare favorably with site-specific response spectra.
Revision	Rev. 1
Date	December 1973
Affected Sections	2.5.2
Conformance	Not Required
Exceptions	Site-specific response spectra are lower than RG 1.60 for low frequencies and exceed RG 1.60 spectra for high frequencies.
Clarifications	None

Document	**Regulatory Guide 1.70**
Title	Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants – LWR Edition
Description	Section 2.0 – Provide information on the geological, seismological, hydrological and meteorological characteristics of the site and vicinity, in conjunction with present and projected population distribution and land use and site activities and controls. Section 2.1.1 – Specify the location of each reactor at the site. Provide a site area map that shows property lines, site boundary, principal plant structures, other structures within the site area, exclusion area boundary, and highways, railways, and waterways that traverse the site. Describe the boundaries of the restricted area (per 10 CFR 20) and how access to this area will be controlled. Section 2.1.2 – Address ownership of all lands within the exclusion area. Describe any activities unrelated to plant operation that may be permitted within the exclusion area. Describe how traffic on any highways, railways, or waterways that traverse the exclusion area will be controlled in the event of an emergency. Section 2.1.3 – Describe the population distributions within 50 miles of the site, including any seasonal or transient populations. Specify the low population zone. Identify the nearest population center and the projected cumulative population density. Section 2.2.1 – Provide maps showing the location and distance from the nuclear plant of all significant industrial facilities, military installations, oil and gas pipelines, etc. Also show any nearby air traffic patterns or transportation routes. Section 2.2.2 – Describe all significant industrial facilities, military installations, oil and gas pipelines, etc. Detail products manufactured and shipped of a hazardous nature, relationship of shipping to the intake structure, and airport operations. Also provide a projection of future growth of existing and new types of activities in the vicinity of the plant. Section 2.2.3 – Determine the design basis external events considering explosions, flammable vapor clouds, toxic chemical, fires, collisions with the intake structure, and liquid spills and evaluate the effects of these events on safety-related SSCs. Section 2.3.1 – Describe the: 1) general climate of the region, 2) seasonal and annual frequencies of severe weather phenomena, 3) meteorological data used for evaluating the performance of the ultimate heat sink, 4) design basis tornado, and 5) all other regional meteorological and air quality conditions used for design and operating basis considerations. Section 2.3.2 – Provide monthly and annual summaries of: 1) wind roses and wind persistence, 2) air/dewpoint temperatures, 3) extremes of atmospheric water vapor, 4) precipitation, 5) fog and smog, and 6) atmospheric stability, 7) monthly mixing height data, 8) and hourly averages of wind speed and direction. Discuss and evaluate the potential impact of the plant on the meteorological parameters.

Provide all local meteorological and air quality conditions used for design and operating basis considerations.

Section 2.3.3 – Describe the preoperational and operational programs for meteorological measurements at the site. Provide joint frequency distributions of wind speed and direction by atmospheric stability class.

Section 2.3.4 – Provide conservative and realistic estimates of atmospheric diffusion (χ/Q) at the EA and LPZ. Base diffusion estimates on the most representative meteorological data. Discuss any impacts due to local topography.

Section 2.3.5 – Provide realistic estimates of annual average atmospheric transport and diffusion characteristic to a distance of 50 miles from the plant. Provide a detailed description of the model used to calculate realistic annual average χ/Q values. Provide a calculation of the maximum annual average χ/Q at or beyond the site boundary for each venting location.

Section 2.4.1 – Describe the site and all safety-related elevations, structures, exterior accesses, equipment, and systems from the standpoint of hydrologic considerations. Describe the location, size, shape, and other hydrologic characteristics of streams, lakes, shore regions, and ground water environments influencing plant siting. Include a description of existing and proposed water control structures, both upstream and downstream, that may influence conditions at the site.

Section 2.4.2 – Provide date, level, peak discharge, and related information for major historical flood events in the site region. The considerations taken to determine the design basis flood elevation, as well as the elevation itself should be discussed. The effects of local intense precipitation at the site should be discussed.

Section 2.4.3 – Indicate the methodology and approach used to determine the PMF level. Include discussion on development of PMP, precipitation losses, runoff models, PMF flow hydrograph, water level determination, and coincident wave activity.

Section 2.4.4 – Discuss the investigation of seismically induced floods including results for seismically induced dam failures and antecedent flood flows coincident with the flood peak.

Section 2.4.5 – Discuss the maximum water levels associated with the probable maximum surge and seiche flooding at the site. Areas to be considered include the probable maximum hurricane or other probable maximum wind, antecedent water levels, coincident wave action and run-up and resonance.

Section 2.4.6 – Discuss historical tsunami, either recorded or translated and inferred, that provide information for use in determining the probable maximum water levels and the geoseismic generating mechanisms available.

Section 2.4.7 – Describe potential icing effects and design criteria for protecting safety-related facilities from the most severe ice jam flood, wind-driven ice ridges, or other ice-produced effects and forces that are reasonably possible and could affect safety-related facilities with respect to adjacent streams, lakes for both high and low water levels.

Section 2.4.8 – Present the design basis for the capacity and operating plan for safety-related cooling water canals and reservoirs.

Section 2.4.9 – Discuss the potential for upstream diversion or rerouting of the source of cooling water.

Section 2.4.10 – Describe the static and dynamic consequences of all types of flooding on each pertinent safety-related facility. Present the design bases required to ensure that the safety-related facilities will be capable of surviving all design flood conditions.

Section 2.4.11 – Discuss the impact of low water conditions on safety-related facilities as well as cooling water and service water systems. For safety-related structures demonstrate ability to perform adequately with probable minimum flow rate and level. For non-safety-related water supplies, demonstrate that the supply will be adequate during a 100-year drought.

Section 2.4.12 – Describe ability of the surface water environment to disperse, dilute, or concentrate accidental liquid releases of radioactive effluents as related to existing or potential future water users.

Section 2.4.13 (except 2.4.13.3) – Describe the regional and local groundwater aquifers, formations, sources and sinks and onsite groundwater use, including present and projected future use. Describe the effects of present and projected groundwater use on gradients and groundwater or piezometric levels beneath the site. Note any potential groundwater recharge areas. Indicate the range of values and method of determination for vertical and horizontal permeability and total and effective porosity (specific yield). Discuss the potential for reversibility of groundwater flow resulting from local areas of pumping for both plant and non-plant use. Discuss plans, procedures, safeguards, and monitoring programs to be used to protect present and projected groundwater use. Identify existing groundwater users. Discuss the history of groundwater or piezometric level fluctuations beneath and in the vicinity of the site. Provide groundwater or piezometric contour maps of aquifers beneath and in the vicinity of the site.

Section 2.4.13.3 – Provide a conservative analysis of a postulated accidental release of liquid radioactive material at the site.

Section 2.5.1 – Discuss the regional and site geology including:

All geologic and man-made hazards within the site region and relate them to the regional tectonic structures and tectonic provinces, and geomorphology.

Identify and describe tectonic structures underlying the region surrounding the site and discuss their geologic history.

Detailed discussions of regional tectonic structures of significance to the site.

Structural geology in the vicinity of the site.

The relationship of the site structure to regional tectonics, with particular attention to specific structural units such as folds, faults, anticlines, synclines, domes, and basins.

Section 2.5.2 – Determine the SSE and OBE design ground motion based on identification of tectonic provinces or active geologic structures with which earthquake activity in the region can be associated.

Section 2.5.3 – Information should be provided to describe whether there exists a potential for surface faulting at the site.

Section 2.5.4 – Present information that thoroughly defines the conditions and engineering properties of both soil and/or rock supporting nuclear power plants. The stability of the soils and rock under plant structures should be evaluated both for static and dynamic loading conditions. Both the operating and safe shutdown earthquakes should be used in the dynamic stability evaluation.

Section 2.5.5 – Present information concerning the static and dynamic stability of all soil or rock slopes, both natural and man-made. Evaluate the stability of the slopes using classic and contemporary methods of analyses. Include in the evaluation, comparative field performance of similar slopes. Include in the stability evaluation of man-made slopes summary data and a discussion of construction procedures, record testing, and instrumentation monitoring.

Section 2.5.6 – Include information related to the investigation, engineering design, proposed construction, and performance of all earth, rock, or earth and rock fill embankments used for plant flood protection or for impounding cooling water required for the operation of the nuclear power plant.

Chapter 15 – Evaluate the response of the plant to postulated disturbances in process variables, malfunctions, or failures of equipment. Examine the effects of anticipated process disturbances and postulated component failures to determine their consequences and to evaluate the capability of the plant to control or accommodate such failures and situations.

Revision	Rev. 3
Date	November 1, 1978
Affected Sections	1.1, 1.4, 1.5, 1.6, 1.7, 1.8, 2.0, 2.1.1, 2.1.2, 2.1.3, 2.2.1, 2.2.2, 2.2.3, 2.3.1, 2.3.2, 2.3.3, 2.3.4, 2.3.5, 2.4.1, 2.4.2, 2.4.3, 2.4.4, 2.4.5, 2.4.6, 2.4.7, 2.4.8, 2.4.9, 2.4.10, 2.4.11, 2.4.12, 2.4.13, 2.5.1, 2.5.2, 2.5.3, 2.5.4, 2.5.5, 2.5.6, Chapter 15

Conformance	Conforms (all except those listed below) Partial Conformance (Sections 2.3.5, 2.4.11, 2.5.4, Chapter 15) Not Required (Section 2.4.13.3) Not Applicable (Sections 2.4.8, 2.5.6)
Exceptions	Specific design information is not provided. Section 2.3.5 – Actual values for venting locations, structural dimensions, and layout would be established during detailed engineering for the selected reactor design. The COL application would provide confirmation that the actual values are acceptable with respect to the evaluation in the ESP SSAR. Section 2.4.11 – Since the Lake Anna water level during drought conditions is determined by many factors in addition to inflow rate (e.g., air temperature and rejected heat load) the 100-year drought condition does not directly apply to Lake Anna and has not been determined. Historic and predicted low water levels and durations are presented. Section 2.4.13.3 – Defer to the COL application. The types of facilities that would be used to store radioactive liquids and any associated inventory are unique to each design. Therefore, it is not feasible to complete this evaluation until a reactor design is selected. Section 2.5.4 – Discussed excavation and backfill in general terms – specific locations, quantities etc. would be addressed in the COL application when details are known. A brief summary of the derivation of the SSE and OBE is provided. Discussed subsurface instrumentation in overall terms – specific locations, types of instrumentation, reading schedule would be addressed in the COL application when details are known. Chapter 15 – Most but not all the accidents listed in RG 1.70 are analyzed (e.g., waste gas decay tank failure not analyzed). The main criteria for selecting the accidents are RG 1.183 and NUREG-0800, as suggested in Chapter 15 of RS-002.
Clarifications	The guidance is written for Part 50 applicants with a known plant design. It is followed to the extent feasible for an ESP application submitted in accordance with Part 52 using the PPE approach. Section 2.4.8 – The cooling water canals and reservoirs at the ESP site are not safety-related. Section 2.5.2 – Per RG 1.165, EPRI 1989, evaluated for any needed updating, provides an acceptable basis for source model description. Section 2.5.6 – No embankments or dams for plant flood protection or cooling water will be constructed.
Document	**Regulatory Guide 1.76, Including March 25, 1988 Interim Staff Position, ALWR Design Basis Tornado**
Title	Design Basis Tornado for Nuclear Power Plants
Description	Defines the design basis tornado.
Revision	[Initial Issue]
Date	April 1974
Affected Sections	2.3.1

Conformance	Conforms
Exception	None
Clarifications	None

Document	**Regulatory Guide 1.77**
Title	Evaluating the Habitability of a Nuclear Power Plant Control Room During a Postulated Hazardous Chemical Release
Description	Provides information, recommendations, and guidance and in general describes an acceptable basis to implement the requirements of 10 CFR 100.
Revision	[Initial Issue]
Date	May 1974
Affected Sections	2.3.4
Conformance	Not Required
Exceptions	Control room impacts would be evaluated in the COL application.
Clarifications	None

Document	**Regulatory Guide 1.78**
Title	Assumptions for Evaluating the Habitability of a Nuclear Power Plant Control Room During a Postulated Hazardous Chemical Release
Description	Sections 2.2.1, 2.2.2, 2.2.3 – Provides guidance for evaluating the habitability of the control room during a postulated hazardous chemical release. Section 2.3.4 – Provides information, recommendations, and guidance and in general describes an acceptable basis to implement the requirements of 10 CFR 100.
Revision	Rev. 1
Date	December 2001
Affected Sections	2.2.1, 2.2.2, 2.2.3, 2.3.4
Conformance	Not Required
Exceptions	Section 2.2.3 – The locations and quantities of chemicals that would be stored for the new units at the ESP site have not been determined, and no detailed control room design parameters are available at this time. The impact on the new units from chemicals stored onsite or nearby would be evaluated in the COL application.
Clarifications	None

Document	**Regulatory Guide 1.91**
Title	Evaluations of Explosions Postulated to Occur on Transportation Routes Near Nuclear Power Plants
Description	Describes methods for ensuring that the risk of damage due to an explosion on a nearby transportation route is sufficiently low.

Revision	Rev. 1
Date	February 1978
Affected Sections	2.2.1, 2.2.2, 2.2.3
Conformance	Conforms
Exceptions	None
Clarifications	None

Document	**Regulatory Guide 1.101**
Title	Emergency Planning and Preparedness for Nuclear Power Reactors
Description	Provides guidance on methods acceptable for complying with regulations for emergency response plans and preparedness at nuclear power reactors.
Revision	Rev. 3
Date	August 1992
Affected Sections	13.3.2, 13.3.4
Conformance	Conforms
Exceptions	Site-specific EALs would be proposed in the COL application.
Clarifications	Revision 4 provides for use of an EAL scheme not referenced in NUREG-0654, Supplement 2. The yet-to-be-selected design may dictate use of another EAL scheme, or a site-specific model may be needed.

Document	**Regulatory Guide 1.102**
Title	Flood Protection for Nuclear Power Plants
Description	Provides guidance on flood protection measures.
Revision	Rev. 1
Date	September 1976
Affected Sections	2.4.2, 2.4.3, 2.4.4, 2.4.5, 2.4.6, 2.4.7, 2.4.8, 2.4.10
Conformance	Conforms
Exceptions	None
Clarifications	None

Document	**Regulatory Guide 1.111**
Title	Methods for Estimating Atmospheric Transport and Dispersion of Gaseous Effluents in Routine Releases from Light-Water-Cooled Reactors
Description	Provides criteria for characterizing atmospheric transport and diffusion conditions for evaluating the consequences of routine releases.
Revision	Rev. 1
Date	July 1977

Affected Sections	2.3.4, 2.3.5
Conformance	Conforms
Exceptions	None
Clarifications	None

Document	**Regulatory Guide 1.113**
Title	Estimating Aquatic Dispersion of Effluents from Accidental and Routine Reactor Releases for the Purpose of Implementing Appendix I
Description	Provides guidance in selecting and using surface water models.
Revision	Rev. 1
Date	April 1977
Affected Sections	2.4.13
Conformance	Not Required
Exceptions	Defer to the COL application. The types of facilities that would be used to store radioactive liquids and any associated inventory are unique to each design. Therefore, it is not feasible to complete this evaluation until a reactor design is selected.

Document	**Regulatory Guide 1.125**
Title	Physical Models for Design and Operation of Hydraulic Structures and Systems for Nuclear Power Plants
Description	Provides guidance on the use of physical models of hydraulic structures and systems.
Revision	Rev. 1
Date	October 1978
Affected Sections	2.4.5, 2.4.6, 2.4.8, 2.4.10
Conformance	Not Required
Exceptions	None
Clarifications	Physical modeling of hydraulic structures is not necessary for the ESP.

Document	**Regulatory Guide 1.132**
Title	Site Investigations for Foundations of Nuclear Power Plants
Description	Provides guidance for site investigation programs.
Revision	Rev. 1/ Proposed Rev. 2 (Draft RG DG-1101)
Date	March 1979 / February 2001
Affected Sections	2.5.1, 2.5.2, 2.5.3, 2.5.4, 2.5.5
Conformance	Conforms (all except those listed below) Partial (Section 2.5.4, 2.5.5)

Exceptions	Section 2.5.4 – Only borings used for cross-hole seismic tests were surveyed for deviation. Only split-spoon and rock core samples were taken. Soil sampling was continuous to 5 m depth and rock coring was continuous in all borings. Appendix D Borings were spaced further apart than recommended because of the general nature of the investigation. Section 2.5.5 – Only borings used for cross-hole seismic tests were surveyed for deviation (DG section 4.3.1.2); only split-spoon and rock core samples were taken (DG section 4.3.2); soil sampling was continuous to 5 m depth and rock coring was continuous in all borings. Appendix D borings were spaced further apart than recommended because of general nature of investigation (DG section 4.3.2.2).
Clarifications	None

Document	**Regulatory Guide 1.138**
Title	Laboratory Investigations of Soils for Engineering Analysis and Design of Nuclear Power Plants
Description	Describes laboratory investigations and testing practices acceptable for determining soil and rock properties and characteristics needed for engineering analysis and design for foundations and earthwork.
Revision	[Initial Issue]/Proposed Rev. 1 (Draft RG DG-1109)
Date	April 1978 / August 2001
Affected Sections	2.5.4, 2.5.5
Conformance	Partial Conformance
Exceptions	No new cyclic triaxial tests were performed since a large number of high quality cyclic triaxial tests had been performed previously. No resonant column tests were performed.
Clarifications	None

Document	**Regulatory Guide 1.145**
Title	Atmospheric Dispersion Models for Potential Accident Consequence Assessments at Nuclear Power Plants
Description	Identifies acceptable methods for choosing χ/Q values for evaluations.
Revision	Rev. 1
Date	November 1982
Affected Sections	2.3.4, 15.2
Conformance	Conforms
Exceptions	None
Clarifications	None

Document	**Regulatory Guide 1.165**

Title	Identification and Characterization of Seismic Sources and Determination of Safe Shutdown Earthquake Ground Motion
Description	Describes acceptable methods to: 1) conduct geological, seismological, and geophysical investigations of the site and region around the site, 2) identify and characterize seismic sources, 3) perform PSHA, and 4) determine the SSE for the site.
Revision	[Initial Issue]
Date	March 1997
Affected Sections	2.5.1, 2.5.2, 2.5.3
Conformance	Conforms (2.5.1, 2.5.3) Partial Conformance (2.5.2)
Exceptions	Section 2.5.2 – The evaluation of vibratory ground motion conforms to RG 1.165 with the exception of the development of the selected SSE ground motion spectrum. The selected spectrum was developed in accordance with an alternate approach as described in Sections 2.5.2 and 2.5.2.6.7.
Clarifications	None

Document	**Regulatory Guide 1.183**
Title	Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Plants
Description	Identifies acceptable evaluation methods and dose acceptance criteria for various design basis accidents using AST.
Revision	[Initial Issue]
Date	July 2000
Affected Sections	15.1, 15.2, 15.3, 15.4
Conformance	Conforms
Exceptions	None
Clarifications	None

Document	**Draft Regulatory Guide DG-1105**
Title	Procedures and Criteria for Assessing Seismic Soil Liquefaction at Nuclear Power Plant Sites
Description	Provides guidance for evaluation of the behavior of soils subjected to earthquake shaking.
Revision	[Initial Issue]
Date	March 2001
Affected Sections	2.5.2, 2.5.4, 2.5.5
Conformance	Conforms (Section 2.5.2) Partial Conformance (Sections 2.5.4, 2.5.5)

Exceptions	Sections 2.5.4, 2.5.5 – For updated analysis for ESP, SPT and CPT values were used. The original analyses using cyclic triaxial test results were modified using newly generated peak accelerations.
Clarifications	None

Document	**Regulatory Guide 4.2**
Title	Preparation of Environmental Reports for Nuclear Power Stations
Description	Provide at least one annual cycle of onsite meteorological data.
Revision	Rev. 2
Date	July 1976
Affected Sections	2.3.3
Conformance	Conforms
Exceptions	None
Clarifications	None

Document	**Regulatory Guide 4.4**
Title	Reporting Procedure for Mathematical Models Selected To Predict Heated Effluent Dispersion in Natural Water Bodies
Description	Reporting Procedure for Mathematical Models Selected To Predict Heated Effluent Dispersion in Natural Water Bodies
Revision	[Initial Issue]
Date	May 1974
Affected Sections	2.4.13
Conformance	Not Required
Exceptions	Defer to the COL application. The types of facilities that would be used to store radioactive liquids and any associated inventory are unique to each design. Therefore, it is not feasible to complete this evaluation until a reactor design is selected.
Clarifications	None

Document	**Regulatory Guide 4.7**
Title	General Site Suitability Criteria for Nuclear Power Stations
Description	Discusses the major site characteristics related to public health and safety that the NRC considers in determining the suitability of the site.
Revision	Rev. 2
Date	April 1998
Affected Sections	2.1.3, 2.3.4, 2.5.1, 2.5.2, 2.5.3, 2.5.4, 13.6
Conformance	Conforms
Exceptions	None
Clarifications	None

1.8.3 Conformance to NRC Review Standard

This section describes conformance to the published draft NRC review standard RS-002 (Reference 1). Draft RS-002, Attachment 2 incorporates and clarifies NRC guidance from the Standard Review Plan (SRP). For each applicable SRP section listed, the corresponding SSAR section(s), and a statement of conformance are provided. Exceptions and clarifications are noted, as appropriate.

RS-002 Section and Title	**2.1.1 Site Location and Description**
Section	2.1.1
Conformance	Conforms
Exceptions	None
Clarifications	None

RS-002 Section and Title	**2.1.2 Exclusion Area Authority and Control**
Sections	2.1.2
Conformance	Conforms
Exceptions	None
Clarifications	None

RS-002 Section and Title	**2.1.3 Population Distribution**
Section	2.1.3
Conformance	Conforms
Exceptions	None
Clarifications	None

RS-002 Section and Title	**2.2.1-2.2.2 Identification of Potential Hazards in Site Vicinity**
Section	2.2.1-2.2.2
Conformance	Conforms
Exceptions	None
Clarifications	None

RS-002 Section and Title	**2.2.3 Evaluation of Potential Accidents**
Section	2.2.3
Conformance	Conforms
Exceptions	None
Clarifications	None

RS-002 Section and Title	**2.3.1 Regional Climatology**
Section	2.3.1
Conformance	Conforms
Exceptions	None
Clarifications	None

RS-002 Section and Title	**2.3.2 Local Meteorology**
Section	2.3.2
Conformance	Conforms
Exceptions	None
Clarifications	None

RS-002 Section and Title	**2.3.3 Onsite Meteorological Measurements Program**
Section	2.3.3
Conformance	Conforms
Exceptions	None
Clarifications	None

RS-002 Section and Title	**2.3.4 Short-Term Dispersion Estimates for Accidental Atmospheric Releases**
Section	2.3.4
Conformance	Conforms (except as noted below)
Exceptions	Atmospheric dispersion estimates for the Control Room from radiological and onsite hazardous material releases would be evaluated in the COL application.
Clarifications	None

RS-002 Section and Title	**2.3.5 Long-Term Diffusion Estimates**
Section	2.3.5
Conformance	Conforms
Exceptions	None
Clarifications	Actual values for venting locations, structural dimensions, and layout would be established during detailed engineering for the selected reactor design. The COL application would provide confirmation that the actual values are acceptable with respect to the evaluation in the ESP SSAR.

RS-002 Section and Title	**2.4.1 Hydrologic Description**
Section	2.4.1
Conformance	Conforms
Exceptions	None
Clarifications	None

RS-002 Section and Title	**2.4.2 Floods**
Section	2.4.2
Conformance	Conforms
Exceptions	None
Clarifications	None

RS-002 Section and Title	**2.4.3 Probable Maximum Flood (PMF) on Streams and Rivers**
Section	2.4.3
Conformance	Conforms
Exceptions	None
Clarifications	None

RS-002 Section and Title	**2.4.4 Potential Dam Failures**
Section	2.4.4
Conformance	Conforms
Exceptions	None
Clarifications	None

RS-002 Section and Title	**2.4.5 Probable Maximum Surge and Seiche Flooding**
Section	2.4.5
Conformance	Conforms
Exceptions	None
Clarifications	None

RS-002 Section and Title	**2.4.6 Probable Maximum Tsunami Flooding**
Section	2.4.6
Conformance	Conforms
Exceptions	None
Clarifications	None

RS-002 Section and Title	**2.4.7 Ice Effects**
Section	2.4.7
Conformance	Conforms
Exceptions	None
Clarifications	None

RS-002 Section and Title	**2.4.9 Channel Diversions**
Section	2.4.9
Conformance	Conforms
Exceptions	None
Clarifications	None

RS-002 Section and Title	**2.4.11 Low Water Considerations**
Section	2.4.11
Conformance	Conforms
Exceptions	None
Clarifications	None

RS-002 Section and Title	**2.4.12 Groundwater**
Section	2.4.12
Conformance	Conforms
Exceptions	None
Clarifications	None

RS-002 Section and Title	**2.4.13 Accidental Releases of Liquid Effluents in Ground and Surface Waters**
Section	2.4.13
Conformance	Not Required
Exceptions	Defer to the COL application. The types of facilities that would be used to store radioactive liquids and any associated inventory are unique to each design. Therefore, it is not feasible to complete this evaluation until a reactor design is selected.
Clarifications	None

RS-002 Section and Title	**2.5.4 Stability of Subsurface Materials and Foundations**
Section	2.5.4
Conformance	Conforms
Exceptions	None

Clarifications	None

RS-002 Section and Title	**2.5.5 Stability of Slopes**
Section	2.5.5
Conformance	Conforms
Exceptions	None
Clarifications	None

RS-002 Section and Title	**3.5.1.6 Aircraft Hazards**
Section	3.5.1.6
Conformance	Conforms
Exceptions	None
Clarifications	None

RS-002 Section and Title	**13.3 Emergency Planning**
Section	13.3
Conformance	Conforms
Exceptions	See Section 13.3.4
Clarifications	See Section 13.3.4

RS-002 Section and Title	**15.0 Radiological Consequences of Design Basis Accidents**
Section	Chapter 15
Conformance	Conforms
Exceptions	None
Clarifications	The PPE approach in RS-002 was used for the evaluation.

RS-002 Section and Title	**17.1.1 Early Site Permit Quality Assurance Controls**
SSAR Section	17
Conformance	Conforms
Exceptions	See Section 17.1, Appendix B
Clarifications	None

Section 1.8 References

1. NRC Draft Review Standard RS-002, Processing Applications for Early Site Permits, December 23, 2002, as supplemented.

Enclosure 3

Updated List of Groundwater Users Identified by EPA

Updated List of Groundwater Users Identified by EPA

In response to RAI 17.1-1, the EPA's Safe Drinking Water Information System was contacted to verify public groundwater use data for Louisa County that was originally obtained from EPA's website in April of 2003. In response to our inquiry, the EPA submitted updated (July 2004) information in written correspondence.

SSAR Section 2.4.12.2, SSAR Table 2.4-19, ER Section 2.3.2.2.1, and ER Table 2.3-11 will be revised to reflect the updated data.

Application Revision

The 8th paragraph of SSAR Section 2.4.12.2 will be revised to read as follows:

There are 45 public water supplies in Louisa County capable of obtaining their water from springs or wells. Data describing these public water supplies are presented in Table 2.4-19. The public supplies closest to the existing units are Lake Anna Plaza, about 2.6 miles to the northwest, and Jerdone Island, about 4.3 miles to the south-southeast. Based on their distance from the ESP site and the presence of one or more arms of Lake Anna between the site and these public water supplies, any impact the new units may have on the aquifers beneath the site is not expected to affect these supplies. Likewise, withdrawal by these public supplies would not affect the ability of the new units to withdraw groundwater for potable water needs.

Reference 58 of SSAR Section 2.4 References will be revised to read as follows:

58. *Safe Drinking Water Information System (SDWIS), Virginia, Louisa County*, U.S. Environmental Protection Agency, letter from Karen D. Johnson to Bechtel Power Corporation, July 14, 2004.

SSAR Table 2.4-19 will be replaced as shown on the following pages.

Table 2.4-19 Public Groundwater Supplies In Louisa County

Installation	Type[a]	Water Source	Depth (ft)	Measured Yield (gpd)	Design Yield (gpd)	Population Served [a]	Active/ Inactive[a]
Town of Louisa [b] (primary source is surface water)	Community	spring	NA	38,880		1950	
		3 wells	200–405	43,200–53,280			
Town of Mineral [b]	Community	2 springs	NA	57,600		670	A
		4 wells	200–600	14,400–165,600			
Acorn West Trailer Park [b]	Community	well	120	8640		70	I
Apple Grove School[a]	Transient Non-Community					200	I
Blue Ridge Shores [b]	Community	4 wells	163–405	288,000	160,000	1450	A
Bumpass Park/Lake Anna Rescue [a]	Transient Non-Community					250	A

a. Reference 58

b. Reference 50

Table 2.4-19 Public Groundwater Supplies In Louisa County

Installation	Type[a]	Water Source	Depth (ft)	Measured Yield (gpd)	Design Yield (gpd)	Population Served [a]	Active/ Inactive[a]
Burger King Zion Crossroads [a]	Transient Non-Community					250	A
Cable Form [a]	Transient Non-Community					11	I
Christopher Run Campground [a]	Transient Non-Community					608	A
Country Side II [a]	Transient Non-Community					50	I
Crescent Inn Restaurant [a]	Transient Non-Community					150	A
Crossing Point (VA Oil Co) [b]	Non-Transient Non-Community	2 wells	305	21,600–28,800	10,400	45	A
Deb's Place [a]	Transient Non-Community					50	I

Table 2.4-19 Public Groundwater Supplies In Louisa County

Installation	Type[a]	Water Source	Depth (ft)	Measured Yield (gpd)	Design Yield (gpd)	Population Served [a]	Active/ Inactive[a]
East End Elementary School (b)		well	345	61,920	31,200		
Expressions Learning Center [b]	Non-Transient Non-Community	well	205	17,280		45	A
Green Springs School [a]	Transient Non-Community					300	I
Jerdone Island [b,c]	Community	well	200	83,520	19,600	49	A
Jouette Elementary School [b]	Non-Transient Non-Community	well	345	61,920	19,600	741	A
Junction Restaurant [a]	Transient Non-Community					25	I
Junction Restaurant [a]	Transient Non-Community					50	I

c. Reference 59

Table 2.4-19 Public Groundwater Supplies In Louisa County

Installation	Type[a]	Water Source	Depth (ft)	Measured Yield (gpd)	Design Yield (gpd)	Population Served [a]	Active/ Inactive[a]
Klockner Barrier Films [b]		well	305	53,280	22,000		
Klockner-Pentaplast [b]	Non-Transient Non-Community	2 wells	205 - 280	21,600 - 57,600	44,000	526	A
Lake Anna Estates Trailer Park [a]	Community					50	I
L A Pizza [a]	Transient Non-Community					25	I
Lake Anna Plaza [d]	Community	2 wells	335 - 230	11,520 - 86,400	41,200	100	A
Louisa County Senior Center [a]	Transient Non-Community					45	I
Louisa County Water Authority (a,b)	Non-Transient Non-Community	well	550	34,560		192	I

d. Reference 60

Table 2.4-19 Public Groundwater Supplies In Louisa County

Installation	Type[a]	Water Source	Depth (ft)	Measured Yield (gpd)	Design Yield (gpd)	Population Served [a]	Active/ Inactive[a]
Louisa County Zion Crossroads [a]	Non-Transient Non-Community					600	A
Louisa Day Care Center [a]	Transient Non-Community					30	I
Louisa Intermediate School [a]	Transient Non-Community					900	I
Mount Garland School [a]	Transient Non-Community					140	I
Ole Country Inn [a]	Transient Non-Community					50	I
Prospect Hill [a]	Transient Non-Community					50	A

Table 2.4-19 Public Groundwater Supplies In Louisa County

Installation	Type[a]	Water Source	Depth (ft)	Measured Yield (gpd)	Design Yield (gpd)	Population Served [a]	Active/ Inactive[a]
Raynell's [a]	Transient Non-Community					25	I
Sandra Carter [a]	Community					36	I
Shenandoah Crossing [b]	Non-Transient Non-Community	2 wells	280 - 300	123,840 - 97,920	98,400	850	A
Siebert's Amoco & Dairy Queen [a]	Transient Non-Community					950	A
Six-o-Five Village (b)	Community	2 wells	310 - 365	64,800 - 10,800	10,700	201	A
Small Country Campground [a]	Transient Non-Community					112	A
Tavern on the Rail (a)	Transient Non-Community					150	A

Table 2.4-19 Public Groundwater Supplies In Louisa County

Installation	Type[a]	Water Source	Depth (ft)	Measured Yield (gpd)	Design Yield (gpd)	Population Served [a]	Active/ Inactive[a]
Trevillians Elementary School (b)	Non-Transient Non-Community	well	204	57,600	19,600	676	A
Trevilians Square Apartments [a]	Community					61	A
Twin Oaks Community [b]	Community	well	250 [e]	7200		75	A
West End Elementary School (b)		well	204	57,600	20,000		
Wooden Nickle [a]	Transient Non-Community					25	I

Note: Blank entries indicate data not provided in cited reference.

e. Reference 1

The 6th paragraph of ER Section 2.3.2.2.1 will be revised to read as follows:

> There are 45 public water supplies in Louisa County capable of obtaining their water from springs or wells. Data describing these public water supplies are presented in Table 2.3-11. The public supplies closest to the existing units are Lake Anna Plaza, about 2.6 miles to the northwest, and Jerdone Island, about 4.3 miles to the south-southeast. Based on their distance from the ESP site and the presence of one or more arms of Lake Anna between the site and these public water supplies, any impact the new units may have on the aquifers beneath the site is not expected to affect these supplies. Likewise, withdrawal by these public supplies is not expected to affect the ability of the new units to withdraw groundwater for potable water needs.

Reference 38 of ER Section 2.3 References will be revised to read as follows:

> 38. *Safe Drinking Water Information System (SDWIS), Virginia, Louisa County*, U.S. Environmental Protection Agency, letter from Karen D. Johnson to Bechtel Power Corporation, July 14, 2004.

ER Table 2.3-11 will be replaced as shown on the following pages.

Table 2.3-11 Public Groundwater Supplies In Louisa County

Installation	Type[a]	Water Source	Depth (ft)	Measured Yield (gpd)	Design Yield (gpd)	Population Served [a]	Active/ Inactive[a]
Town of Louisa [b] (primary source is surface water)	Community	spring	NA	38,880		1950	
		3 wells	200–405	43,200–53,280			
Town of Mineral [b]	Community	2 springs	NA	57,600		670	A
		4 wells	200–600	14,400–165,600			
Acorn West Trailer Park [b]	Community	well	120	8640		70	I
Apple Grove School[a]	Transient Non-Community					200	I
Blue Ridge Shores [b]	Community	4 wells	163–405	288,000	160,000	1450	A
Bumpass Park/Lake Anna Rescue [a]	Transient Non-Community					250	A

a. Reference 38

b. Reference 25

Table 2.3-11 Public Groundwater Supplies In Louisa County

Installation	Type[a]	Water Source	Depth (ft)	Measured Yield (gpd)	Design Yield (gpd)	Population Served [a]	Active/ Inactive[a]
Burger King Zion Crossroads [a]	Transient Non-Community					250	A
Cable Form [a]	Transient Non-Community					11	I
Christopher Run Campground [a]	Transient Non-Community					608	A
Country Side II [a]	Transient Non-Community					50	I
Crescent Inn Restaurant [a]	Transient Non-Community					150	A
Crossing Point (VA Oil Co) [b]	Non-Transient Non-Community	2 wells	305	21,600–28,800	10,400	45	A
Deb's Place [a]	Transient Non-Community					50	I

Table 2.3-11 Public Groundwater Supplies In Louisa County

Installation	Type[a]	Water Source	Depth (ft)	Measured Yield (gpd)	Design Yield (gpd)	Population Served [a]	Active/ Inactive[a]
East End Elementary School (b)		well	345	61,920	31,200		
Expressions Learning Center [b]	Non-Transient Non-Community	well	205	17,280		45	A
Green Springs School [a]	Transient Non-Community					300	I
Jerdone Island [b,c]	Community	well	200	83,520	19,600	49	A
Jouette Elementary School [b]	Non-Transient Non-Community	well	345	61,920	19,600	741	A
Junction Restaurant [a]	Transient Non-Community					25	I
Junction Restaurant [a]	Transient Non-Community					50	I

c. Reference 39

Table 2.3-11 Public Groundwater Supplies In Louisa County

Installation	Type[a]	Water Source	Depth (ft)	Measured Yield (gpd)	Design Yield (gpd)	Population Served [a]	Active/ Inactive[a]
Klockner Barrier Films [b]		well	305	53,280	22,000		
Klockner-Pentaplast [b]	Non-Transient Non-Community	2 wells	205 - 280	21,600 - 57,600	44,000	526	A
Lake Anna Estates Trailer Park [a]	Community					50	I
L A Pizza [a]	Transient Non-Community					25	I
Lake Anna Plaza [d]	Community	2 wells	335 - 230	11,520 - 86,400	41,200	100	A
Louisa County Senior Center [a]	Transient Non-Community					45	I
Louisa County Water Authority (a,b)	Non-Transient Non-Community	well	550	34,560		192	I

d. Reference 40

Table 2.3-11 Public Groundwater Supplies In Louisa County

Installation	Type[a]	Water Source	Depth (ft)	Measured Yield (gpd)	Design Yield (gpd)	Population Served [a]	Active/ Inactive[a]
Louisa County Zion Crossroads [a]	Non-Transient Non-Community					600	A
Louisa Day Care Center [a]	Transient Non-Community					30	I
Louisa Intermediate School [a]	Transient Non-Community					900	I
Mount Garland School [a]	Transient Non-Community					140	I
Ole Country Inn [a]	Transient Non-Community					50	I
Prospect Hill [a]	Transient Non-Community					50	A
Raynell's [a]	Transient Non-Community					25	I

Table 2.3-11 Public Groundwater Supplies In Louisa County

Installation	Type[a]	Water Source	Depth (ft)	Measured Yield (gpd)	Design Yield (gpd)	Population Served [a]	Active/ Inactive[a]
Sandra Carter [a]	Community					36	I
Shenandoah Crossing [b]	Non-Transient Non-Community	2 wells	280 - 300	123,840 - 97,920	98,400	850	A
Siebert's Amoco & Dairy Queen [a]	Transient Non-Community					950	A
Six-o-Five Village (b)	Community	2 wells	310 - 365	64,800 - 10,800	10,700	201	A
Small Country Campground [a]	Transient Non-Community					112	A
Tavern on the Rail (a)	Transient Non-Community					150	A
Trevillians Elementary School (b)	Non-Transient Non-Community	well	204	57,600	19,600	676	A
Trevilians Square Apartments [a]	Community					61	A

Table 2.3-11 Public Groundwater Supplies In Louisa County

Installation	Type[a]	Water Source	Depth (ft)	Measured Yield (gpd)	Design Yield (gpd)	Population Served [a]	Active/ Inactive[a]
Twin Oaks Community [b]	Community	well	250 [e]	7200		75	A
West End Elementary School (b)		well	204	57,600	20,000		
Wooden Nickle [a]	Transient Non-Community					25	I

Note: Blank entries indicate data not provided in cited reference.

e. Reference 1