



Certified Mail
Return Receipt Requested

September 27, 2001

Ms. Ellie Irons
Virginia Department of Environmental Quality
P.O. Box 10009
629 Main Street
Richmond, VA 23240

**RE: Coastal Zone Consistency Certifications for Surry and North Anna
Power Stations**

Dear Ms. Irons:

As we discussed recently by phone, Dominion is furnishing for review by appropriate state agencies the enclosed copies of our coastal zone Federal Consistency Certifications for renewal of licenses to operate Surry Power Station and North Anna Power Station. It is my understanding that the Department of Environmental Quality serves as lead coordinator for this activity, which is consistent with the requirements of the federal Coastal Zone Management Act. Also enclosed is a description of the purpose and need for the proposed action.

Dominion is applying to the Nuclear Regulatory Commission (NRC) to renew the operating licenses of Surry and North Anna Power Stations. As part of this process, for each station, Dominion submitted an environmental report to NRC. Appendix E of each report includes Dominion's certification that license renewal would be consistent with the federally approved Virginia Coastal Zone Management Program. The NRC will issue EIS drafts for public comment prior to finalization. NRC and Dominion prefer that each draft EIS be complete so that no outstanding issues remain when NRC presents it to the public for review, which is expected to be published in April 2002. To this end, Dominion requests that the consistency reviews are completed by February 1, 2002 so that NRC can include the review results in each draft EIS.

A 001

Ms. Ellie Irons
September 27, 2001
Page 2

NRC will use the environmental reports as input in preparing an environmental impact statement (EIS) for each plant. If any reviewer would like to review either of the environmental reports, Dominion can provide a hard copy or the reviewer can find the documents in a searchable format at the following web addresses:

Surry:

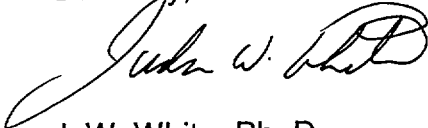
www.nrc.gov/NRC/REACTOR/LR/dominion/surry/env_report/env_index.html

North Anna:

www.nrc.gov/NRC/REACTOR/LR/dominion/north_anna/env_report/env_index.html

Thank you for coordinating this review. If you have questions, please call me at 804-273-2948 or Tony Banks at 804-273-2170.

Sincerely,



J. W. White, Ph. D.
Manager - Water/Waste Programs

cc: A. Kugler - NRC
Pamela Faggert
Tony Banks

Enclosures:

- Surry Power Station Coastal Zone Management Act Consistency Certification
- Surry Environmental Report Introduction
- North Anna Power Station Coastal Zone Management Act Consistency Certification
- North Anna Environmental Report Introduction

APPENDIX E
COASTAL ZONE MANAGEMENT ACT CONSISTENCY CERTIFICATION

FEDERAL CONSISTENCY CERTIFICATION FOR FEDERAL PERMIT AND LICENSE APPLICANTS¹

The Federal Coastal Zone Management Act (16 USC 1451 et seq.) imposes requirements on an applicant for a Federal license to conduct an activity that could affect a state's coastal zone. The Act requires the applicant to certify to the licensing agency that the proposed activity would be consistent with the state's Federally approved coastal zone management program. The Act also requires the applicant to provide to the state a copy of the certification statement and requires the state, at the earliest practicable time, to notify the Federal agency and the applicant whether the state concurs or objects to the consistency certification. See 16 USC 1456(c)(3)(A).

The National Oceanic and Atmospheric Administration has promulgated implementing regulations that indicate that the certification requirement is applicable to renewal of Federal licenses for activities not previously reviewed by the State (15 CFR 930.51[b][1]). The Administration has also published documentation of the Virginia program (Ref. 2). Like many states, Virginia has a "networked" program, which means that it is based on a variety of existing Commonwealth authorities rather than a single law and set of regulations. The Virginia Department of Environmental Quality administers Virginia's Coastal Resources Management Program and has identified enforceable regulatory authorities that comprise the program (Ref. 3).

CONSISTENCY CERTIFICATION

Dominion has determined that U. S. Nuclear Regulatory Commission (NRC) renewal of the Surry Power Station (SPS) licenses to operate would comply with the federally approved Virginia Coastal Resources Management Program. Dominion expects SPS operations during the license renewal term to be a continuation of current operations as described below, with no changes that would affect Virginia's coastal zone.

NECESSARY DATA AND INFORMATION

Proposed Action

SPS is located on the James River in Surry County, Virginia. SPS transmission lines traverse the Virginia Counties of Prince George, Charles City, Surry, Isle of Wight, Suffolk, and Chesapeake. The Virginia Department of Environmental Quality lists all these counties as being within the Virginia Coastal Resources Management Area. Figures E-1 and E-2 show the SPS 50-mile and 6-mile regions, respectively, and Figure E-3 shows the SPS transmission line corridors.

1. This certification is patterned after the draft model certification included as Attachment 6 of Reference 1.

Appendix E

SPS uses uranium dioxide fuel in 2 nuclear reactors to produce steam in turbines that generate approximately 1,600 megawatts of electricity for offsite use. Dominion operates SPS Units 1 and 2 in accordance with NRC licenses DPR-32 and DPR-37, respectively. The Unit 1 license will expire May 25, 2012, and the Unit 2 license on January 29, 2013. Dominion is applying to NRC for renewal of both licenses, which would enable 20 additional years of operation (i.e., until May 25, 2032, for Unit 1 and January 29, 2033, for Unit 2).

SPS withdraws at maximum approximately 1.7 million gallons per minute of water from the James River through a shore-side intake, primarily for non-contact cooling of spent steam. Dominion performs periodic maintenance dredging in the river in front of the intake in accordance with permits from the U. S. Army Corps of Engineers and the Virginia Marine Resources Commission (see Table E- for permit information). SPS discharges the heated effluent (11.9×10^9 British thermal units per hour) through a canal to the river. The highest discharge temperature recorded during a comprehensive 5-year study was 99.9°F. Dominion holds a Virginia Pollutant Discharge Elimination System permit for this and other plant and stormwater discharges. In accordance with permit conditions, Dominion monitors discharge characteristics and reports results to the Virginia Department of Environmental Quality.

SPS uses approximately 220 gallons per minute of groundwater for domestic, process, and cooling purposes. The site is located within the Eastern Virginia Groundwater Management Area, an area that the Commonwealth established to better manage its groundwater resources. Dominion holds Virginia Department of Environmental Quality permit GW0003900 for the SPS groundwater appropriation. In accordance with permit conditions, Dominion monitors groundwater usage and reports results to the Virginia Department of Environmental Quality.

Dominion holds permits and annually re-registers several air emission sources at SPS. Most of these sources are emergency equipment (e.g., generators) for safe plant operation in case of loss of other power sources. As such, the sources generally operate for minimal periods of time for testing purposes.

Dominion employs approximately 880 workers at SPS, with an additional 70-110 contract and matrixed employees. Approximately 60 percent of the employees live in Isle of Wight, James City or Surry Counties, or the City of Newport News. Once or twice a year, as many as 700 additional workers are onsite during refueling outages. In compliance with NRC regulations, Dominion has analyzed the effects of SPS aging and identified activities needed to safely operate for an additional 20 years. Although Dominion does not expect to have to add additional staff to perform these activities, Dominion has assumed as many as 60 additional staff for impact analysis purposes.

Environmental Impacts

NRC has prepared a generic environmental impact statement (GEIS) on impacts that nuclear power plant operations can have on the environment (Ref. 4) and has codified its findings (10 CFR

Appendix E

51, Subpart A, Appendix B, Table B-1). The codification identifies 92 potential environmental issues, 69 of which NRC identifies as having small impacts and calls "Category 1" issues. NRC defines "small" as follows:

Small – For the issue, environmental effects are not detectable or are so minor that they will neither destabilize nor noticeably alter any important attribute of the resource. For the purpose of assessing radiological impacts, the Commission has concluded that those impacts that do not exceed permissible levels in the Commission's regulations are considered small as the term is used in this table. (10 CFR 51, Subpart A, Appendix B, Table B-1).

The NRC codification and the GEIS discuss the following types of Category 1 environmental issues:

- Surface water quality, hydrology, and use
- Aquatic ecology
- Groundwater use and quality
- Terrestrial resources
- Air quality
- Land use
- Human health
- Postulated accidents
- Socioeconomics
- Uranium fuel cycle and waste management
- Decommissioning

In its decisionmaking for plant-specific license renewal applications, absent new and significant information to the contrary, NRC will rely on its codified findings, as amplified by supporting information in the GEIS, for assessment of environmental impact from Category 1 issues (10 CFR 51.95[c][4]). For plants such as SPS that are located in the coastal zone, many of these issues involve impact to the coastal zone. Dominion has adopted by reference the NRC findings and GEIS analyses for all 51² applicable Category 1 issues.

The NRC regulation identifies 21 issues as "Category 2," for which license renewal applicants must submit additional site-specific information.³ Of these, 12 apply to SPS⁴ and, like the Category 1

-
2. The other 18 Category 1 issues apply to design or operational features that SPS does not have (e.g., cooling towers) or to an activity, refurbishment, that Dominion will not undertake.
 3. 10 CFR 51, Subpart A, Appendix B, Table B-1 also identifies 2 issues as "NA," for which NRC could not come to a conclusion regarding categorization. Dominion believes that these issues, chronic effects of electromagnetic fields and environmental justice, do not affect the "coastal zone" as that phrase is defined by the Coastal Zone Management Act [16 USC 1453(1)].
 4. The rest apply to design or operational features that SPS does not have (e.g., cooling towers) or to an activity, refurbishment, that Dominion will not undertake.

Appendix E

issues, could involve impact to the coastal zone. The applicable issues and Virginia Power's impact conclusions are listed below:

- Aquatic ecology

- Entrainment of fish and shellfish in early life stages – This issue addresses mortality of organisms small enough to pass through the plant's circulating cooling water system. Dominion has conducted studies of this issue under direction of the Commonwealth and, in issuing the plant's discharge permit, the Commonwealth has approved the plant's intake structure as best available technology to minimize impact. Dominion concludes that these impacts are small during current operations and has no plans that would change this conclusion for the license renewal term.
- Impingement of fish and shellfish – This issue addresses mortality of organisms large enough to be caught by intake screens before passing through the plant's circulating cooling water system. The studies and permit discussed above also address impingement. Dominion concludes that these impacts are small during current operations and has no plans that would change this conclusion for the license renewal term.
- Heat shock – This issue addresses mortality of aquatic organisms caused by exposure to heated plant effluent. Dominion has conducted studies of this issue under direction of the Commonwealth and, in issuing the plant's discharge permit, the Commonwealth has determined that more stringent limits on the heated effluent are not necessary to protect the aquatic environment. Dominion concludes that these impacts are small during current operations and has no plans that would change this conclusion for the license renewal term.

- Groundwater use and quality

- Groundwater use conflicts – This issue addresses effects that SPS groundwater withdrawals could have on offsite groundwater users. Dominion has calculated that withdrawals during the license renewal term would lower groundwater levels less than 0.5 feet in the nearest offsite well. Dominion concludes that this impact is small.
- Threatened or endangered species – This issue addresses effects that SPS operations could have on species that are listed under federal law as threatened or endangered. In analyzing this issue, Dominion has also considered species that are listed under Commonwealth of Virginia law. Several species could occur on the SPS site, in the site vicinity in the James River, or along associated transmission corridors. Dominion environmental studies and environmental protection programs have identified no adverse impacts to such species and Dominion consultation with cognizant Federal and Commonwealth agencies has identified no impacts of concern. Dominion concludes that

Appendix E

SPS impacts to these species are small during current operations and has no plans that would change this conclusion for the license renewal term.

- Human health

- Electromagnetic fields, acute effects (electric shock) – This issue addresses the potential for shock from induced currents, similar to static electricity effects, in the vicinity of transmission lines. Because this strictly human-health issue does not directly or indirectly affect natural resources of concern within the Coastal Zone Management Act definition of "coastal zone"(16 USC 1453[1]), Dominion concludes that the issue is not subject to the certification requirement.

- Socioeconomics

As a result of its studies on managing the effects of SPS aging, Dominion expects to perform license renewal activities without adding staff. As a conservative measure, however, Dominion has assumed, for the purposes of socioeconomic impact analysis, adding as many as 60 additional employees. Dominion assumes that these employees would find housing in the same locales where current employees reside.

- Housing – This issue addresses impacts on local housing availability that could occur as a result of Dominion adding license renewal term workers and the community gaining additional indirect jobs. NRC concluded, and Virginia Power concurs, that impacts would be small for plants located in high population areas having no growth control measures. Using the NRC definitions and categorization methodology, SPS is located in a high population area and locations where additional employees would probably live have no growth control measures. Dominion concludes that impacts during the SPS license renewal term would be small.
- Public services: public utilities – This issue addresses impacts that adding license renewal term workers could have on public water supply systems. Dominion has analyzed public water supply availability in candidate locales and has found no system limitations that would suggest that additional SPS workers would cause significant impacts. Therefore, Dominion has concluded that impacts during the SPS license renewal term would be small.
- Offsite land use – This issue addresses impacts that local government spending of plant property tax dollars can have on land use patterns. SPS property taxes are a large portion of the Surry County revenue and Dominion expects this to remain generally unchanged during the license renewal term. Land use patterns within the County, however, have not shown significant change since Dominion began making these payments. Based on past practices, Dominion concludes that impacts during the SPS license renewal term would be small.

Appendix E

- Public services: transportation – This issue addresses impacts that adding license renewal term workers could have on local traffic patterns. The primary access route to SPS carries a Commonwealth categorization (Level of Service = A) that indicates free flow of the traffic stream and that users are unaffected by the presence of others. NRC concluded, and Dominion concurs, that license renewal impacts in such cases would be small.
- Historic and archaeological resources – This issue address impacts that license renewal activities could have on resources of historic or archaeological significance. No such resources have been identified on the SPS site or associated transmission lines and Dominion has no plans for license renewal activities that would disturb unknown resources. Dominion consultation with the State Historic Preservation Officer has identified no issues of concern.
- Postulated accidents
 - Severe accidents – NRC determined that the license renewal impacts from severe accidents would be small, but determined that applicants should perform site-specific analyses of ways to further mitigate impacts. Dominion used NRC methodology to conduct a severe accident mitigation alternatives analysis and found one mitigation measure that might be cost-effective, but is unrelated to aging management or, therefore, to license renewal.

Findings

1. NRC has found that the environmental impacts of Category 1 issues are small. Dominion has adopted by reference NRC findings for Category 1 issues applicable to SPS.
2. For Category 2 issues applicable to SPS, Dominion has determined that the environmental impact is small.
3. To the best of Dominion's knowledge, SPS is in compliance with Virginia licensing and permitting requirements and is in compliance with its Commonwealth-issued licenses and permits.
4. Dominion's license renewal and continued operation of SPS would be consistent with the enforceable provisions of the Virginia coastal zone management program.

STATE NOTIFICATION

By this certification that SPS license renewal is consistent with Dominion's coastal zone management program, the Commonwealth of Virginia is notified that it has three months from receipt of this letter and accompanying information in which to concur or object with Virginia Power's certification. However, pursuant to 15 CFR 930.63(b), if the Commonwealth of Virginia has not issued a decision within three months following the commencement of state agency review, it shall

Appendix E

notify the contacts listed below of the status of the matter and the basis for further delay. The Commonwealth's concurrence, objection, or notification of review status shall be sent to:

US Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Rockville, MD. 20852-2738

Tony Banks
Dominion
Innsbrook Technical Center
500 Dominion Blvd.
Glen Allen Va. 23060

REFERENCES

1. *NRR Office Letter No. 906, Revision 2. "Procedural Guidance for Preparing Environmental Assessments and Considering Environmental Issues."* U. S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation. September 21, 1999.
2. *Virginia Coastal Resources Management Program Final Environmental Impact Statement.* U.S. Department of Commerce and Council on the Environment. Commonwealth of Virginia. July 1985. Reprinted April 1999.
3. *Enforceable Regulatory Programs comprising Virginia's Coastal Resources Management Program.* Commonwealth of Virginia. Department of Environmental Quality. Undated.
4. *Generic Environmental Impact Statement for License Renewal of Nuclear Plants.* U.S Nuclear Regulatory Commission. May 1996.

FIGURE E-1

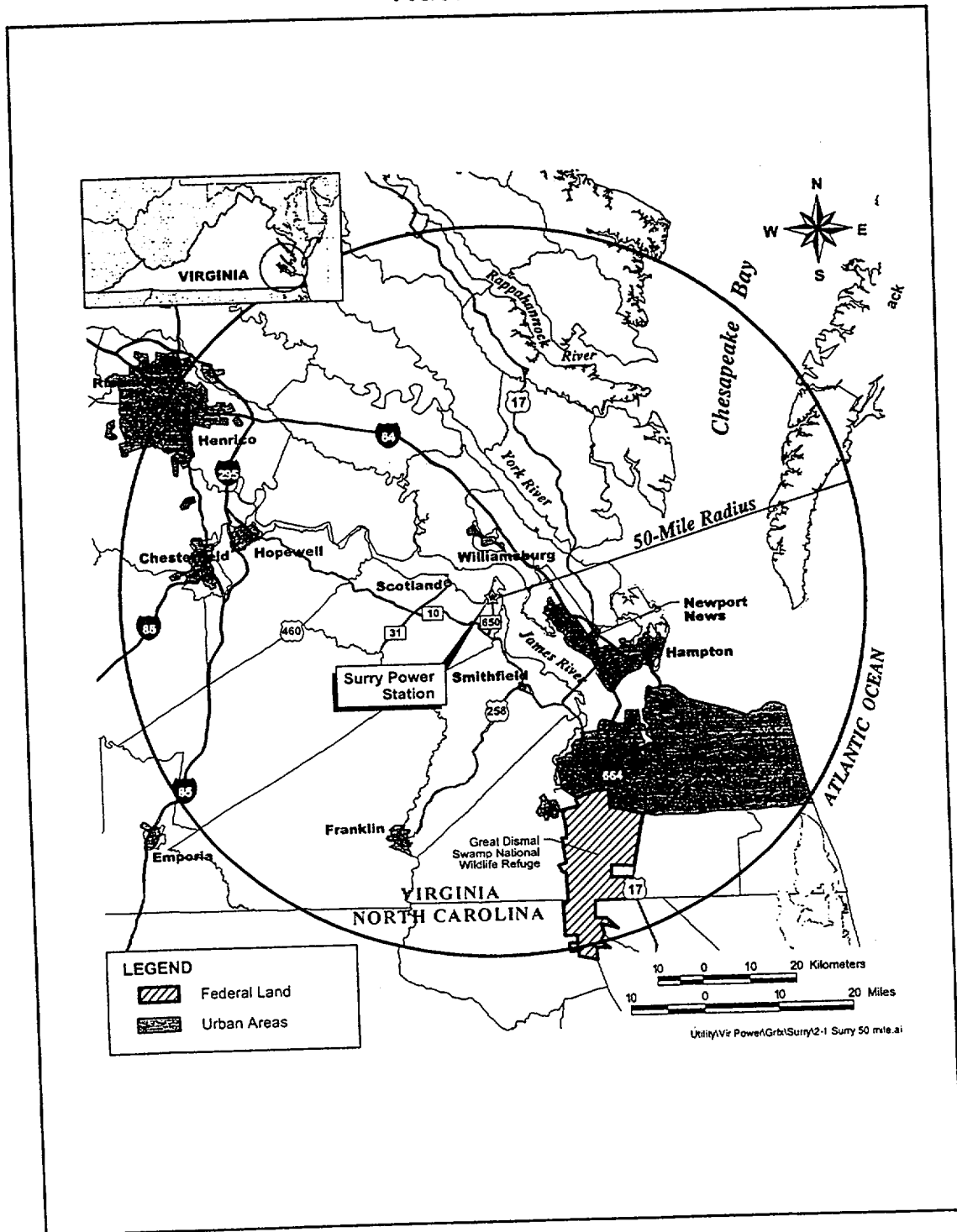


FIGURE E-2

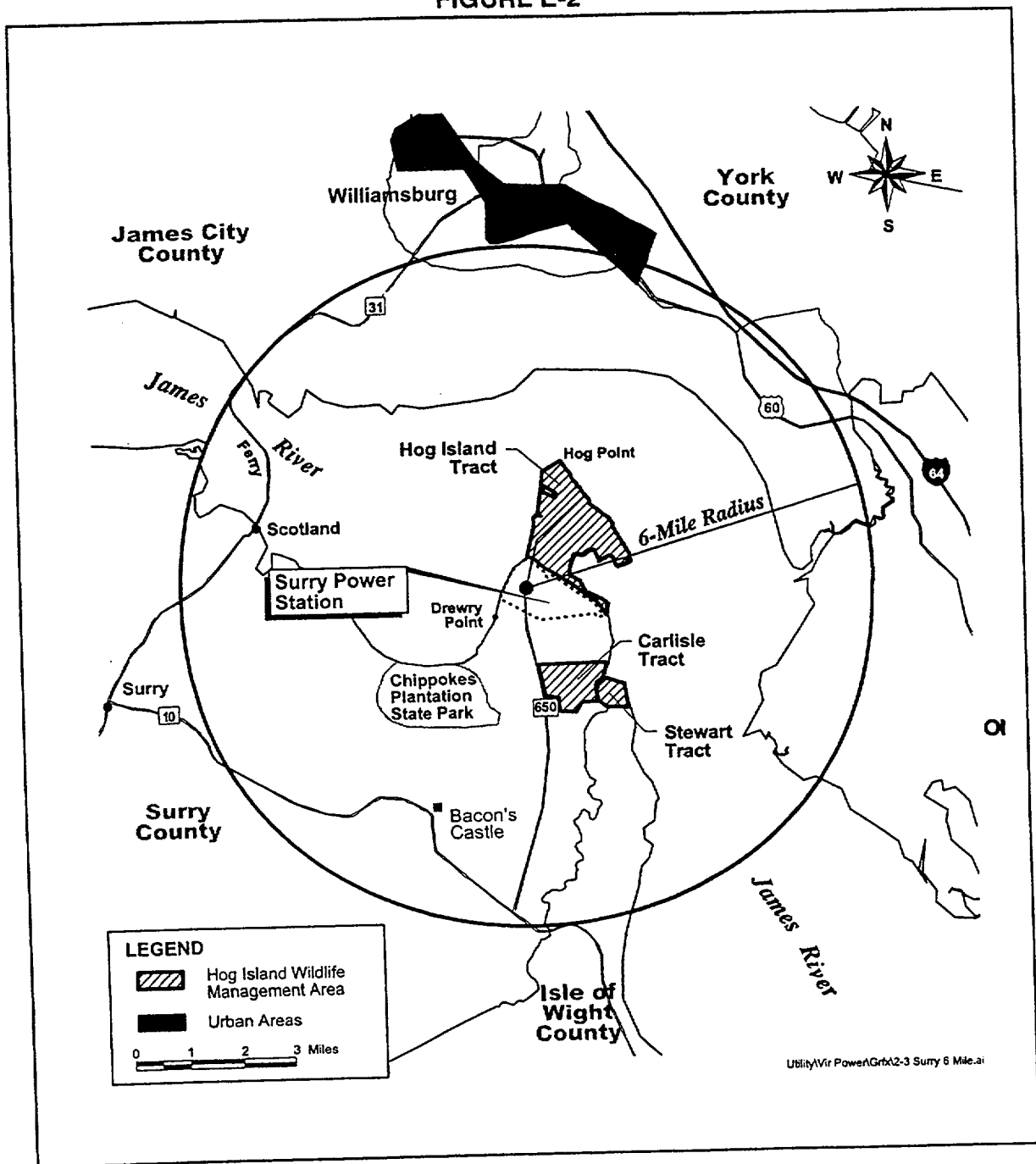


FIGURE E-3

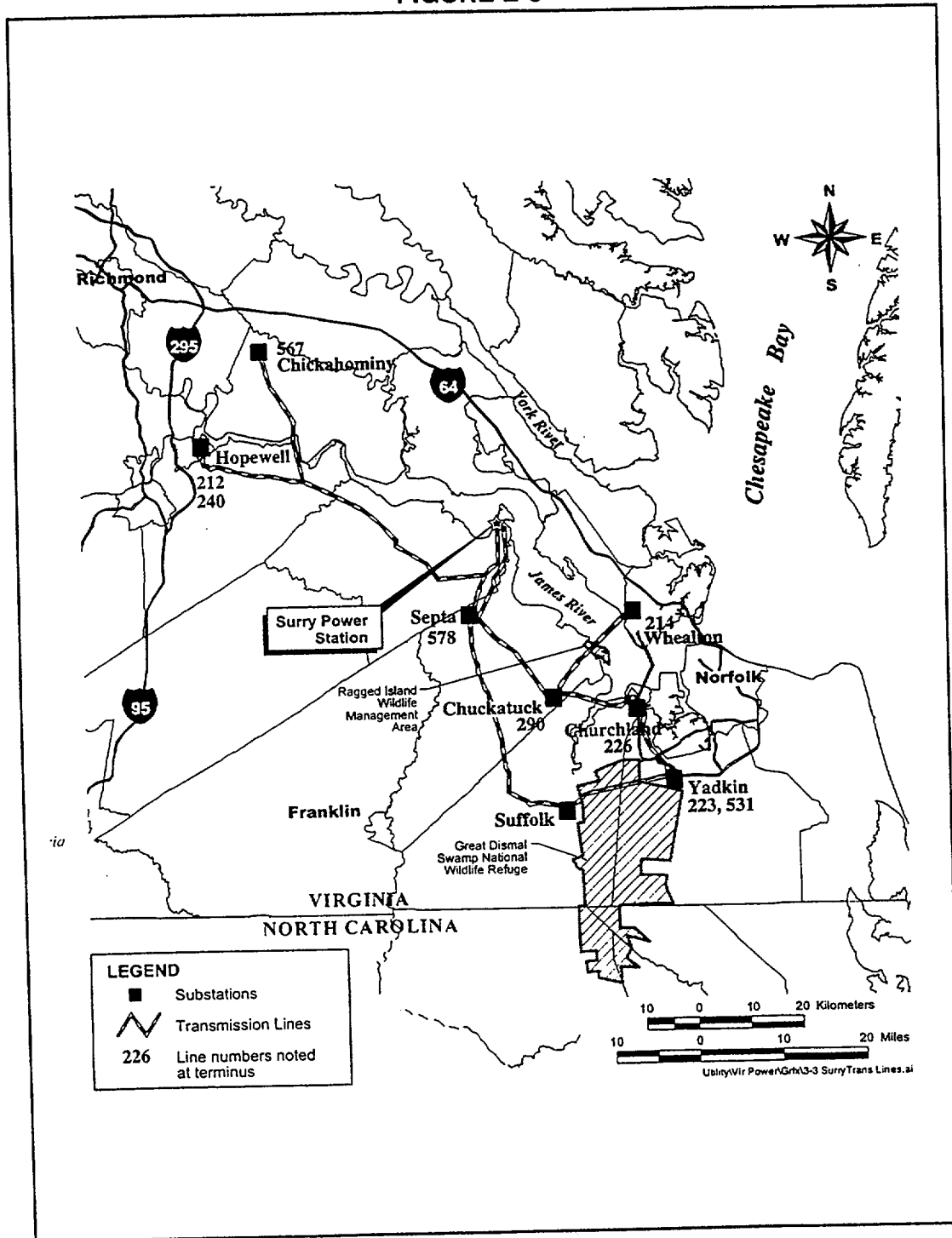


Table 3-1
Environmental Authorizations for Current SPS Operations

Agency	Authority	Requirement	Number	Issue Date or Expiration Date	Activity Covered
U.S. Nuclear Regulatory Commission	Atomic Energy Act (42 USC 2011, et seq.)	License to operate	DPR-32 (Unit 1); DPR-37 (Unit 2)	Expires on 05/25/12 (Unit 1); 01/29/13 (Unit 2)	Operation of Units 1 and 2
U.S. Fish and Wildlife Service	Migratory Bird Treaty Act (16 USC 703 – 712)	Permit	MB705136-0	Issued 01/01/01; Expires 12/31/00	Removal of up to 15 osprey nests causing safety hazards
U.S. Army Corps of Engineers	Federal Clean Water Act, Section 404 (33 USC 1344)	Authorization to use regional permit	97-RP-19, Project 99-V1336	Issued 08/27/99; Expires 08/12/03	Periodic maintenance dredging of the intake channel in the James River
U.S. Department of Transportation	49 CFR 107, Subpart G	Registration	053100002 0241	Issued 06/05/00 Expires 06/30/01	Hazardous materials shipments
VMRC	Cov Title 28.2, Chapters 12 and 13	Permit	VMRC 92-1347	Issued 08/02/99; Expires 12/31/02	Maintenance dredging of the intake channel in the James River

Table 3-1 (conditioned)
Environmental Authorizations for Current SPS Operations

Agency	Authority	Requirement	Number	Issue Date or Expiration Date	Activity Covered
VDEQ	9 VAC 25-610-40	Permit	GW0003900	Issued 08/01/99; Expires 08/01/09	Withdrawal of groundwater from wells for use as potable, process, and cooling water for SPS and Gravel Neck Combustion Turbines Station
Virginia Department of Health, Bureau of Water Supply Engineering	Section 3.14, Waterworks Regulations of the Virginia Department of Health	Permit	3181800	Issued 03/07/78; no expiration	Authorizes operation of a non-community waterworks
VDEQ	Federal Clean Water Act, Section 402 (33 USC 1342); Virginia State Water Control Law	Permit	VA0004090	Issued 09/23/96; Expires 09/23/01	Plant and stormwater discharges

**Table 3-1 (conditioned)
Environmental Authorizations for Current SPS Operations**

Agency	Authority	Requirement	Number	Issue Date or Expiration Date	Activity Covered
VDEQ	9 VAC 5-80-10	Permit	Letter, Williams (VDEQ) to Ahladas (VP), 09/27/93	Issued 09/27/93; No expiration date	Installation and operation of the emergency blackout generator
VDEQ	9 VAC 5-20-160	Registration	50336	Annual re-certification	Air emission sources
VDEQ	Federal Clean Air Act, Title V (42 USC 7661 et seq.); 9 VAC 5-80-10	Permit	None	Application submitted 01/12/98; Revised 04/07/98	Air emission source operation

1.0 INTRODUCTION

1.1 Purpose and Need for the Proposed Action

The U.S. Nuclear Regulatory Commission (NRC) licenses the operation of domestic nuclear power reactors in accordance with the Atomic Energy Act of 1954 and NRC implementing regulations. Dominion Generation (Dominion) operates Surry Power Station Units 1 and 2 (SPS) pursuant to NRC operating licenses DPR-32 and DPR-37, respectively. The Unit 1 license will expire May 25, 2012, and the Unit 2 license will expire January 29, 2013. Dominion has prepared this environmental report in conjunction with its application to NRC to renew the operating licenses for SPS, as provided by the following NRC regulations:

- Title 10, Energy, Code of Federal Regulations (CFR), Part 54, Requirements for Renewal of Operating Licenses for Nuclear Power Plants, Section 54.23, Contents of Application - Environmental Information (10 CFR 54.23) and
- Title 10, Energy, CFR, Part 51, Environmental Protection Requirements for Domestic Licensing and Regulatory Functions, Section 51.53, Post-Construction Environmental Reports, Subsection 51.53(c), Operating License Renewal Stage [10 CFR 51.53(c)]

NRC has defined the purpose and need for the proposed action, the renewal of the operating licenses for nuclear power plants such as SPS, as follows:

The purpose and need for the proposed action (renewal of an operating license) is to provide an option that allows for power generation capability beyond the term of a current nuclear power plant operating license to meet future system generating needs, as such needs may be determined by state, utility, and where authorized, federal (other than NRC) decision makers. (Ref. 1.1-1, pp. 28467-28497).

The renewed operating licenses would permit 20 additional years of plant operation, beyond the current SPS licensed operating period of 40 years.

1.2 Environmental Report Scope and Methodology

NRC regulations for domestic licensing of nuclear power plants require an environmental review of applications to renew operating licenses. The NRC regulation 10 CFR 51.53(c) requires that an applicant for license renewal submit with its application a separate document entitled *Applicant's Environmental Report – Operating License Renewal Stage*. In determining what information to include in the SPS Environmental Report, Dominion has relied on NRC regulations and the following supporting documents that provide additional insight into the regulatory requirements.

- NRC supplementary information in the *Federal Register* (Refs. 1.1-1; pp. 28467 - 28497; 1.2-1, pp. 39555 - 39556; 1.2-2, pp. 66537 - 66554; and 1.2-3, pp. 48496 - 48507)
- *Generic Environmental Impact Statement for License Renewal of Nuclear Plants* (GEIS) (Refs. 1.2-4 and 1.2-5)
- *Regulatory Analysis for Amendments to Regulations for the Environmental Review for Renewal of Nuclear Power Plant Operating Licenses* (Ref. 1.2-6)
- *Public Comments on the Proposed 10 CFR Part 51 Rule for Renewal of Nuclear Power Plant Operating Licenses and Supporting Documents: Review of Concerns and NRC Staff Response* (Ref. 1.2-7)

Dominion has prepared Table 1-1 to verify conformance with regulatory requirements. Table 1-1 indicates each section in which the environmental report responds to each requirement of 10 CFR 51.53(c). In addition, each responsive section in the report is prefaced by a boxed quote of the regulatory language and applicable supporting document language.

The environmental report comprises nine chapters. This chapter describes the purpose and need for the proposed action, renewal of SPS operating licenses. Chapter 2 describes the environs affected by SPS operations and Chapter 3 describes pertinent aspects of the plant and its associated infrastructure. Chapter 4 provides results of the analyses of impacts on the environment from SPS license renewal. Chapter 5 describes the process Dominion used to identify any new and significant information regarding environmental impacts. Chapter 6 summarizes the impacts of license renewal and mitigating actions. Chapter 7 describes feasible alternatives to the proposed action and their environmental impacts. Chapter 8 compares the impacts of license renewal with those alternatives. Chapter 9 discusses SPS compliance with regulatory requirements.

Table 1-1
Environmental Report Responses to License
Renewal Environmental Regulatory Requirements

Regulatory Requirement	Responsive Environmental Report Section(s)
10 CFR 51.53(c)(1)	Entire Document
10 CFR 51.53(c)(2), Sentences 1 and 2	3.0 Proposed Action
10 CFR 51.53(c)(2), Sentence 3	7.2.2 Environmental Impacts of Alternatives
10 CFR 51.53(c)(2) and 10 CFR 51.45(b)(1)	4.0 Environmental Consequences of the Proposed Action and Mitigating Actions
10 CFR 51.53(c)(2) and 10 CFR 51.45(b)(2)	6.3 Unavoidable Adverse Impacts
10 CFR 51.53(c)(2) and 10 CFR 51.45(b)(3)	7.0 Alternatives to the Proposed Action 8.0 Comparison of Environmental Impacts of License Renewal with the Alternatives
10 CFR 51.53(c)(2) and 10 CFR 51.45(b)(4)	6.5 Short-term Use Versus Long-term Productivity of the Environment
10 CFR 51.53(c)(2) and 10 CFR 51.45(b)(5)	6.4 Irreversible and Irretrievable Resource Commitments
10 CFR 51.53(c)(2) and 10 CFR 51.45(c)	4.0 Environmental Consequences of the Proposed Action and Mitigating Actions 6.2 Mitigation 7.2.2 Environmental Impacts of Alternatives 8.0 Comparison of Environmental Impacts of License Renewal with the Alternatives
10 CFR 51.53(c)(2) and 10 CFR 51.45(d)	9.0 Status of Compliance
10 CFR 51.53(c)(2) and 10 CFR 51.45(e)	4.0 Environmental Consequences of the Proposed Action and Mitigating Actions 6.3 Unavoidable Adverse Impacts
10 CFR 51.53(c)(3)(ii)(A)	4.1 Water Use Conflicts (Plants with Cooling Ponds or Cooling Towers Using Make-Up Water from a Small River with Low Flow) 4.6 Groundwater Use Conflicts (Plants Using Cooling Towers Withdrawing Make-Up Water from a Small River)

Table 1-1 (continued)
Environmental Report Responses to License
Renewal Environmental Regulatory Requirements

Regulatory Requirement	Responsive Environmental Report Section(s)
10 CFR 51.53(c)(3)(ii)(B)	4.2 Entrainment of Fish and Shellfish in Early Life Stages
	4.3 Impingement of Fish and Shellfish
	4.4 Heat Shock
10 CFR 51.53(c)(3)(ii)(C)	4.5 Groundwater Use Conflicts (Plants Using > 100 gpm of Groundwater)
	4.7 Groundwater Use Conflicts (Plants Using Ranney Wells)
10 CFR 51.53(c)(3)(ii)(D)	4.8 Degradation of Groundwater Quality
10 CFR 51.53(c)(3)(ii)(E)	4.9 Impacts of Refurbishment on Terrestrial Resources
	4.10 Threatened or Endangered Species
10 CFR 51.53(c)(3)(ii)(F)	4.11 Air Quality During Refurbishment (Non-Attainment or Maintenance Areas)
10 CFR 51.53(c)(3)(ii)(G)	4.12 Impact of Microbiological Organisms on Public Health
10 CFR 51.53(c)(3)(ii)(H)	4.13 Electric Shock from Transmission-Line-Induced Currents
10 CFR 51.53(c)(3)(ii)(I)	4.14 Housing Impacts
	4.15 Public Utilities: Public Water Supply Availability
	4.16 Education Impacts from Refurbishment
	4.17 Offsite Land Use
10 CFR 51.53(c)(3)(ii)(J)	4.18 Transportation
10 CFR 51.53(c)(3)(ii)(K)	4.19 Historic and Archaeological Resources
10 CFR 51.53(c)(3)(ii)(L)	4.20 Severe Accident Mitigation Alternatives
10 CFR 51.53(c)(3)(iii)	4.0 Environmental Consequences of the Proposed Action and Mitigating Actions
	6.2 Mitigation
10 CFR 51.53(c)(3)(iv)	5.0 Assessment of New and Significant Information
10 CFR 51, Appendix B, Table B-1, Footnote 6	2.11 Minority and Low-income Populations

1.3 References

- Ref. 1.1-1 U.S. Nuclear Regulatory Commission. 1996. "Environmental Review for Renewal of Nuclear Power Plant Operating Licenses." *Federal Register*. 61, No. 109. June 5.
- Ref. 1.2-1 U.S. Nuclear Regulatory Commission. 1996. "Environmental Review for Renewal of Nuclear Power Plant Operating Licenses; Correction." *Federal Register*. 61, No. 147. July 30.
- Ref. 1.2-2 U.S. Nuclear Regulatory Commission. 1996. "Environmental Review for Renewal of Nuclear Power Plant Operating Licenses." *Federal Register*. 61, No. 244. December 18.
- Ref. 1.2-3 U.S. Nuclear Regulatory Commission. 1999. "Changes to Requirements for Environmental Review for Renewal of Nuclear Power Plant Operating Licenses; Final Rules." *Federal Register*. 64, No. 171. September 3.
- Ref. 1.2-4 U.S. Nuclear Regulatory Commission. 1996. *Generic Environmental Impact Statement for License Renewal of Nuclear Plants (GEIS)*. Volumes 1 and 2. NUREG-1437. Washington, DC.
- Ref. 1.2-5 U.S. Nuclear Regulatory Commission. 1999. *Generic Environmental Impact Statement for License Renewal of Nuclear Plants (GEIS)*; Section 6.3, "Transportation", and Table 9-1, "Summary of findings on NEPA issues for license renewal of nuclear power plants." NUREG-1437. Volume 1, Addendum 1. Washington, DC.
- Ref. 1.2-6 U.S. Nuclear Regulatory Commission. 1996. *Regulatory Analysis for Amendments to Regulations for the Environmental Review for Renewal of Nuclear Power Plant Operating Licenses*. NUREG-1440. Washington, DC.
- Ref. 1.2-7 U.S. Nuclear Regulatory Commission. 1996. *Public Comments on the Proposed 10 CFR Part 51 Rule for Renewal of Nuclear Power Plant Operating Licenses and Supporting Documents: Review of Concerns and NRC Staff Response*. Volumes 1 and 2. NUREG-1529. Washington, DC.

APPENDIX E
COASTAL ZONE MANAGEMENT ACT CONSISTENCY CERTIFICATION

FEDERAL CONSISTENCY CERTIFICATION FOR NORTH ANNA POWER STATION LICENSE RENEWAL¹

The Federal Coastal Zone Management Act (16 USC 1451 et seq.) imposes requirements on an applicant for a Federal license to conduct an activity that could affect a state's coastal zone. The Act requires the applicant to certify to the licensing agency that the proposed activity would be consistent with the state's federally approved coastal zone management program. The Act also requires the applicant to provide to the state a copy of the certification statement and requires the state, at the earliest practicable time, to notify the federal agency and the applicant whether the state concurs or objects to the consistency certification. See 16 USC 1456(c)(3)(A).

The National Oceanic and Atmospheric Administration has promulgated implementing regulations that indicate that the certification requirement is applicable to renewal of federal licenses for activities not previously reviewed by the state [15 CFR 930.51(b)(1)]. The Commonwealth of Virginia has a federally approved coastal zone management program (Ref. 1, Attachment 5), described below. Dominion is applying to the U. S. Nuclear Regulatory Commission (NRC) for renewal of the operating licenses for North Anna Power Station (NAPS), located in Virginia.

CONSISTENCY CERTIFICATION

Dominion has determined that NRC renewal of the NAPS licenses to operate would comply with the federally approved Virginia Coastal Resources Management Program. Dominion expects NAPS operations during the license renewal term to be a continuation of current operations as described below, with no changes that would affect Virginia's coastal zone.

NECESSARY DATA AND INFORMATION

Proposed Action

NAPS is located in Louisa County in northeastern Virginia on a peninsula on the southern shore of Lake Anna. NAPS, located in Louisa County, is not within the Virginia coastal zone, called Tidewater Virginia. However, Spotsylvania County, located across Lake Anna from NAPS, is within Tidewater Virginia and, due to its proximity, NAPS could affect it. In addition, NAPS transmission lines traverse several counties within Tidewater Virginia. Figures E-1 and E-2 show the NAPS 10-mile and 50-mile regions, respectively, and Figure E-2 also shows the NAPS transmission line corridors.

NAPS uses slightly enriched uranium dioxide fuel in two nuclear reactors to produce steam in turbines that generate approximately 1,800 megawatts of electricity for offsite use. Dominion operates NAPS Units 1 and 2 in accordance with NRC operating licenses NPF-4 and NPF-7, respectively. The Unit 1 license will expire April 1, 2018 and the Unit 2 license on August 21, 2020.

1. This certification is patterned after the draft model certification included as Attachment 6 of Reference 1.

Appendix E

Dominion is applying to NRC for renewal of both licenses, which would enable 20 additional years of operation (i.e., until April 1, 2038, for Unit 1 and August 21, 2040, for Unit 2).

NAPS withdraws at maximum approximately 1.9 million gallons per minute of circulating water from Lake Anna through two screenwells (one per nuclear unit) located in a cove just north of the Station. Debris and fish collected from the screens are washed into wire baskets for disposal as solid waste, as required by the NAPS Virginia Pollutant Discharge Elimination System (VPDES) Permit. The circulating water is pumped from the intake through the steam condensers where the water temperature rises 14.5°F to 18.3°F depending on flow rates and heat rejection rates. The circulation water is then pumped to the head of the waste heat treatment facility (WHTF) via a discharge canal. The 3,400-acre WHTF, formed by diking off the three southern-most arms of Lake Anna, consists of three cooling lagoons interconnected by canals (Figure E-3) and is a recognized treatment facility by the Commonwealth of Virginia. NAPS discharges the heated effluent through a six-bay skimmer wall discharge structure built within Dike 3 from the WHTF into Lake Anna. The current VPDES permit limit is 1.354×10^{10} British thermal units per hour (Btu/hr), a limit that NAPS has exceeded.

NAPS has ten ground water withdrawal wells that use approximately 41 gallons per minute (gpm) of groundwater for domestic use. Six are permitted by the Commonwealth of Virginia's Department of Environmental Quality and are subject to withdrawal reporting requirements. The remaining four wells do not require permits or reporting, due to their small size. The site is not located within a Virginia Groundwater Management Area; areas that the Commonwealth established to better manage its groundwater resources.

Dominion holds permits and annually re-registers several air emission sources at NAPS. Most of these sources are emergency equipment (e.g., generators) for safe plant operation in case of loss of other power sources. As such, the sources generally operate for minimal periods of time for testing purposes.

Dominion employs approximately 851 workers at NAPS, with an additional 70-110 contract and matrixed employees. Approximately 73 percent of the employees live in Henrico, Louisa, Orange, and Spotsylvania Counties, with the balance of employees living in various other locations. Figure E-4 shows the locations of these counties. Once or twice a year, as many as 700 additional workers are onsite during refueling outages. In compliance with NRC regulations, Dominion has analyzed the effects of NAPS aging and identified activities needed to safely operate an additional 20 years. Although Dominion does not expect to have to add additional staff to perform these activities, Dominion has assumed for impact analysis purposes the addition of as many as 60 additional staff.

Table E-1 licenses, permits, and other authorizations that Dominion has obtained for NAPS operation.

Appendix E

Environmental Impacts

NRC has prepared a generic environmental impact statement (GEIS) on impacts that nuclear power plant operations can have on the environment (Ref. 2) and has codified its findings (10 CFR 51, Subpart A, Appendix B, Table B-1). The codification identifies 92 potential environmental issues, 69 of which NRC identifies as having small impacts and calls "Category 1" issues. NRC defines "small" as follows:

Small – For the issue, environmental effects are not detectable or are so minor that they will neither destabilize nor noticeably alter any important attribute of the resource. For the purpose of assessing radiological impacts, the Commission has concluded that those impacts that do not exceed permissible levels in the Commission's regulations are considered small as the term is used in this table. (10 CFR 51, Subpart A, Appendix B, Table B-1).

The NRC codification and the GEIS discuss the following types of Category 1 environmental issues:

- Surface water quality, hydrology, and use
- Aquatic ecology
- Groundwater use and quality
- Terrestrial resources
- Air quality
- Land use
- Human health
- Postulated accidents
- Socioeconomics
- Uranium fuel cycle and waste management
- Decommissioning

In its decisionmaking for plant-specific license renewal applications, absent new and significant information to the contrary, NRC will rely on its codified findings, as amplified by supporting information in the GEIS, for assessment of environmental impact from Category 1 issues [10 CFR 51.95(c)(4)]. For plants such as NAPS that are located near the coastal zone, many of these issues involve impact to the coastal zone. Dominion has adopted by reference the NRC findings and GEIS analyses for all 50² applicable Category 1 issues.

2. The other 19 Category 1 issues apply to design or operational features that NAPS does not have (e.g., cooling towers) or to an activity, refurbishment, that Dominion will not undertake.

Appendix E

The NRC regulation identifies 21 issues as "Category 2," for which license renewal applicants must submit additional, site-specific information.³ Of these, 12 apply to NAPS⁴ and, like the Category 1 issues, could involve impact to the coastal zone. The applicable issues and Dominion's impact conclusions are listed below:

- Aquatic ecology
 - Entrainment of fish and shellfish in early life stages – This issue addresses mortality of organisms small enough to pass through the plant's circulating cooling water system. Dominion has conducted studies of this issue under direction of the Commonwealth and, in issuing the plant's discharge permit, the Commonwealth has approved the plant's intake structure as best available technology to minimize impact. Dominion concludes that these impacts are small during current operations and has no plans that would change this conclusion for the license renewal term.
 - Impingement of fish and shellfish – This issue addresses mortality of organisms large enough to be caught by intake screens before passing through the plant's circulating cooling water system. The studies and permit discussed above also address impingement. Dominion concludes that these impacts are small during current operations and has no plans that would change this conclusion for the license renewal term.
 - Heat shock – This issue addresses mortality of aquatic organisms caused by exposure to heated plant effluent. Dominion has conducted studies of this issue under direction of the Commonwealth and, in issuing the plant's discharge permit, the Commonwealth has determined that more stringent limits on the heated effluent are not necessary to protect the aquatic environment. Dominion concludes that these impacts are small during current operations and has no plans that would change this conclusion for the license renewal term.
- Threatened or Endangered Species - This issue addresses effects that NAPS operations could have on species that are listed under federal law as threatened or endangered. In analyzing this issue, Dominion has also considered species that are listed under Commonwealth of Virginia law. Several species could occur on the NAPS site, in the site vicinity of Lake Anna, North Anna River downstream of the North Anna Dam, or along associated transmission corridors. Dominion environmental studies and environmental protection programs have identified no adverse impacts to such species and Dominion

3. 10 CFR 51, Subpart A, Appendix B, Table B-1 also identifies 2 issues as "NA," for which NRC could not come to a conclusion regarding categorization. Dominion believes that these issues, chronic effects of electromagnetic fields and environmental justice, do not affect the "coastal zone" as that phrase is defined by the Coastal Zone Management Act [16 USC 1453(1)].

4. The rest apply to design or operational features that NAPS does not have (e.g., cooling towers) or to an activity, refurbishment, that Dominion will not undertake.

consultation with cognizant Federal and Commonwealth agencies has identified no impacts of concern. Dominion concludes that NAPS impacts to these species are small during current operations and has no plans that would change this conclusion for the license renewal term.

- Human health

- Microbiological Organisms – This issue addresses the effects that NAPS operations could have on public health from the thermophilic organism *Naegleria fowleri*. Dominion does not expect this to be a public health problem at NAPS because discharge temperatures are below the optimum for growth of the organism, wastewater disinfection practices limit seed source or inoculants, field sampling has confirmed that numbers of the naturally occurring organism are not a problem, and State Epidemiologist has conducted an independent investigation and has required no further action.
- Electromagnetic fields, acute effects (electric shock) – This issue addresses the potential for shock from induced currents, similar to static electricity effects, in the vicinity of transmission lines. Because this strictly human-health issue does not directly or indirectly affect natural resources of concern within the Coastal Zone Management Act definition of “coastal zone” [16 USC 1453(1)], Dominion concludes that the issue is not subject to the certification requirement.

- Socioeconomics

As a result of its studies on managing the effects of NAPS aging, Dominion expects to perform license renewal activities without adding staff. As a conservative measure, however, Dominion has assumed, for the purposes of socioeconomic impact analysis, adding as many as 60 additional employees. Dominion assumes that these employees would find housing in the same locales where current employees reside.

- Housing – This issue addresses impacts that Dominion adding license renewal term workers and the community gaining additional indirect jobs could have on local housing availability. NRC concluded, and Dominion concurs, that impacts would be small for plants located in medium population areas having no growth control measures. Using the NRC definitions and categorization methodology, NAPS is located in a medium population area and locations where additional employees would probably live have no growth control measures. Dominion concludes that impacts during the NAPS license renewal term would be small.
- Public services: public utilities – This issue address impacts that adding license renewal term workers could have on public water supply systems. Dominion has analyzed public water supply availability in candidate locales and has found no system

limitations that would suggest that additional NAPS workers would cause significant impacts. Therefore, Dominion has concluded that impacts during the NAPS license renewal term would be small.

- Offsite land use – This issue addresses impacts that local government spending of plant property tax dollars can have on land use patterns. SPS property taxes comprise a large portion of the Louisa County revenue and Dominion expects this to remain generally unchanged during the license renewal term. Louisa County land-use changes have been consistent with changes in the region in general. The county's proximity to metropolitan areas, combined with a regional population growth trend away from metropolitan areas and toward less developed areas such as Louisa County, are the predominant forces resulting in county land use changes. Land use impacts due to NAPS are considered small and not likely to change during license renewal.
- Public services: transportation – This issue addresses impacts that adding license renewal term workers could have on local traffic patterns. The primary access route to NAPS carries a Commonwealth categorization that indicates free-flow of the traffic stream and that users are unaffected by the presence of others (Level of Service = B). NRC concluded, and Dominion concurs, that license renewal impacts in such cases would be small.
- Historic and archaeological resources – This issue address impacts that license renewal activities could have on resources of historic or archaeological significance. No such resources have been identified on the NAPS site or associated transmission lines and Dominion has no plans for license renewal activities that would disturb unknown resources.
- Postulated accidents
 - Severe accidents – NRC determined that the license renewal impacts from severe accidents would be small but determined that applicants should perform site-specific analyses of ways to further mitigate impacts. Dominion used NRC methodology to conduct a severe accident mitigation alternatives analysis but found no cost-effective mitigation measures.

State Program

Like many states, the Virginia coastal zone management program is a "networked" program, which means that it is based on a variety of existing Commonwealth authorities rather than a single law and set of regulations. The U. S. Department of Commerce and the Virginia Department of Environmental Quality have published programmatic documentation of the Virginia program (Ref. 3), called Virginia's Coastal Resources Management Program. The Virginia Department of Environmental Quality administers the program and has identified enforceable regulatory authorities that comprise the program (Ref. 4).

Table E-2 lists the enforceable regulatory authorities and discusses for each the applicability to NAPS and, where applicable, how NAPS is in compliance. The table documents which program elements are not applicable to NAPS and, for those that are applicable, the NAPS activities that represent program compliance.

Findings

1. NRC has found that the environmental impact of Category 1 issues is small. Dominion has adopted by reference NRC findings for Category 1 issues applicable to NAPS.
2. For Category 2 issues applicable to NAPS, Dominion has determined that the environmental impact is small.
3. To the best of Dominion's knowledge, NAPS is in compliance with Virginia licensing and permitting requirements and is in compliance with its Commonwealth-issued licenses and permits.
4. Dominion's license renewal and continued operation of NAPS would be consistent with the enforceable provisions of the Virginia coastal zone management program.

STATE NOTIFICATION

By this certification that NAPS license renewal is consistent with Virginia's coastal zone management program, the Commonwealth of Virginia is notified that it has 3 months from receipt of this letter and accompanying information in which to concur or object with Dominion's certification. However, pursuant to 15 CFR 930.63(b), if the Commonwealth of Virginia has not issued a decision within three months following the commencement of state agency review, it shall notify the contacts

Appendix E

listed below of the status of the matter and the basis for further delay. The Commonwealth's concurrence, objection, or notification of review status shall be sent to:

US Nuclear Regulatory Commission
One White Flint Nonh
11555 Rockville Pike
Rockville, MD 20852-2738

Tony Banks
Dominion
Innsbrook Technical Center
500 Dominion Blvd.
Glen Allen, VA 23060

Appendix E

References

1. *NRR Office Letter No. 906, Revision 2, "Procedural Guidance for Preparing Environmental Assessments and Considering Environmental Issues,"* U. S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation, September 21, 1999.
2. *Generic Environmental Impact Statement for License Renewal of Nuclear Plants,* U. S. Nuclear Regulatory Commission, May 1996.
3. *Virginia Coastal Resources Management Program Final Environmental Impact Statement,* U. S. Department of Commerce and Council on the Environment, Commonwealth of Virginia, July 1985, reprinted April 1999.
4. *Enforceable Regulatory Programs comprising Virginia's Coastal Resources Management Program,* Commonwealth of Virginia, Department of Environmental Quality, undated.

Figure E-1
Dominion - 10 Mile North Anna Vicinity Map

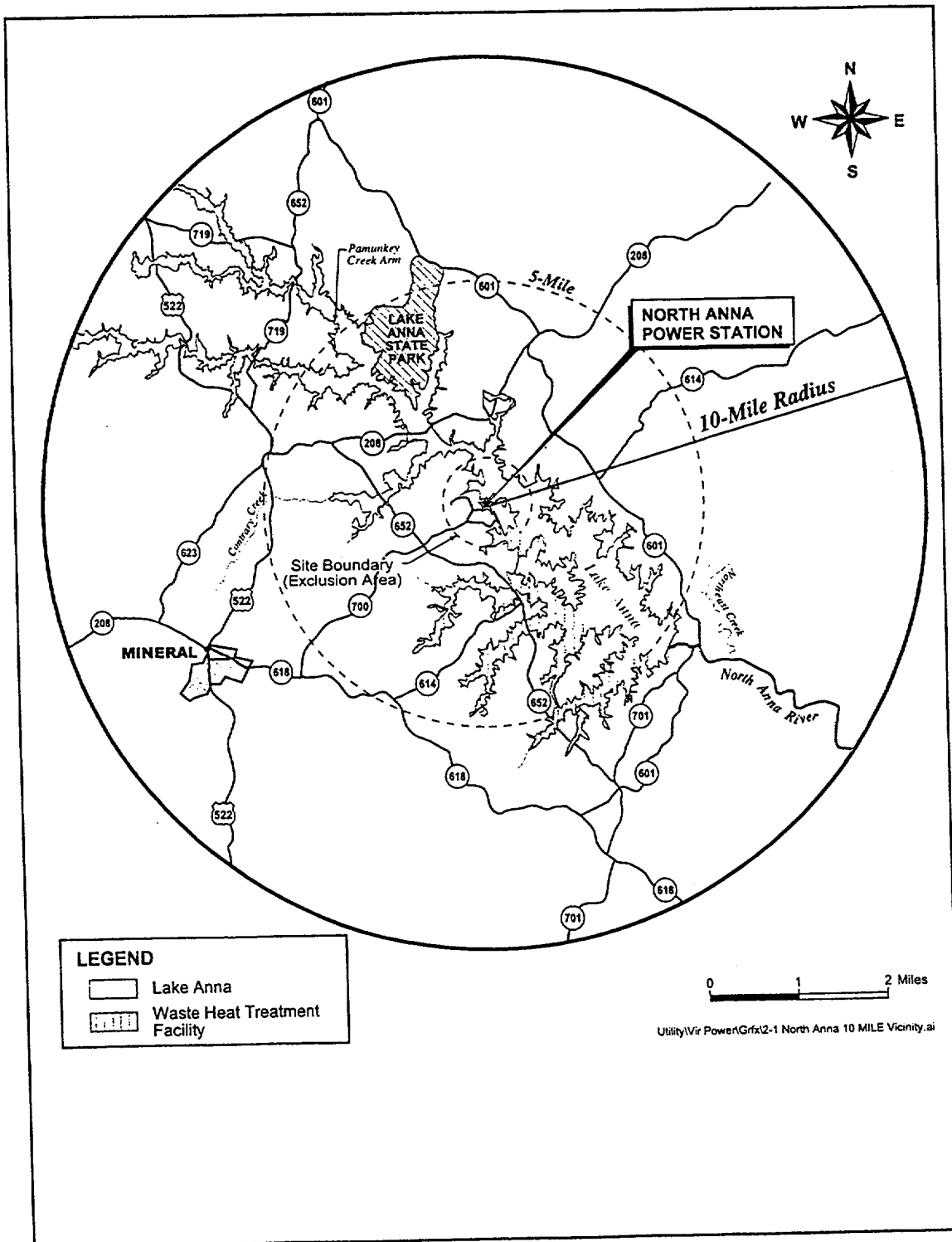


Figure E-2
Dominion - North Anna Power Station 50 Mile View

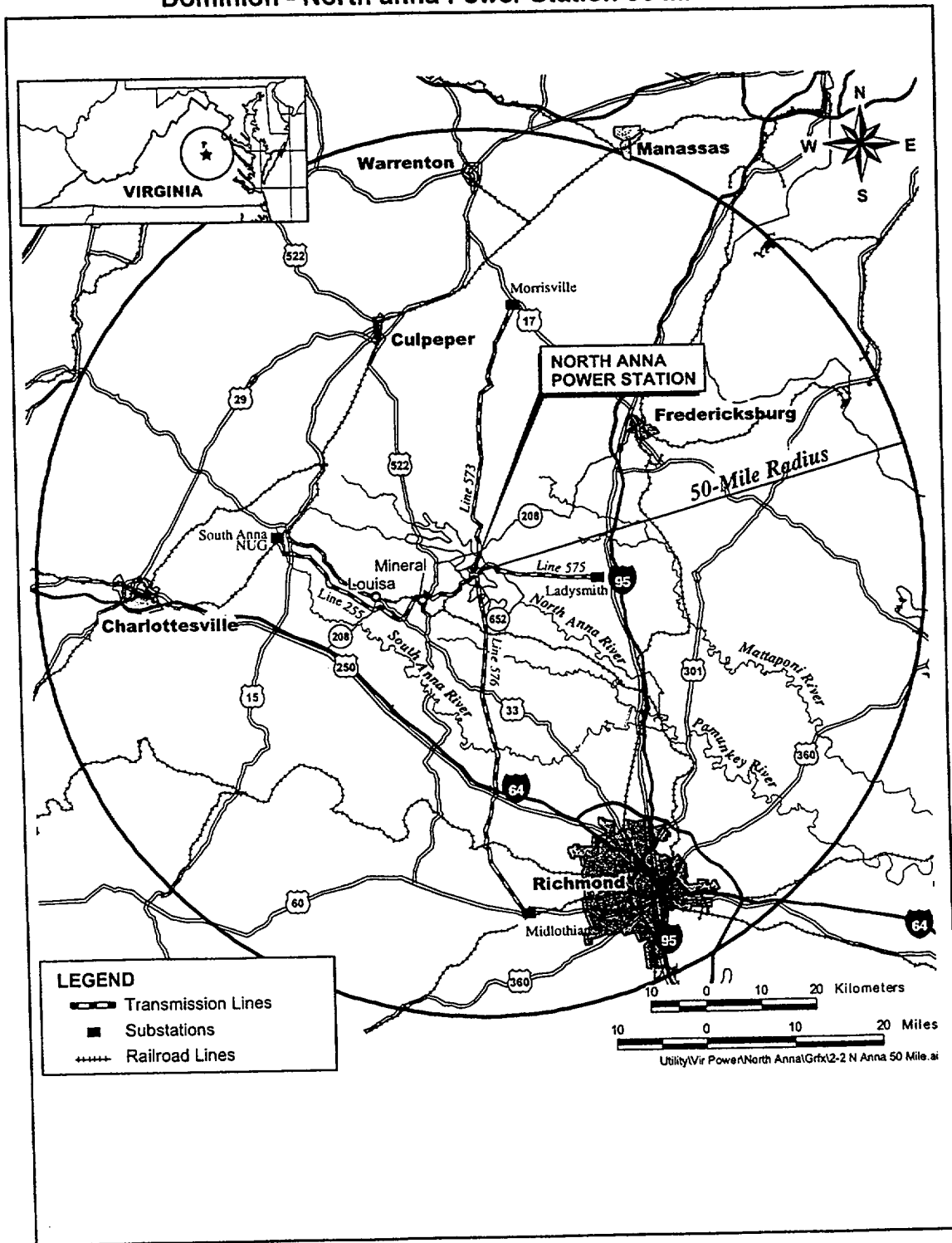
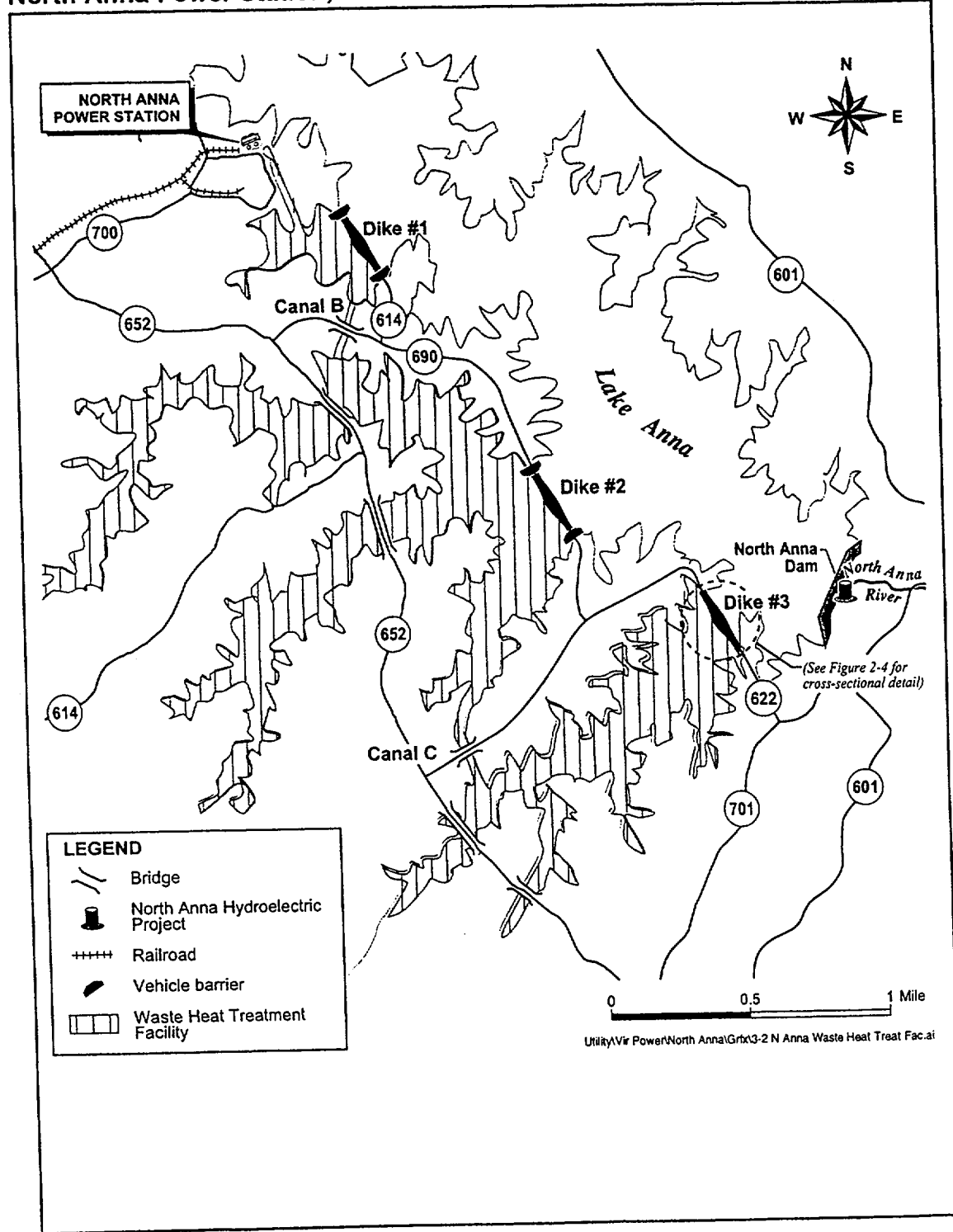


Figure E-3
North Anna Power Station, Waste Heat Treatment Facility detail Vicinity Map



This map illustrates the region around the North Anna Power Station, which is located in Culpeper County, Virginia. A large circle with a 50-mile radius is centered on the power station. The map shows various counties including Fairfax, Alexandria, Manassas, Prince William, Fauquier, Stafford, Culpeper, Rappahannock, Page, Madison, Orange, Spotsylvania, King George, Westmoreland, Essex, Richmond, Caroline, Albemarle, Fluvanna, Louisa, Mineral, Hanover, North Anna, Goochland, Powhatan, Chesterfield, Henrico, New Kent, Charles City, and Amelia. Major roads are marked with route numbers: 81, 211, 340, 29, 33, 15, 250, 64, 60, 17, 522, 95, 295, 64, 360, 235, 60, 15, 211, 340, 29, 33, 15, 250, 64, 60, 17, 522, 95, 295, 64, 360, 235, 60, 15. The Potomac River is shown flowing through the region. A compass rose indicates North (N), South (S), East (E), and West (W). A scale bar shows distances in miles (0 to 20) and kilometers (0 to 30). The map is titled 'Utility\Vir Power\Grfx\2-5 N Anna County & Towns.ai'.

Table E-1
Environmental Authorizations for Current NAPS Operations

Agency	Authority	Requirement	Number	Issue Date or Expiration Date	Activity Covered
U.S. Nuclear Regulatory Commission	Atomic Energy Act [42 USC 2011, et seq.]	License To Operate	NPF-4 (Unit 1) NPF-7 (Unit 2)	Expires 04/01/18 (Unit 1); 08/21/20 (Unit 2)	Operation of Units 1 and 2
U.S. Fish and Wildlife Service	Migratory Bird Treaty Act [16 USC 703 – 712]	Permit	MB705136-0	Issued 01/01/01 Expires 12/31/01	Removal of up to 15 osprey nests causing safety hazards
U.S. Department of Transportation	49 CFR 107, Subpart G	Registration	05300002 0241	Issued 06/05/00 Expires 06/30/01	Hazardous materials shipments
VDEQ	Federal Clean Water Act, Section 402 (33 USC 1342); 9 VAC 25-31-50	Permit	VA0052451	Issued 01/11/01 Expires 01/11/06	Plant and stormwater discharges
VDEQ	9 VAC 5-80-10	Permit	None	Issued 10/20/93 No expiration	Authorizes installation and operation of station blackout generator
VDEQ	Federal Clean Air Act, Title V (42 USC 7661 et seq.); 9 VAC 5-80-10	Permit	None	Issued 01/06/99 No expiration	Air emission source operation
VDEQ	9 VAC 5-20-160	Registration	40726	Annual re-certification	Air emissions sources
VDH	12 VAC 5-590-190	Permit	2109610	Issued 06/17/91; Revised 05/04/98	Authorizes operation of potable water supply system

Source: Modified from Ref. 9.1-1
 NRC – U.S. Nuclear Regulatory Commission
 VAC – Virginia Administrative Code
 VDEQ – Virginia Department of Environmental Quality
 VDH – Virginia Department of Health

Table E-2
North Anna Power Station Compliance With Enforceable Regulatory Programs
Composing Virginia's Coastal Resources Management Program

Item	Topic and Virginia Code Citation	Compliance Status
Fisheries Management		
a.1.	§28.2-200 to §28.2-713	This applies to activities that Dominion has not undertaken at NAPS and for which Dominion has no plans to undertake during the license renewal term: recreational and commercial fishing, oystering, claming, and crabbing; and scientific collecting.
a.2.	§3.1-249.59 to §3.1-249.62	This applies to activity that Dominion has not undertaken at NAPS and for which Dominion has no plans to undertake during the license renewal term: use of marine antifouling paint containing tributyltin.
Subaqueous Lands Management		
b.	§28.2-1200 to §28.2-1213	This requires a permit for use of state-owned bottomlands. NAPS construction of WHTF dikes pre-dated the permit requirement and it is Dominion's understanding that the permit requirement applies to original construction, not to continuing existence. Dominion has no plans for license renewal activity that would require a construction permit.
Wetlands Management		
c.	§28.2-1300 through §28.2-1320 ^a	This applies to activity that Dominion has not undertaken at NAPS and for which Dominion has no plans to undertake during the license renewal term: wetlands development.

Table E-2 (continued)
North Anna Power Station Compliance With Enforceable Regulatory Programs
Composing Virginia's Coastal Resources Management Program

Item	Topic and Virginia Code Citation	Compliance Status
Dunes Management		
d.	§28.2-1400 through §28.2-1420 ^b	This applies to activity that Dominion has not undertaken at NAPS and for which Dominion has no plans to undertake during the license renewal term: development in coastal dunes.
Non-Point Source Pollution Control		
e.	§10.1-560 et seq.	This applies to activity for which Dominion has no plans to undertake due to license renewal: soil-disturbing projects.
f.	§62.1-44.15	Dominion has Virginia Pollutant Discharge Elimination System Permit Number VA0052451 for NAPS discharges. Dominion has no plans for license renewal activity that would necessitate changing terms of the permit.
Shoreline Sanitation		
g.	§32.1-164 through §32.1-165	This applies to activities that Dominion does not undertake at NAPS and for which Dominion has no plans to undertake during the license renewal term: operation of septic tanks and land disposal of sewerage.

Table E-2 (continued)
North Anna Power Station Compliance With Enforceable Regulatory Programs
Composing Virginia's Coastal Resources Management Program

Item	Topic and Virginia Code Citation	Compliance Status
Air Pollution Control		
h.	§10-1.1300	Dominion has obtained permits for NAPS air emission source construction and annually re-certifies air emission source registration (40726). The Commonwealth is reviewing a Dominion application for an air emission source operating permit. Dominion has no plans for license renewal activity that would necessitate changing terms of the registration or permits.
Chesapeake Bay Preservation Act		
i.	§10-1.2100 through §10-1.2100	This is a new enforceable part of the program (effective 5/29/2000) and is not fully integrated into the rest of the program. It is Dominion's understanding that implementation will be through existing permit and regulatory control programs. Dominion is committed to complying with these requirements.

- a. On April 11, 2000, Ellie Irons, Virginia Department of Environmental Quality (DEQ), faxed to Tony Banks, Virginia Power, information about the Virginia Coastal Resources Management Program. The fax included an undated DEQ list of enforceable regulatory programs. The list includes for Wetlands Management reference to Virginia Code §62.1-1301 through §62.1-1320. These sections do not exist. Per §62.1 Chapter 2.1 – *Wetlands*, §62.1-13.1 through §62.1-1320 were repealed by Acts 1992, c. 836 (<http://leg1.state.va.us/000/cod/code9129.htm#170558>, accessed 7/6/00). Virginia Code 28.2 Chapter 13 – *Wetlands*, specifically §28.2-1300 through §28.2-1320, appears to have replaced the §62.1-1301 through §62.1-1320 referenced by DEQ.
- b. DEQ fax to Dominion (see above) includes for Dunes Management reference to Virginia Code §62.1-1400 through §62.1-1420. These sections do not exist. The best numeric match is §62.1-14 through §62.1-44.1 which, per Chapter 3 – *State Water Control Law* were repealed by Acts 1970, c.638. It is also noted that, per §62.1 Chapter 2.2 – *Coastal Primary Sand Dune Protection Act*, §62.1-13.21 through §62.1-13.28 were repealed by Acts 1992, c. 836 (<http://leg1.state.va.us/000/cod/code9129.htm#170558>, accessed 7/6/00). Virginia Code 28.2 Chapter 14 – *Coastal Primary Sand Dunes and Beaches*, specifically §28.2-1400 through §28.2-1420, appears to have replaced the §62.1-1400 through §62.1-1420 referenced by DEQ.

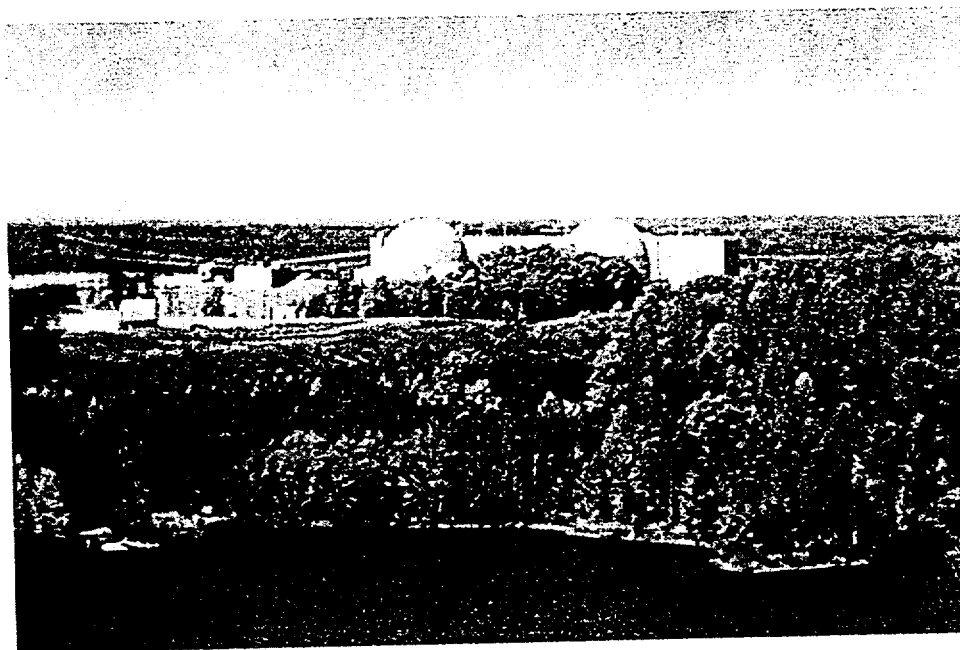
NAPS - North Anna Power Station
§ = Section

1.0 INTRODUCTION

1.1 Purpose and Need for the Proposed Action

The U.S. Nuclear Regulatory Commission (NRC) licenses the operation of domestic nuclear power reactors in accordance with the Atomic Energy Act of 1954 and NRC implementing regulations. Dominion Generation (Dominion) operates North Anna Power Station Units 1 & 2 (NAPS) pursuant to NRC operating licenses NPF-4 and NPF-7, respectively. Ownership of the station is shared by Dominion Resources, Inc. and the Old Dominion Electric Cooperative (ODEC). ODEC is a partial financial owner of the facility and will not operate the facility. The Unit 1 license will expire April 1, 2018, and the Unit 2 license will expire August 21, 2020. Dominion has prepared this environmental report in conjunction with its application to NRC to renew the operating licenses for North Anna Units 1 & 2, as provided by the following NRC regulations:

- Title 10, Energy, Code of Federal Regulations (CFR), Part 54, Requirements for Renewal of Operating Licenses for Nuclear Power Plants, Section 54.23, Contents of Application-Environmental Information (10 CFR 54.23) and
- Title 10, Energy, CFR, Part 51, Environmental Protection Requirements for Domestic Licensing and Regulatory Functions, Section 51.53, Post-Construction Environmental Reports, Subsection 51.53(c), Operating License Renewal Stage [10 CFR 51.53(c)].



North Anna Power Station

NRC has defined the purpose and need for the proposed action, the renewal of the operating licenses for nuclear power plants such as NAPS, as follows:

The purpose and need for the proposed action (renewal of an operating license) is to provide an option that allows for power generation capability beyond the term of a current nuclear power plant operating license to meet future system generating needs, as such needs may be determined by state, utility, and where authorized, federal (other than NRC) decision makers. (Ref. 1.1-1, pp. 28467 - 28497)

The renewed operating licenses would permit 20 additional years of plant operation, beyond the current NAPS licensed operating period of 40 years.

1.2 Environmental Report Scope and Methodology

NRC regulations for domestic licensing of nuclear power plants require environmental review of applications to renew operating licenses. The NRC regulation 10 CFR 51.53(c) requires that an applicant for license renewal submit with its application a separate document entitled *Applicant's Environmental Report - Operating License Renewal Stage*. In determining necessary information to include in the NAPS Environmental Report, Dominion has relied on NRC regulations and the following supporting documents that provide additional insight into the regulatory requirements.

- NRC supplementary information in the *Federal Register* (Refs. 1.1-1, pp. 28467 - 28497; 1.2-1, pp. 39555 - 39556; 1.2-2, pp. 66537 - 66554; and 1.2-3, pp. 48496 - 48507)
- *Generic Environmental Impact Statement for License Renewal of Nuclear Plants* (GEIS) (Refs. 1.2-4 and 1.2-5)
- *Regulatory Analysis for Amendments to Regulations for the Environmental Review for Renewal of Nuclear Power Plant Operating Licenses* (Ref. 1.2-6)
- *Public Comments on the Proposed 10 CFR Part 51 Rule for Renewal of Nuclear Power Plant Operating Licenses and Supporting Documents: Review of Concerns and NRC Staff Response* (Ref. 1.2-7)

Dominion has prepared Table 1-1 to verify conformance with regulatory requirements. Table 1-1 indicates each section in which the environmental report responds to each requirement of 10 CFR 51.53(c). In addition, each responsive section in the report is prefaced by a boxed quote of the regulatory language and applicable supporting document language.

The environmental report comprises nine chapters. This Chapter describes the purpose and need for the proposed action, renewal of NAPS operating licenses. Chapter 2 describes the environs affected by NAPS operations and Chapter 3 describes pertinent aspects of the plant and its associated infrastructure. Chapter 4 provides results of the analyses of impacts on the environment from NAPS license renewal. Chapter 5 describes the process Dominion used to identify any new and significant information regarding environmental impacts. Chapter 6 summarizes the impacts of license renewal and mitigating actions. Chapter 7 describes feasible alternatives to the proposed action and their environmental impacts. Chapter 8 compares the impacts of license renewal with those alternatives. Chapter 9 discusses NAPS compliance with regulatory requirements.

Table 1-1
Environmental Report Responses to License
Renewal Environmental Regulatory Requirements

Regulatory Requirement	Responsive Environmental Report Section(s)
10 CFR 51.53(c)(1)	Entire Document
10 CFR 51.53(c)(2), Sentences 1 and 2	3.0 Proposed Action
10 CFR 51.53(c)(2), Sentence 3	7.2.2 Environmental Impacts of Alternatives
10 CFR 51.53(c)(2) and 10 CFR 51.45(b)(1)	4.0 Environmental Consequences of the Proposed Action and Mitigating Actions
10 CFR 51.53(c)(2) and 10 CFR 51.45(b)(2)	6.3 Unavoidable Adverse Impacts
10 CFR 51.53(c)(2) and 10 CFR 51.45(b)(3)	7.0 Alternatives to the Proposed Action 8.0 Comparison of Environmental Impacts of License Renewal with the Alternatives
10 CFR 51.53(c)(2) and 10 CFR 51.45(b)(4)	6.5 Short-term Use Versus Long-term Productivity of the Environment
10 CFR 51.53(c)(2) and 10 CFR 51.45(b)(5)	6.4 Irreversible and Irretrievable Resource Commitments
10 CFR 51.53(c)(2) and 10 CFR 51.45(c)	4.0 Environmental Consequences of the Proposed Action and Mitigating Actions 6.2 Mitigation 7.2.2 Environmental Impacts of Alternatives 8.0 Comparison of Environmental Impacts of License Renewal with the Alternatives
10 CFR 51.53(c)(2) and 10 CFR 51.45(d)	9.0 Status of Compliance
10 CFR 51.53(c)(2) and 10 CFR 51.45(e)	4.0 Environmental Consequences of the Proposed Action and Mitigating Actions 6.3 Unavoidable Adverse Impacts
10 CFR 51.53(c)(3)(ii)(A)	4.1 Water Use Conflicts (Plants with Cooling Ponds or Cooling Towers Using Make-Up Water from a Small River with Low Flow) 4.6 Groundwater Use Conflicts (Plants Using Cooling Towers Withdrawing Make-Up Water from a Small River)

Table 1-1 (continued)
Environmental Report Responses to License
Renewal Environmental Regulatory Requirements

Regulatory Requirement	Responsive Environmental Report Section(s)
10 CFR 51.53(c)(3)(ii)(B)	4.2 Entrainment of Fish and Shellfish in Early Life Stages 4.3 Impingement of Fish and Shellfish 4.4 Heat Shock
10 CFR 51.53(c)(3)(ii)(C)	4.5 Groundwater Use Conflicts (Plants Using > 100 gpm of Groundwater) 4.7 Groundwater Use Conflicts (Plants Using Ranney Wells)
10 CFR 51.53(c)(3)(ii)(D)	4.8 Degradation of Groundwater Quality
10 CFR 51.53(c)(3)(ii)(E)	4.9 Impacts of Refurbishment on Terrestrial Resources 4.10 Threatened or Endangered Species
10 CFR 51.53(c)(3)(ii)(F)	4.11 Air Quality During Refurbishment (Non-Attainment or Maintenance Areas)
10 CFR 51.53(c)(3)(ii)(G)	4.12 Impact of Microbiological Organisms on Public Health
10 CFR 51.53(c)(3)(ii)(H)	4.13 Electric Shock from Transmission-Line-Induced Currents
10 CFR 51.53(c)(3)(ii)(I)	4.14 Housing Impacts 4.15 Public Utilities: Public Water Supply Availability 4.16 Education Impacts from Refurbishment 4.17 Offsite Land Use
10 CFR 51.53(c)(3)(ii)(J)	4.18 Transportation
10 CFR 51.53(c)(3)(ii)(K)	4.19 Historic and Archaeological Resources
10 CFR 51.53(c)(3)(ii)(L)	4.20 Severe Accident Mitigation Alternatives
10 CFR 51.53(c)(3)(iii)	4.0 Environmental Consequences of the Proposed Action and Mitigating Actions 6.2 Mitigation
10 CFR 51.53(c)(3)(iv)	5.0 Assessment of New and Significant Information
10 CFR 51, Appendix B, Table B-1, Footnote 6	2.11 Minority and Low-Income Populations

1.3 References

- Ref. 1.1-1 U.S. Nuclear Regulatory Commission. 1996. "Environmental Review for Renewal of Nuclear Power Plant Operating Licenses." *Federal Register*. 61, No. 109. June 5.
- Ref. 1.2-1 U.S. Nuclear Regulatory Commission. 1996. "Environmental Review for Renewal of Nuclear Power Plant Operating Licenses; Correction." *Federal Register*. 61, No. 147. July 30.
- Ref. 1.2-2 U.S. Nuclear Regulatory Commission. 1996. "Environmental Review for Renewal of Nuclear Power Plant Operating Licenses." *Federal Register*. 61, No. 244. December 18.
- Ref. 1.2-3 U.S. Nuclear Regulatory Commission. 1999. "Changes to Requirements for Environmental Review for Renewal of Nuclear Power Plant Operating Licenses; Final Rules." *Federal Register*. 64, No. 171. September 3.
- Ref. 1.2-4 U.S. Nuclear Regulatory Commission. 1996. *Generic Environmental Impact Statement for License Renewal of Nuclear Plants (GEIS)*. Volumes 1 and 2. NUREG-1437. Washington, DC.
- Ref. 1.2-5 U.S. Nuclear Regulatory Commission. 1999. *Generic Environmental Impact Statement for License Renewal of Nuclear Plants (GEIS)*. Section 6.3, "Transportation", and Table 9-1, "Summary of findings on NEPA issues for license renewal of nuclear power plants." NUREG-1437. Volume 1. Addendum 1. Washington, DC.
- Ref. 1.2-6 U.S. Nuclear Regulatory Commission. 1996. *Regulatory Analysis for Amendments to Regulations for the Environmental Review for Renewal of Nuclear Power Plant Operating Licenses*. NUREG-1440. Washington, DC.
- Ref. 1.2-7 U.S. Nuclear Regulatory Commission. 1996. *Public Comments on the Proposed 10 CFR Part 51 Rule for Renewal of Nuclear Power Plant Operating Licenses and Supporting Documents: Review of Concerns and NRC Staff Response*. Volumes 1 and 2. NUREG-1529. Washington, DC.