

Appendix A

Comments Received on the Environmental Review

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Part I - Comments Received During Scoping

On September 4, 2001, the U.S. Nuclear Regulatory Commission (NRC) published a Notice of Intent in the Federal Register (66 FR 46294), to notify the public of the staff's intent to prepare a plant-specific supplement to the *Generic Environmental Impact Statement for License Renewal of Nuclear Plants* (GEIS), NUREG-1437, Volumes 1 and 2, to support the renewal application for the North Anna Power Station operating licenses and to conduct scoping. This plant-specific supplement to the GEIS has been prepared in accordance with the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) guidelines, and 10 CFR Part 51. As outlined by NEPA, the NRC initiated the scoping process with the issuance of the Federal Register Notice. The NRC invited the applicant; Federal, State, and local government agencies; local organizations; and individuals to participate in the scoping process by providing oral comments at scheduled public meetings and/or submitting written suggestions and comments no later than November 5, 2001.

The scoping process included two public scoping meetings, which were held at the Louisa County Office Building in Louisa County, Virginia on October 18, 2001. Approximately 45 individuals attended the meetings. Each session began with NRC staff members providing brief overviews of the license renewal process and the NEPA process. After the NRC's prepared statements, the meetings were opened for public comments. Eighteen attendees provided either oral statements that were recorded and transcribed by a certified court reporter or written statements. The meeting transcripts are an attachment to the Scoping Meeting Summary dated November 6, 2001. In addition to the comments provided during the public meetings, three comment letters and an email were received by the NRC in response to the Notice of Intent.

At the conclusion of the scoping period, the NRC staff and its contractors reviewed the transcripts and all written material received to identify specific comments and issues. Each set of comments from an individual was given a unique identifier (Commenter ID), so that the comments could be traced back to the original transcript, letter, or e-mail containing the comment. Specific comments were numbered sequentially within each comment set. Several commenters submitted more than one set of comments (e.g., they made statements in both the afternoon and evening scoping meetings). In these cases, there is a unique Commenter ID for each set of comments.

Table A-1 identifies the individuals who provided comments applicable to the environmental review and gives the Commenter ID associated with each set of comments. Individuals who spoke at the scoping meetings are listed in the order in which they spoke at the public meeting.

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Table A-1. Individuals Providing Comments During Scoping Comment Period

Commenters ID	Commenter	Affiliation (If Stated)	Comment Source and ADAMS Accession Number(a)
NAS-A	Lee Lintecum	Louisa County	Afternoon Scoping Meeting
NAS-B	Linda Edwards	Louisa County	Afternoon Scoping Meeting
NAS-C	Jimmy Candeto	Mineral Town Manager	Afternoon Scoping Meeting
NAS-D	Duff Green	Orange County	Afternoon Scoping Meeting
NAS-E	Ashland Fortune	Louisa County Sheriff	Afternoon Scoping Meeting
NAS-F	William Hayden	President of Lake Anna Civic Association	Afternoon Scoping Meeting
NAS-G	Jerry Rosenthal	Concerned Citizens of Louisa	Afternoon Scoping Meeting
NAS-H	Lisa Gue	Public Citizen	Afternoon Scoping Meeting
NAS-J	Dave Heacock	Dominion	Afternoon Scoping Meeting
NAS-K	Bill Bolin	Dominion	Afternoon Scoping Meeting
NAS-L	Ashland Fortune	Louisa County Sheriff	Evening Scoping Meeting
NAS-M	V. Earl Dickinson	Virginia General Assembly	Evening Scoping Meeting
NAS-N	Mary Lou Dickinson	LinkAges Community Services	Evening Scoping Meeting
NAS-P	Donald Gallihugh	Mayor of Louisa	Evening Scoping Meeting
NAS-Q	Edward Kube	Louisa County Board of Supervisors	Evening Scoping Meeting
NAS-R	Jerry Rosenthal	Concerned Citizens of Louisa	Evening Scoping Meeting
NAS-S	Tom Filen	Louisa Chamber of Commerce and Virginia Community Bank	Evening Scoping Meeting
NAS-T	Hugh Jackson	Public Citizen	Evening Scoping Meeting
NAS-U	Matthew Kersey	Town of Louisa	Evening Scoping Meeting
NAS-V	Lisa Gue	Public Citizen	Evening Scoping Meeting
NAS-W	Dave Heacock	Dominion	Evening Scoping Meeting
NAS-X	Bill Bolin	Dominion	Evening Scoping Meeting
NAS-Y	Bill Murphey	Citizen of Louisa County	Evening Scoping Meeting
NAS-Z	Jerry Rosenthal	Concerned Citizens of Louisa	Email - Letter (ML013460243)
NAS-AA	John Wolfli	U.S. Fish and Wildlife Service	Letter (ML013460246)
NAS-AB	R. Edward Houck	Senate of Virginia	Letter (ML012920545)
NAS-AC	Honorable Eric Cantor	U.S. Congress	Letter (ML013650011)

(a) The afternoon and evening transcripts can be found under accession number ML013120266.

To maintain consistency with the scoping summary report (North Anna Power Station Scoping Summary Report, dated January 2, 2002), the unique identifier used in that report for each set of comments is retained in this report.

Specific comments were categorized and consolidated by topic. Comments with similar specific objectives were combined to capture the common essential issues raised by the commenters. The comments fall into one of several general groups. These groups include

- Specific comments that address environmental issues within the purview of the NRC environmental regulations related to license renewal. These comments address Category 1 or Category 2 issues or issues that were not addressed in the GEIS. They also address alternatives and related Federal actions.
- General comments (1) in support of or opposed to nuclear power or license renewal or (2) on the license renewal process, the NRC's regulations, and the regulatory process. These comments may or may not be specifically related to the North Anna Power Station license renewal application.
- Questions that do not provide new information.
- Specific comments that address issues that do not fall within or are specifically excluded from the purview of NRC environmental regulations. These comments typically address issues such as the need for power, emergency preparedness, current operational safety issues, and safety issues related to operation during the renewal period.

Each comment applicable to this environmental review is summarized in this section. This information, which was extracted from the North Anna Power Station Scoping Summary Report, is provided for the convenience of those interested in the scoping comments applicable to this environmental review. The comments that are general or outside the scope of the environmental review for North Anna Power Station are not included here. More detail regarding the disposition of general or nonapplicable comments can be found in the summary report. The ADAMS accession number for the summary report is ML020160608. This accession number is provided to facilitate access to the document through the Public Electronic Reading Room (ADAMS) <http://www.nrc.gov/reading-rm.html>.

The following pages summarize the comments and suggestions received as part of the scoping process that are applicable to this environmental review, and discuss the disposition of the comments and suggestions. The parenthetical alpha-numeric identifier after each comment refers to the comment set (Commenter ID) and the comment number.

Comments in this section are grouped in the following categories:

1. Comments Concerning Category 1 Socioeconomic Issues
2. Comments Concerning Category 1 Air-Quality Issues

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3. Comments Concerning Category 1 Human Health Issues
4. Comments Concerning Aquatic Resource Issues
5. Comments Concerning Terrestrial Resource Issues
6. Comments Concerning Category 1 Postulated Accident Issues
7. Comments Concerning Category 1 Uranium Fuel Cycle and Waste Management Issues
8. Comments Concerning Category 2 Socioeconomic Issues
9. Comments Concerning Category 2 Aquatic Ecology Species Issues
10. Comments Concerning Category 2 Threatened and Endangered Species Issues.

1. Comments Concerning Category 1 Socioeconomic Issues

As stated in 10 CFR Part 51, Table B-1, Category 1 socioeconomic issues include:

- Public services: public safety, social services, and tourism and recreation
- Public services: education (license renewal term)
- Aesthetics impacts (refurbishment)
- Aesthetics impacts (license renewal term)
- Aesthetics impacts of transmission lines (license renewal term).

Comment: We have found Dominion to be a very good corporate citizen. (NAS-A-1)

Comment: Dominion has proved to be a very good civic citizen, contributing both time and financial resources. (NAS-A-4)

Comment: Dominion Power has for many years provided marketing material in economic development. (NAS-B-2)

Comment: Their employees [Dominion] are also generous with their money. (NAS-C-7)

Comment: Virginia Power also has kept food on people's tables here, clothes on the children's backs, helped the school system, given millions of dollars a year to needy families. (NAS-E-2)

Comment: Dominion quickly stepped forward with an offer to let us use their Visitor Center facilities and, in addition, donated \$1,000 to us to assist in funding the program. (NAS-F-4)

Comment: We have a longstanding tradition at North Anna and Dominion of investing in our communities. (NAS-J-15)

Comment: We [North Anna] are involved in community stewardship in many fronts. (NAS-K-4)

Comment: The new schools, many things that you see that we have developed in Louisa County could not have happened if we did not have this additional revenue coming from the power plant. (NAS-M-8)

Comment: Along with that, we have one of the nicest Little League ball diamonds in the State of Virginia, and that was done through Dominion Power. (NAS-N-3)

Comment: Through the development of the water source needed to maintain water temperatures, the Dominion Virginia Power has created one of the premier lakes in the State of Virginia for all who enjoy various recreational activities. (NAS-P-9)

Comment: So they [North Anna] do lots of public service and volunteerism in our community. (NAS-Q-3)

Comment: I have served the last two years as President of the Chamber of Commerce and can tell you that we didn't have a more supportive member than Virginia Power. (NAS-S-1)

Comment: I'm personally in support of this, and on behalf of the Chamber of Commerce I can't tell you that we've had a better neighbor or friend to our economic community. (NAS-S-2)

Comment: Their contributions through tax dollars enabled us to build three fine elementary schools in the county. There have been expansions to the high school, the middle school, a number of other public facilities. (NAS-U-2)

Comment: They've been a good corporate citizen. (NAS-U-3)

Comment: As mentioned several times tonight, we also pride ourselves at Dominion in an active role in whatever community we are a part of, and North Anna is no exception. (NAS-X-3)

Comment: One that I'd like to highlight tonight of particular importance at North Anna is the partnership with the Lake Anna State Park. (NAS-X-4)

Comment: Dominion Resources, through the Employee Volunteer Program, facilitates the donation of tens of thousands of volunteer hours to projects which directly benefit the communities where employees work and live. Financial support for civic and charitable endeavors are provided as well. (NAS-AB-4)

Comment: Many of these [North Anna] employees routinely volunteer their time and resources to help make their communities better places in which to live. The employee volunteer program facilitates the donation of tens of thousands of volunteer hours to projects that directly benefit

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the communities in which the employees work and live. Financial support for civic and charitable endeavors are provided as well. (NAS-AC-3)

Comment: Plant and marine life in Lake Anna are at healthy levels, and Lake Anna continues to be a major recreational area and one of Virginia's outstanding freshwater fishing spots. (NAS-AC-6)

Response: *The comments are noted. The comments are supportive of license renewal at the North Anna Power Station, Units 1 and 2. Public services were evaluated in the GEIS and determined to be a Category 1 issue. Information regarding the impact on education will be discussed in Chapter 4 of the SEIS.*

2. Comments Concerning Category 1 Air Quality Issues

As stated in 10 CFR Part 51, Table B-1, Category 1 air quality issues include:

- Air-quality effects of transmission lines.

Comment: The primary advantage of a nuclear plant is that it doesn't produce any carbon -- doesn't emit any carbon dioxides, carbon monoxides, nitrous oxides, sulfur dioxides. All of those things are not emitted at the plant during normal operation. (NAS-J-11)

Comment: So we don't have an impact for greenhouse gases like you might have from a replacement plant, and that's one factor that goes into this decision. (NAS-J-12)

Comment: Thirdly, electricity provided from the North Anna Power Station is emission free energy. (NAS-M-5)

Response: *The comments are noted. Air quality impacts from plant operations were evaluated in the GEIS and found to be minimal. These emissions are regulated through permits issued by the U.S. Environmental Protection Agency and Virginia. Air Quality will be discussed in Chapter 2 of the SEIS. The comments provide no new information and, therefore, will not be evaluated further.*

3. Comments Concerning Category 1 Human Health Issues

As stated in 10 CFR Part 51, Table B-1, Category 1 human health issues include:

- Radiation exposure to the public during refurbishment
- Occupational radiation exposure during refurbishment
- Microbiological organisms (occupational health)
- Noise
- Radiation exposures to public (license renewal term)
- Occupational radiation exposures (license renewal term).

Comment: We need to deal with the regular releases that come from the plant, the radioactivity that is regularly vented off of the reactors. (NAS-G-10)

Comment: In terms of I heard the gentleman from Lake Anna Civic Association talk about all of the things they're checking at the lake, but radioactivity was not one of them. That's seems incongruous that they would be checking fecal samples, but next to a nuclear plant they're not interested in checking for radioactivity in either the water, the fish, the algae? (NAS-G-11)

Comment: The Russian experience has shown over a long period of time a lot of the radioactivity ends up sinking to the bottom in the mud. This type of stuff needs to be checked. (NAS-G-12)

Comment: Power plants are not only poised on the brink of this kind of catastrophic accident [Chernobyl] at all times, but also releasing routine amounts of radiation into the air and the water. (NAS-H-4)

Response: *The comments are noted. Impacts from routine radiological releases are addressed in Chapters 2 and 4 of the SEIS. The comments provide no new information and, therefore, will not be evaluated further.*

Comment: It would be advantageous to have independent monitors, separate from the nuclear power company itself or the Nuclear Regulatory Commission. Let's get some independent monitors, and let's monitor the workers. What is the long-term health of the workers? Let's do epidemiological studies. Let's monitor the community. Let's monitor the environment, all -- all completely independently. (NAS-G-13)

Comment: I discussed the need for independent monitoring of the workers at the plant long term, of the community long term, of the environment long term. This is independent, not just what is done by the state and what is done by Virginia Power. (NAS-R-7)

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Comment: There exists a need for independent monitoring of all environmental matters -- air, water, lake bottom, vegetation. (NAS-Z-18)

Comment: There should be independent monitoring of workers' health and community health (epidemiological studies over time). These should be funded by the utility and overseen by completely independent (not utility or state or federal) professionals. This requirement in a license renewal will help provide greater public trust in the process. Has there been a problem in the past? YOU BET! (NAS-Z-19)

Response: *The comments are noted. Radiation exposure to the public and workers was evaluated in the GEIS and determined to be a Category 1 issue. The requirements for monitoring of the environment are beyond the scope of license renewal. The NRC requires the licensee to routinely conduct radiological monitoring of all plant effluents, as well as foodstuffs and biota. The NRC also communicates with permitting agencies that administer the Clean Water Act and the Clean Air Act, State radiological agencies, the Fish and Wildlife Service, and other organizations. Any potential noncompliance of monitoring requirements is an operational safety issue, handled through the inspection and reporting process, and is therefore beyond the scope of license renewal. The comments provide no new information, and do not pertain to the scope of license renewal as set in 10 CFR Part 51 and Part 54. Therefore, they will not be evaluated further.*

4. Comments Concerning Aquatic Resource Issues

Comment: Dominion biologists regularly monitor the health of the fish in Lake Anna. (NAS-C-5)

Comment: After the lake was created and flooded, they monitored the aging or maturing of the lake for over 20 years on a continuous basis at a number of sampling points to insure that no negative impacts were developing. (NAS-F-1)

Comment: The formation of Lake Anna immediately improved conditions in the Contrary Creek arm of the lake, as well as the North Anna River below the dam. (NAS-X-2)

Response: *The comments are noted. Aquatic ecology will be discussed in Chapters 2 and 4 of the SEIS. The comments provide no new information and, therefore, will not be evaluated further.*

Comment: Page 2-2. The Service is concerned with the impacts to fish and aquatic vegetation (Issue # 3 & 19) associated with the structures described as, "In addition to the two

nuclear reactors, their turbine building, intake structure, discharge canal, and auxiliary buildings.” Our concerns also include the impacts of dams on the passage and distribution of fish and mussel species. (NAS-AA-1)

Comment: Page 2-8. What is your reference for a healthy fish population stated in, “Reservoirs like Lake Anna with healthy populations of "landlocked" small shad and herring (Lake Anna has both threadfin shad (*Dorosoma petenense*) and blueback herring (*Alosa aestivalis*), are often dominated by small-bodied zooplankters (rotifers and copepods), because larger-bodied forms are selectively preyed upon by schooling clupeids (Ref. 2.2-11).” (NAS-AA-2)

Comment: Page 2-9. How do you account for the reduction in abundance of yellow perch, black crappie, pumpkinseed sunfish and an increase in other species of fish as stated in “The community structure remained relatively stable over the 1975-1985 period, with some year-to-year variation in species composition caused by: (1) normal population fluctuations; (2) reservoir aging; (3) the introduction of forage species and competing predators; (4) the installation of fish attractors and artificial habitat; and (5) the increase in Corbicula densities. Post-1975 changes included: (1) a decline in relative abundance of yellow perch (*Perca flavescens*) and black crappie (*Promoxis nigromaculatus*); (2) an increase in relative abundance of white perch (*Morone americana*) and threadfin shad; and (3) an increase in redear sunfish (*Lepomis microlophus*) abundance, with a corresponding decrease in pumpkinseed (*Lepomis gibbosus*). None of these changes appeared to be related to NAPS operation.” (NAS-AA-3)

Response: *The comments/questions are noted. They do not provide any new information. However, NRC plans to discuss these issues further with the Fish and Wildlife Service (FWS) because it is a cognizant Federal agency.*

Comment: Page 2-10. There continues to be disagreement between the scientific community as to the historical range of anadromous fish spawning habitat in the North Anna River. American shad, hickory shad, blueback herring, sea lamprey, and American eel are reported to migrate to the base of the Ashland Mill Dam on the South Anna River. The VEPCo report states, “Four non-native fish species (striped bass, walleye, threadfin shad, and blueback herring) have been stocked in Lake Anna by the Virginia Department of Game & Inland Fisheries since 1972. Striped bass were introduced in 1973, and have been stocked annually since 1975. They provide a "put-grow-and-take" fishery; streams, including the North Anna River that flow into Lake Anna lack the flow, depth, and length to support striped bass spawning runs. Studies show that striped bass grow and provide a substantial recreational fishery in Lake Anna, but adults are subject to late-summer habitat restrictions (limited to cooler-water refuge areas) and growth limitations. Walleye are also stocked annually by the Virginia Department of Game & Inland Fisheries and are highly sought-after game fish. Threadfin shad

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were introduced in 1983 to provide additional forage for striped bass and other top-of-the-food-chain predators. This species is vulnerable to cold shock and winter kills, and would not be able to survive in Lake Anna if it were not for NAPS operation. Threadfin shad appear to be thriving in Lake Anna and are an important source of food for game fish. Blueback herring, fish stocked by the Virginia Department of Game & Inland Fisheries in 1980 as a forage species, have not been as successful. A fifth non-native species, the herbivorous grass carp, was stocked by Dominion (with the approval of the Virginia Department of Game & Inland Fisheries) in the WHTF in 1994 to control growth of the nuisance submersed aquatic plant hydrilla (*Hydrilla verticillata*)." (NAS-AA-4)

Comment: Page 2-11. The water flow in the North Anna River System changed drastically after the impoundment was created. The reduction in river flow from Lake Anna during the Spring spawning migration may limit the range of anadromous and riverine species of fish in the river. The report describes the river as, "The North Anna River joins the South Anna River 23 miles downstream from the North Anna Dam, forming the Pamunkey River. Before 1972, when the river was impounded, flows varied considerably (1 to 24,000 cfs) from year to year and water quality was degraded by acid mine drainage from Contrary Creek. After 1972, fluctuations in flow were moderated (40 to 16,000 cfs from 1972 through 1985) and water quality was improved as a result of reclamation activities at the Contrary Creek mine site and the acid-neutralizing effect of Lake Anna's waters. Water quality downstream from the North Anna Dam is strongly influenced by conditions in the reservoir and releases at the Dam. Water moving from Lake Anna to the North Anna River is less turbid and more chemically stable than the pre-impoundment flow. Dissolved oxygen levels are high (averaging 9.6 milligrams per liter over the 1981-1985 period) immediately downstream of the Dam and increase further downstream, presumably as a result of turbulent mixing (Ref. 2.2-3). Summer water temperatures from 1970-1985 were higher near the Dam than downstream, reflecting temperatures in the reservoir. The highest water temperature recorded in pre-operational years was 89.4°F in July 1977, at a station one kilometer below the North Anna Dam. The highest temperature recorded in operational years was slightly higher, 90.9°F, recorded in August 1983 at the same station." Each of these flow related impacts warrant additional river flow study. (NAS-AA-5)

Comment: Page 3-15. The Service believes the North Anna Hydroelectric project and the dam may be causing significant impacts to the North Anna River and the results from earlier studies should be reevaluated. The report states, "An exemption from licensing (Ref. 3.5-1) was filed with the Federal Energy Regulatory Commission (FERC) in March 1984; an order granting the exemption was issued in September 1984. As part of the exemption from licensing by FERC, the U.S. Fish and Wildlife Service requested that Dominion perform pre-operational and operational fish passage studies to evaluate the need for intake screening. Studies were conducted in 1986, 1987, and 1988 (Ref. 3.5-3). Results of these studies indicated that the

number of fish passing from Lake Anna to the North Anna River was minimal (Ref. 3.5-4). (NAS-AA-6)

Response: *The comments are noted. The comments relate to impacts associated with the construction or operation of the North Anna Dam. Construction impacts are beyond the scope of this review. Operational impacts during the license renewal term will be addressed in the SEIS.*

Comment: Page 2-12. The Service's main goal is the protection and restoration of ecosystems for people. During a license review, the Service' mitigation goal is to work with the license applicant to avoid, minimize, and compensate (in that order) to the fullest extent possible. The National Environmental Policy Act calls for past, present, and future environmental impacts be identified, as well as summarized to determine cumulative effects of the environmental impacts. The VEPCo report clearly identifies ecosystem impacts, but the Service disagrees with VEPCo's conclusion regarding fish and the ecosystem. The report states, "In pre-impoundment surveys, the fish community of the North Anna River downstream from the Contrary Creek inflow was dominated by pollution-tolerant species. In the years following impoundment (and reclamation of the Contrary Creek mine site), there was a steady increase in measures of abundance and diversity (species richness) of fish. In 1984-85, 38 species from 10 families were found in the North Anna River, compared to 25 species from eight families in the control stream, the South Anna River. When reservoir species from Lake Anna were subtracted from the North Anna River totals, the two fish communities showed striking similarities, indicating that operation of NAPS has had little or no effect on fish populations downstream from the North Anna Dam." "Based on the 1999 Annual Report for Lake Anna and the North Anna River, the North Anna River downstream of the North Anna Dam has no major changes in the ecosystem (Ref. 2.2-10). A review of the data from the 1999 monitoring studies indicate that Lake Anna and the North Anna River continue to contain healthy, well-balanced ecological communities." (NAS-AA-16)

Response: *The comment is noted. The comment relates to cumulative impact issues and will be considered in the preparation of the SEIS. Aquatic resources are discussed in Chapters 2 and 4 of the SEIS.*

Comment: Page 6-2. The Service believes many of the impacts discussed above will fall under this policy [mitigation]. We do not agree that all impacts of license renewal are small and would not require mitigation. The current operations do include some mitigation activities that would continue during the term of the license renewal, but additional efforts in the areas of fisheries, water quality, and possibly endangered species will protect and enhance the natural resources in Lake Anna and North Anna River. As stated, Dominion performs routine mitigation and monitoring activities associated with environmental permits to ensure the safety of workers,

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the public, and the environment. These activities include the radiological environmental monitoring program, continuous emission monitoring, monitoring of aquatic biota that could be affected by NAPS operation, effluent chemistry monitoring, and effluent toxicity testing.” As the NRC’s statutory requirements state, “The report must contain a consideration of alternatives for reducing adverse impacts...for all Category 2 license renewal issues.... 10 CFR 51.53(c)(3)(iii). The environmental report shall include an analysis that considers and balances...alternatives available for reducing or avoiding adverse environmental effects.... 10 CFR 51.45(c) as incorporated by 10 CFR 51.53(c)(2).” (NAS-AA-17)

Response: *The comment is noted. Mitigation will be considered for all Category 2 issues that are applicable. [For Category 1 issues, Table B-1 in Subpart A of Part 51 states that mitigation has been considered in the staff’s analysis of these issues, and it has been determined that additional plant-specific mitigation measures are not likely to be sufficiently beneficial to warrant implementation. Unless the staff finds new and significant information in relation to these issues, the NRC will adopt the conclusion from Table B-1.] The comment did not provide any new information. However, the NRC plans to discuss this issue further with FWS because it is a cognizant Federal agency.*

5. Comments Concerning Terrestrial Resource Issues

Comment: The Company [Dominion] has adopted policies that are compatible with protecting our natural resources. They work to protect all migratory birds with policies and procedures from the U.S. Department of Wildlife. (NAS-C-4)

Response: *The comment is noted. Terrestrial resources will be discussed in Chapter 2 of the SEIS. The comment supports North Anna Power Station, Units 1 and 2. The comment provides no new information and, therefore, will not be evaluated further.*

6. Comments Concerning Postulated Accident Issues

As stated in 10 CFR Part 51, Subpart A, Appendix B, Table B-1, design basis accidents is the only Category 1 issue associated with postulated accidents. For severe accidents (i.e., beyond design basis accidents), the staff concluded that the probability-weighted environmental consequences from severe accidents are small for all plants, but that alternatives to mitigate severe accidents must be considered for all plants that have not considered such alternatives. See 10 CFR 51.53(c)(3)(ii)(L).

Comment: There are earthquake fault lines under the storage pools. What would happen if there were an earthquake and the pools leaked? (NAS-Z-11)

Comment: Any environmental study must include the possibilities of a substantial release of radioactivity due to: 3) earthquake greater than 6.5 on the Richter scale, and its effects, specifically on the storage pools which are on a known earthquake fault line; tornadoes. (NAS-Z-23)

Response: *The comments are noted. Severe accidents, including events initiated by earthquakes and tornadoes, were evaluated in the GEIS and the impacts were determined to be small for all plants. A site-specific analysis of Severe Accident Mitigation Alternatives for North Anna will be performed by the NRC staff within this environmental analysis. The comments provide no new information and will not be evaluated further in the context of the environmental review.*

7. Comments Concerning Category 1 Uranium Fuel Cycle and Waste Management Issues

As stated in 10 CFR Part 51, Table B-1, Category 1 uranium fuel cycle and waste management issues include:

- Offsite radiological impacts (individual effects from other than the disposal of spent fuel and high-level waste)
- Offsite radiological impacts (collective effects)
- Offsite radiological impacts (spent fuel and high-level waste)
- Nonradiological impacts of the uranium fuel cycle
- Low-level waste storage and disposal
- Mixed waste storage and disposal
- Onsite spent fuel
- Nonradiological waste.

Comment: There is the issue of the high level nuclear waste that is generated through the process of irradiating the fuel, and at this point there is no known way to safely dispose of high-level nuclear waste. (NAS-H-5)

Comment: Just (operating) the North Anna Power Plant for the 20 years that's being proposed would result in an additional 400 metric tons of high level waste being added to the mix, the mix being already a mounting stockpile with no solution in sight. (NAS-H-6)

Comment: The issue of high-level waste needs to be looked at as a very severe environmental impact and at this point an unsolvable environmental impact of nuclear power. (NAS-H-15)

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Comment: The county has an agreement with Virginia Power limiting how much storage space they can use on the dry cask, which could be a limiting factor in extending the life of the plant. So that's something that needs to be looked at. (NAS-R-3)

Comment: We need to talk about high and low level waste. The high level waste has not been moved, Yucca Mountain, or a storage place hasn't been done. The regional low-level waste compact is bankrupt, and we're sitting -- there are hundreds of tons of low-level waste sitting on the shores of Lake Anna. (NAS-R-9)

Comment: Further, each operating nuclear reactor generates about 20 metric tons of high-level nuclear waste annually. Relicensing North Anna would add 800 metric tons of waste to the nation's mounting waste stockpile, which already poses health, safety, and environmental concerns. (NAS-T-5)

Comment: That dump [Yucca Mountain in Nevada] would not be able to accommodate the additional volume of waste from relicensed reactors, such as North Anna. (NAS-T-6)

Comment: Dry cask storage has been the answer to the waste problem at the plant. That multiplies our exposure, and a 20-year extension on the license will only extend our possibilities for exposure. So this issue needs to be dealt with. (NAS-U-6)

Comment: I know the NRC cannot make policy on how to deal with radioactive spent fuel, but this is an issue that has been talked about and discussed and waffled back and forth for at least 25 years, and we still sit at the same position we did that many years ago with a very limited policy and no long-range plan. (NAS-U-7)

Comment: First and foremost are the issues of high and low level radioactive wastes. It is philosophically impossible to divorce the matters of waste from the operations of the plants or from the consideration of license renewal for extended operation. One cannot logically say that this matter is being taken care of in another venue when it clearly is not; in spite of repeated attempts by the NRC, the Congress, the nuclear industry, the DOE, the DOD, and others over many, many years, there is not, nor will there be in the near future, a permanent repository for the tons of high level wastes that are already stored and continue to be generated annually by this and other nuclear power plants. Because there currently is no approved off-site storage for the high level wastes, and even under the most optimistic forecasts of the NRC and utilities, these wastes will not be completely moved by either the original end date of the license, or even by the new end date (if the renewal is approved), the multiple matters of the storage of these wastes on site must be considered. Further, logic dictates that no renewal should even be considered unless and until the ultimate disposal has been approved and the facility(ies) open

and operational. To ignore this fundamental issue in this relicensing matter is a fundamental flaw in the process. (NAS-Z-1)

Comment: One must consider the low level wastes that are stored on site and continue to be generated. The Congressional mandate for the radioactive material generating states to band into regional compacts has been reduced to a shambles in the case of Virginia and the North Anna Power Station. There is no compact, no agreement, no plan. Barnwell has set a cut off date. Hundreds of tons of low-level waste sit next to Lake Anna (mostly in the form of the old discarded generators) without a reasonable expectation of how, where, or when they will be disposed of properly. (NAS-Z-2)

Comment: The County and VA Power have an agreement concerning the use of dry cask storage. The County may deny further pad construction. If there is no place to put the high level wastes, is it prudent to approve license renewal? How much space would it take to hold all the wastes if there is no permanent repository? Is there space available? Where? (NAS-Z-13)

Comment: With North Carolina dropping out, the Southeastern Compact is dead. Barnwell has put an end date on accepting out of state rad waste. Where will these wastes go? When? When will the generators be cut up and disposed? What would be the effect if a tornado hit the stored generators and threw them into the Lake? Is any low level waste now being disposed of in the local landfill? How much? What are the environmental effects? (NAS-Z-15)

Comment: There has been open discussion, in light of the federal government's failure to provide an environmentally safe permanent repository for the spent fuel, that the title of these high level wastes be given to the DOE and the DOE be responsible for the wastes on site. This matter must be seriously considered. The DOE has an unblemished record of failure in dealing with all matters nuclear. Every facility has serious environmental problems. Granting a license renewal to the utility, with the possibility of the DOE operating on site, is very, very, very risky. (NAS-Z-16)

Response: *Onsite storage of spent nuclear fuel is a Category 1 issue. The safety and environmental effects of long-term storage of spent fuel onsite have been evaluated by the NRC and, as set forth in the Waste Confidence Rule (10 CFR 51.23), the NRC generically determined that such storage could be accomplished without significant environmental impact. In the Waste Confidence Rule, the Commission determined that spent fuel can be stored onsite for at least 30 years beyond the licensed operating life, which may include the term of a renewed license. At or before the end of that period, the fuel would be moved to a permanent repository. The "Generic Environmental Impact Statement for License Renewal of Nuclear Plants (GEIS)," NUREG-1437 is based upon the assumption that storage of the spent fuel*

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onsite is not permanent. The plant-specific supplement to the GEIS that will be prepared regarding license renewal for the North Anna Power Station, Units 1 and 2, will be based on the same assumption.

Likewise, the matter of processing and storage of low-level waste is considered a Category 1 issue. The conclusion regarding this issue in the GEIS included consideration of the long-term storage of low level waste on site during the license renewal term. The comments provide no new information and, therefore, will not be evaluated further.

Comment: We have the issue of MOX [mixed oxide fuel]. (NAS-G-5)

Comment: If MOX is used at the plant, the protocol of an accident changes, and we're set with hot spots on the core. (NAS-G-6)

Comment: Virginia Power has not signed out of the MOX agreement. While they've said they're not going to use it, they're in agreement with the DOE, and they haven't signed out of the agreement. They're still in it. (NAS-G-7)

Comment: We talked about MOX, that Virginia Power had flip-flopped on MOX, gone back and forth. It now says they don't want to use it, but a profile needs to be used if they're going to bring in weapons grade plutonium MOX and use it here at the plant. (NAS-R-4)

Comment: VA. Power had been asked at one of the annual meetings if they planned to use MOX fuel at North Anna. W.R. Matthews, then Station Manager and now Senior Vice-President, Nuclear Operations, wrote to the Board of Supervisors and to me, specifically stating that they would not use MOX. Within two years they reversed course and signed with the DOE, Duke and Cogema to participate in the US MOX program at North Anna. Subsequently they announced they were dropping the MOX program for North Anna. In a meeting of the dry cask committee, representatives of VA Power admitted to me and members of the Board of Supervisors that they only dropped the MOX program for public relations reasons in order to satisfy the public and regulators in Connecticut while they were buying Millstone Nuclear Power Plant. They have not ended their contractual agreement with the DOE yet. With a clear message that VA Power is untrustworthy on this specific issue, MOX must be considered in this license renewal. The releases in the event of any accident would be different if MOX were being used; storage issues, in both the pools and the dry casks, are different. The long term effects on the core, including hot spots and extra plutonium in the rods, must be considered. Without going into greater scientific detail (all of which is easily available), MOX considerably alters both operations and potential accidents. (NAS-Z-8)

Response: *The comments are noted. At the time the VEPCo application for North Anna license renewal was submitted, the licensee stated that MOX fuel was not going to be considered for North Anna. The licensee's withdrawal from the Department of Energy's Plutonium Disposition Project (the source of the MOX fuel) is documented in a letter to the NRC dated April 24, 2000. To date that position has not changed. However, even if VEPCo were to consider using MOX fuel in the future, any evaluation of the associated application would be an operational issue and not one for license renewal. If the North Anna licenses are renewed and a future application for the use of MOX fuel is received, the staff's review would consider the period of the renewed licenses. The comments provide no new information, and do not pertain to the scope of license renewal as set forth in 10 CFR Part 51 and Part 54 and will not be considered further.*

8. Comments Concerning Category 2 Socioeconomic Issues

As stated in 10 CFR Part 51, Table B-1, Category 2 socioeconomic issues are:

- Housing
- Public services: public utilities
- Public services: education (refurbishment)
- Offsite land use (refurbishment)
- Offsite land use (license renewal term)
- Public services: transportation
- Historic and archaeological resources.

Comment: The biggest contribution that Dominion makes is in regard to our employment and tax base. (NAS-A-5)

Comment: Dominion is, by far, the largest employer in the county, employing over 900 people, and it contributes over \$12 million a year in real property tax. (NAS-A-6)

Comment: North Anna Power Station is a good economic development partner. (NAS-B-1)

Comment: The financial benefits are extremely attractive to the county. (NAS-C-1)

Comment: The combined salaries reach almost \$50 million, which contributes significantly to our local economy. (NAS-C-2)

Comment: They paid last year ten and a half million dollars to the County of Louisa, and since the inception, they have paid \$160 million in taxes to the County of Louisa. (NAS-C-3)

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Comment: North Anna desires to be a good corporate citizen, and they've proven to be one. (NAS-C-6)

Comment: This facility has had a tremendous economic benefit to the citizens of Orange County and its other surrounding counties. (NAS-D-2)

Comment: We have 300 of our employees that live in Louisa, and then we have almost 900 people who work at the plant, and then during outages, we bring another eight or 900 people in from other locations to work for up to a month at North Anna. (NAS-J-16)

Comment: All of the people [North Anna employees] live in the local community; support the local community and the restaurants here. (NAS-J-17)

Comment: Other site-specific issues that we [North Anna] looked at included socioeconomic impacts. We found positive contribution to the local infrastructure. (NAS-K-10)

Comment: This generation contributes to the economy of Virginia and the counties in which they operate. (NAS-M-6)

Comment: Fourthly, since 1966, Dominion Resources, North Anna Power Company, has paid approximately \$160 million in property taxes to Louisa County. (NAS-M-7)

Comment: So the employees in the town that work at Dominion Power and the money that is made there that comes back through, and they get gas at the gas station, and they run by and get a loaf of bread on their way home. (NAS-N-2)

Comment: Through the availability of the tax base assessed on the North Anna Power Plant, the county has been available and able to provide services, which could only have been accomplished through double and triple taxation on the citizens that are already here without North Anna's help. (NAS-P-6)

Comment: The North Anna Power plant employs more than 825 people of which a large number consists of Louisa County citizens and town citizens, which in turn share their salaries with many of the businesses in the town and county. (NAS-P-7)

Comment: The biggest [way North Anna contributes], of course, is the tax dollars, over \$10 million a year. (NAS-Q-2)

Comment: Dominion Power has 825 employees, I believe. About a third of those are from Louisa County. So a lot of our citizens work there and rely on that. (NAS-Q-4)

Comment: Just recently I had over 830 people at North Anna in addition to the normal workers. Those people all live in Louisa and in Mineral. They spend their money here. They spend time in the restaurants, hotels, food stores, and so forth, and they are part of the community. They may come and go, but they're part of the community for that short period of time. (NAS-W-3)

Comment: We [North Anna] looked at site specific issues including socioeconomic impacts. (NAS-X-11)

Comment: With regard to socioeconomic impacts, we [North Anna] found positive contribution to the local infrastructure. (NAS-X13)

Comment: Over 900 persons are employed at the station, making it one of the largest employers in the area. (NAS-AB-2)

Response: *The comments are noted. Socioeconomic issues specific to the plant are Category 2 issues and will be addressed in Chapter 4 of the SEIS. The comments support license renewal at the North Anna Power Station, Units 1 and 2.*

Comment: Many of the speakers praised VA Power for its positive economic effects on the community and the taxes paid. What would be the effect if the plant did not get a license renewal? How would the County budget be affected? What would happen to land and house values? On the same course, what would happen if there were an accident at the plant? What would happen to land and house values? How much insurance does VA Power have, and who and what would it cover? (NAS-Z-25)

Response: *Socioeconomic factors of license renewal are considered as a Category 2 issue in the GEIS and therefore are looked at site specifically and will be discussed in the plant-specific supplement to the GEIS for North Anna license renewal. No new information was provided by the comment. Therefore it will not be evaluated further.*

Comment: Other site-specific issues that we [North Anna] looked at included impacts on cultural resources. Because there will be no new construction activity, continued operation of the station means that the cultural resources impacts are also negligible. (NAS-K-12)

Comment: Other site-specific issues that we [North Anna] looked at included impacts on cultural resources. Because there will be no new construction activity, continued operation of the station means that the cultural resources impacts are also negligible. (NAS-X-12)

Response: *The comments are noted. Historic and archaeological resources are considered a Category 2 issue and will be discussed in Chapters 2 and 4 of the SEIS. The comment provides no new information and, therefore, will not be evaluated further.*

9. Comments Concerning Category 2 Aquatic Ecology Issues

As stated in 10 CFR Part 51, Table B-1, Category 2 aquatic ecology issues are:

- Entrainment of fish and shellfish in early life stages
- Impingement of fish and shellfish
- Heat shock.

Comment: Page 4-6. The Service is concerned with impacts from entrainment of fish and shellfish in early life stages that occur at most power plants. In light of fish passage measures that may be prescribed to mitigate these impacts, this issue should be evaluated for the current and post restoration fish community. The report states, "Section 316(b) of the CWA requires that any standard established pursuant to Sections 301 or 306 of the CWA shall require that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impacts (33 USC 1326). Entrainment through the condenser cooling system of fish and shellfish in the early life stages is one of the adverse environmental impacts that the best technology available minimizes. Virginia State Water Control Board regulations provide that compliance with a Virginia Pollutant Discharge Elimination System (VPDES) permit constitutes compliance with Sections 301 and 306 of the CWA (Ref. 4.2-1). In response to Board requirements, Dominion submitted a CWA Section 316(b) demonstration for NAPS in May 1985 (Ref. 4.2-2). Based on this and other input, the Board issued the NAPS VPDES Permit (Appendix B). Issuance of the NAPS VPDES permit indicates the Board's conclusion that NAPS, is operating in conformance with the permit, would be in compliance with the CWA requirements (Commonwealth of Virginia 2001). Dominion concludes that the Commonwealth regulation and the NAPS VPDES permit constitute the NAPS CWA 316(b) determination. Dominion also concludes that any environmental impact from entrainment of fish and shellfish in early life stages is small and does not require further mitigation." (NAS-AA-7)

Comment: Page 4-8. The Service agrees with the NRC that concludes that impingement of fish and shellfish is a significant issue. "NRC made impacts on fish and shellfish resources resulting from impingement a Category 2 issue because it could not assign a single significance level to the issue." The Service believes the impacts will likely require mitigation. The report states, "Impingement impacts are small at many plants, but might be moderate or large at other plants (Ref. 4.0-1, Chapter 4.2.2.1.3). Information to be ascertained includes: (1) type of cooling system (whether once-through or cooling pond), and (2) current CWA 316(b)

determination or equivalent state documentation. As Chapter 3.1.2 describes, NAPS has a once-through heat dissipation system. Chapter 4.2 discusses the CWA 316(b) demonstration for NAPS, indicating compliance with the use of best available technology. Chapter 2.5 also states that no federally- or state listed fish species have been collected in any monitoring studies, nor has any listed species been observed in creel surveys conducted by Dominion biologists and affiliated researchers. Based on the results of the CWA 316(b) Demonstration, Dominion concludes that this environmental impact is small. (NAS-AA-8).

Comment: Page 2-6. The Service is concerned with water quality and aquatic habitat impacts from thermal discharges, the canal systems, and the Waste Heat Treatment Facilities (Issues # 5, 18, & 44). The report described the conditions as, "Since its creation, Lake Anna has developed into a reservoir with three distinct ecological zones: Upper Lake, Mid-Lake, and Lower Lake. The Upper Lake is essentially riverine, shallow (average depth of 13 feet), and shows some evidence of stratification in summer. The Mid-Lake is deeper and stratifies in summer. It receives waters from Contrary Creek that, because of years of mining in its floodplain, are sometimes low in pH and high in metals. As noted earlier in this chapter, creation of Lake Anna has reduced the impacts of acid mine drainage on the North Anna River. The Lower Lake is deeper (average depth of 36 feet), clearer (with more light penetration), and shows pronounced annual patterns of winter mixing and summer stratification. The epilimnion (warm layer above the thermocline) was generally eight feet deep during pre-operational years, and 26 to 33 feet deep during operational years. The increase in depth of the epilimnion appears to be related to the heated discharge entering the reservoir from dike 3 (see Figure 3-2) and the withdrawal of cooler, deeper water at the NAPS intake (Ref. 2.2-3)." (NAS-AA-9)

Comment: Page 2-7. The VEPCo report continues to describe adverse thermal effect on aquatic organisms, "Results of Lake Anna temperature monitoring indicate that the shallower Upper Lake warms earlier in spring and reaches maximum temperature in summer sooner than the Lower Lake. The Lower Lake, with its greater depth and volume, warms more slowly in spring and retains its heat later in the year. It is estimated that the heat contributed by NAPS corresponds to about 10 percent of the solar heat that enters the reservoir on summer days (Ref. 2.2-3)". (NAS-AA-10)

Comment: Page 2-7. The Service would like to review the water temperature ranges from the report "Dominion's Environmental Policy & Compliance-Environmental Biology group submits annual reports to the Virginia Department of Environmental Quality on water temperatures and fisheries monitoring in Lake Anna and the Lower North Anna River." Specifically, the water temperature data from the month of August, 1983, when the mean water temperature was greater than 88°F. (NAS-AA-11)

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Comment: Page 4-9. As the NRC states, the Service believes heat shock impacts are important and need to be mitigated to the fullest extent possible. The report states, "NRC made impacts on fish and shellfish resources resulting from heat shock a Category 2 issue, because of continuing concerns about thermal discharge effects and the possible need to modify thermal discharges in the future in response to changing environmental conditions (Ref. 4.0-1, Chapter 4.2.2.1.4). Information to be ascertained includes: (1) type of cooling system (whether once-through or cooling pond), and (2) evidence of a CWA Section 316(a) variance or equivalent state documentation. As Chapter 3.1.2 describes, NAPS has a once-through heat dissipation system. As discussed below, Dominion has a Section 316(a) variance for NAPS discharges. Section 316(a) of the CWA establishes a process whereby a thermal effluent discharger can demonstrate that thermal discharge limitations are more stringent than necessary and, using a variance, obtain alternative facility-specific thermal discharge limits (33 USC 1326). Dominion submitted a CWA Section 316(a) Demonstration for NAPS to the Virginia State Water Control Board on June 24, 1986 (Ref. 4.4-1). The Fact Sheet (Item 22) accompanying the current NAPS VPDES permit (Appendix B) refers to this submittal, indicating that effluent limitations more stringent than the thermal limitations included in the permit are not necessary to assure the protection and propagation of a balanced indigenous community of shellfish, fish, and wildlife in Lake Anna and in the North Anna River downstream of the Lake. Based on the results of the CWA Section 316(a) Demonstration and the NAPS VPDES permit, Dominion concludes that this environmental impact is small and does not warrant further mitigation." (NAS-AA-12)

Comment: We [North Anna] also designed and constructed a series of three cooling lagoons totaling 3,400 surface acres, designated as the waste heat treatment facility. (NAS-K-2)

Comment: We [North Anna] conducted a study that looked at the impacts of this waste heat on the biota of Lake Anna. Using past information, coupled with new information, we found no long-term deleterious effects, and the Virginia State Water Control Board, which is now the Department of Environmental Quality, agreed with our findings. (NAS-K-7)

Comment: We [North Anna] studied water withdrawal issues, and again, we demonstrated no long-term deleterious effects on the lake, and the Water Board again concurred with our findings. (NAS-K-8)

Comment: In the mid-'80s, we conducted a study that looked at the impacts of this waste heat on the biota of Lake Anna. Using past information coupled with new information, we found no long-term deleterious effects, and the Virginia State Water Control Board, which is now called the Department of Environmental Quality, agreed with our findings. (NAS-X-8)

Comment: We [North Anna] looked at water withdrawal, which is the water that I mentioned earlier that is used for cooling, we did a study of the water withdrawal, and again, we demonstrated no long-term deleterious effects on the lake, and the Water Board, now DEQ, again, concurred with our findings. (NAS-X-9)

Response: *The comments are noted and relate to aquatic Category 2 issues. Aquatic ecology will be discussed in Chapter 2 and environmental impacts of operation will be discussed in Chapter 4 of the SEIS. The comments provide no new information and, therefore, will not be evaluated further. The NRC will provide the information that FWS requested.*

10. Comments Concerning Category 2 Threatened and Endangered Species Issues

As stated in 10 CFR Part 51, Table B-1, Category 2 threatened or endangered species issues are:

- Threatened or endangered species.

Comment: Page 2-16. The Service commends VEPCo for their description of Federal and State threatened and endangered species, and the company's efforts to initiate informal consultation on these issues. The report describes the conditions as, "Animal and plant species that are federally- or state-listed as endangered or threatened and that occur or could occur (based on habitat and known geographic range) in the vicinity of NAPS or along associated transmission lines are listed in Table 2-1. Bald eagles (*Haliaeetus leucocephalus*), state and federally classified as threatened, are occasionally observed along Lake Anna. The bald eagle forages along coasts, rivers, and large lakes. Dominion is not aware of any eagle nests at NAPS or along the transmission lines. Loggerhead shrikes (*Lanius ludovicianus*), state-classified as threatened, have been observed in the vicinity of NAPS. Loggerhead shrikes inhabit agricultural lands and other open areas. With the exception of the bald eagle and loggerhead shrike (*Lanius ludovicianus*), terrestrial species that are federally- and/or state-listed as endangered or threatened are not known to exist at NAPS or along the transmission lines. As of February 2000, there were no candidate federally threatened or endangered species that Dominion believes might occur at NAPS or along the transmission lines (Ref. 2.5-1)." (NAS-AA-13)

Comment: Page 2-17. The report states errors and gaps in the data regarding some fish and mussel species that need clarification. The report states, "No Federal-listed fish species' range includes the North Anna River and Lake Anna. One state-listed species, the emerald shiner (*Notropis atherinoides*), appears on a Final Environmental Statement list of fish collected in the North Anna River prior to its impoundment (Ref. 2.2-1, Appendix 2.14). However, according to several authoritative sources (Refs. 2.5-3, pp. 397-401, and 2.5-4, pp. 321-409), this species is

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known only from the Clinch and Powell Rivers in the extreme western part of the state. It appears that the fish was misidentified. The emerald shiner is often confused with the closely related comely shiner (*Notropis amoenus*), which occurs throughout the York River drainage and has been documented from Lake Anna and the North Anna River (Ref. 2.5-3). The comely shiner was not listed in the Final Environmental Statement, but has been collected regularly by Dominion biologists in post-operational monitoring of the lower North Anna River (Ref. 2.2-8, Tables 4.2.2 and 4.2.3). The emerald shiner has not been collected in any of the post-operational surveys or monitoring studies. Based on the Virginia Department of Game & Inland Fisheries' Fish and Wildlife Information Service database, as many as two state- and Federal-listed freshwater mussel species could occur in streams in the vicinity of NAPS, or in streams crossed by NAPS transmission corridors (Table 2-1). It should be emphasized that neither of these species has actually been observed as occurring in streams in the vicinity of NAPS or in streams crossed by its transmission corridors." (NAS-AA-14)

Comment: Page 2-18. "None of these mussel species was collected in pre-impoundment surveys of the North Anna River, and none has been collected in more recent years by Dominion biologists conducting routine monitoring surveys. Three bivalve species were collected in the North Anna basin prior to impoundment: *Elliptio complanatus*, *Elliptio productus*, and *Sphaerium striatum* (Ref. 2.2-1, Appendix 2.13). None of these is a special-status species. In more recent years, the introduced Asiatic clam (*Corbicula fluminea*) has dominated collections from both Lake Anna and the lower North Anna River. Small numbers of Unionids (*Elliptio sp.*) and fingernail clams (*Sphaeriidae*) have also been collected. Acid drainage and sediment from the Contrary Creek mine site (see Chapter 2.2 discussion) historically depressed mussel populations downstream from the Contrary Creek-North Anna River confluence but, in the 1980s, there were indications that mussel populations (*Elliptio sp.*) were recovering in the lower North Anna River (Ref. 2.2-3, Chapter 6.2)." (NAS-AA-15)

Response: *The staff acknowledges the comments. The appropriate descriptive information regarding the plant-specific ecology and threatened or endangered species of the site will be addressed in Chapters 2 and 4 of the SEIS.*

Comment: The evaluation of threatened and endangered species was a little different in that we [North Anna] had to go to state and Federal agencies to investigate possible impacts on listed species. The research showed no impact to any threatened or endangered species as a result of the operation of North Anna Power Station and its associated transmission lines. (NAS-K-9)

Comment: The evaluation of threatened and endangered species was a little different in that we had to go to state and Federal agencies to investigate possible impacts on listed species.

The research showed no impact to any threatened or endangered species as a result of the operation of North Anna and its associated transmission lines. (NAS-X-10)

Response: *The comments are noted. The comments acknowledge the importance of the manner in which North Anna Power Station operates the site to the benefit of threatened and endangered species. The appropriate descriptive information regarding the plant-specific ecology of the site will be addressed in Chapter 2 of the SEIS.*

Part II - Comments Received on the Draft SEIS

Pursuant to 10 CFR Part 51, the staff transmitted the *Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Regarding North Anna Power Station, Units 1 and 2, Draft Report for Comment* (NUREG-1437, Supplement 7, referred to as the draft SEIS) to Federal, State, and local government agencies as well as interested members of the public, requesting comments by August 1, 2002. As part of the process to solicit public comments on the draft SEIS, the staff:

- placed a copy of the draft SEIS into the NRC's electronic Public Document Room, its license renewal website, the Alderman Library at the University of Virginia in Charlottesville, Virginia, and the Louisa County Public Library in Mineral, Virginia
- sent copies of the draft SEIS to the applicant, members of the public who requested copies, and certain Federal, State, and local agencies
- published a notice of availability of the draft SEIS and opportunity for comment in the Federal Register on May 16, 2002 (67 FR 34960)
- issued public announcements, such as advertisements in local newspapers and postings in public places, of the availability of the draft SEIS
- announced and held two public meetings in Louisa, Virginia, on June 25, 2002, to describe the results of the environmental review and answer related questions
- issued public service announcements and press releases announcing the issuance of the draft SEIS, the public meetings, and instructions on how to comment on the draft SEIS
- established a website to receive comments on the draft SEIS through the Internet.

During the comment period, the staff received a total of 4 comment letters in addition to the comments received during the public meetings.

The staff has reviewed the public meeting transcripts and the 4 comment letters that are part of the docket file for the application, all of which are available in the NRC's electronic Public Document Room. Appendix A, Part II, Section A.1 contains a summary of the comments and the staff's responses. Related issues are grouped together. Appendix A, Part II, Section A.2 contains excerpts of the June 25, 2002, public meeting transcripts, the written statements provided at the public meetings, and the comment letters.

Each comment identified by the staff was assigned a specific alpha-numeric identifier (marker). That identifier is typed in the margin of the transcript or letter at the beginning of the discussion of the comment. A cross-reference of the alpha-numeric identifiers, the speaker or author of the comment, the page where the comment can be found, and the section(s) of this report in which the comment is addressed is provided in Table A-2. The speakers at the meetings are listed in speaking order along with the page of the transcript excerpts in this report on which the comment appears. These comments are identified by the letters "NAD" followed by a number that identifies each comment in approximate chronological order in which the comments were made. The written statements (from the public meetings) and written comment letters are also identified by the letters "NAD."

The staff made a determination on each comment that it was one of the following:

- (1) a comment that was actually a request for information and introduced no new information
- (2) a comment that was either related to support or opposition of license renewal in general (or specifically North Anna Power Station, Units 1 and 2) or that made a general statement about the license renewal process. It may have made only a general statement regarding Category 1 and/or Category 2 issues. In addition, it provided no new information and does not pertain to safety considerations reviewed under 10 CFR Part 54.
- (3) a comment about a Category 1 issue that
 - (a) provided new information that required evaluation during the review, or
 - (b) provided no new information
- (4) a comment about a Category 2 issue that
 - (a) provided information that required evaluation during the review, or
 - (b) provided no such information
- (5) a comment that raised an environmental issue that was not addressed in the GEIS or the draft SEIS
- (6) a comment on safety issues pertaining to 10 CFR Part 54, or
- (7) a comment outside the scope of license renewal (not related to 10 CFR Parts 51 or 54).

There was no significant new information provided on Category 1 issues [(3)(a) above] or information that required further evaluation on Category 2 issues [(4)(a)]. Therefore, the GEIS and draft SEIS remained valid and bounding, and no further evaluation was performed.

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Comments without a supporting technical basis or without any new information are discussed in this appendix, and not in other sections of this report. Relevant references that address the issues within the regulatory authority of the NRC are provided where appropriate. Many of these references can be obtained from the NRC Electronic Public Document Room.

Within each section of Part II of this appendix (A.1.1 through A.1.18), similar comments are grouped together for ease of reference, and a summary description of the comments is given, followed by the staff's response. Where the comment or question resulted in a change in the text of the draft report, the corresponding response refers the reader to the appropriate section of this report where the change was made. Revisions to the text in the draft report are designated by vertical lines beside the text.

Some numbers were initially assigned to portions of verbal or written statements that were later determined not to be comments. These items were removed from the table. As a result, not all numbers are sequential (see Table A-2.)

Table A-2. Comment Log

No.	Speaker or Author	Source	Page of Comment	Section(s) Where Addressed
NAD-A-1	J. Wright	Afternoon Meeting Transcript (06/25/02)	A-48	A.1.14
NAD-A-2	J. Wright	Afternoon Meeting Transcript (06/25/02)	A-40	A.1.11
NAD-A-3	J. Wright	Afternoon Meeting Transcript (06/25/02)	A-48	A.1.14
NAD-A-4	J. Wright	Afternoon Meeting Transcript (06/25/02)	A-32	A.1.3
NAD-A-5	J. Wright	Afternoon Meeting Transcript (06/25/02)	A-52	A.1.18
NAD-A-6	J. Wright	Afternoon Meeting Transcript (06/25/02)	A-32	A.1.3
NAD-B-1	M. Lowe	Afternoon Meeting Transcript (06/25/02)	A-32	A.1.3
NAD-B-2	M. Lowe	Afternoon Meeting Transcript (06/25/02)	A-32	A.1.3
NAD-B-3	M. Lowe	Afternoon Meeting Transcript (06/25/02)	A-40	A.1.11
NAD-B-4	M. Lowe	Afternoon Meeting Transcript (06/25/02)	A-52	A.1.18
NAD-B-5	M. Lowe	Afternoon Meeting Transcript (06/25/02)	A-52	A.1.18
NAD-B-6	M. Lowe	Afternoon Meeting Transcript (06/25/02)	A-32	A.1.3
NAD-B-7	M. Lowe	Afternoon Meeting Transcript (06/25/02)	A-52	A.1.18
NAD-B-8	M. Lowe	Afternoon Meeting Transcript (06/25/02)	A-52	A.1.18
NAD-C-1	D. Green	Afternoon Meeting Transcript (06/25/02)	A-32	A.1.3
NAD-C-2	D. Green	Afternoon Meeting Transcript (06/25/02)	A-48	A.1.14
NAD-C-3	D. Green	Afternoon Meeting Transcript (06/25/02)	A-32	A.1.3
NAD-C-4	D. Green	Afternoon Meeting Transcript (06/25/02)	A-49	A.1.14
NAD-D-1	J. Davis	Afternoon Meeting Transcript (06/25/02)	A-49	A.1.14
NAD-D-2	J. Davis	Afternoon Meeting Transcript (06/25/02)	A-56	A.1.18
NAD-D-3	J. Davis	Afternoon Meeting Transcript (06/25/02)	A-49	A.1.14
NAD-D-4	J. Davis	Afternoon Meeting Transcript (06/25/02)	A-52	A.1.18
NAD-D-5	J. Davis	Afternoon Meeting Transcript (06/25/02)	A-36	A.1.7
NAD-D-6	J. Davis	Afternoon Meeting Transcript (06/25/02)	A-32	A.1.3
NAD-D-7	J. Davis	Afternoon Meeting Transcript (06/25/02)	A-40	A.1.11
NAD-D-8	J. Davis	Afternoon Meeting Transcript (06/25/02)	A-53	A.1.18
NAD-D-9	J. Davis	Afternoon Meeting Transcript (06/25/02)	A-49	A.1.14

Table A-2. (contd)

No.	Speaker or Author	Source	Page of Comment	Section(s) Where Addressed
NAD-D-10	J. Davis	Afternoon Meeting Transcript (06/25/02)	A-33	A.1.3
NAD-E-1	J. White	Afternoon Meeting Transcript (06/25/02)	A-33	A.1.3
NAD-E-2	J. White	Afternoon Meeting Transcript (06/25/02)	A-33	A.1.3
NAD-E-3	J. White	Afternoon Meeting Transcript (06/25/02)	A-36	A.1.7
NAD-E-4	J. White	Afternoon Meeting Transcript (06/25/02)	A-33	A.1.3
NAD-F-1	J. Kogle	Afternoon Meeting Transcript (06/25/02)	A-33	A.1.3
NAD-G-1	B. Murphy	Afternoon Meeting Transcript (06/25/02)	A-33	A.1.3
NAD-G-2	B. Murphy	Afternoon Meeting Transcript (06/25/02)	A-54	A.1.18
NAD-G-3	B. Murphy	Afternoon Meeting Transcript (06/25/02)	A-37	A.1.9
NAD-G-4	B. Murphy	Afternoon Meeting Transcript (06/25/02)	A-37	A.1.8
NAD-G-5	B. Murphy	Afternoon Meeting Transcript (06/25/02)	A-37	A.1.8
NAD-G-6	B. Murphy	Afternoon Meeting Transcript (06/25/02)	A-31	A.1.1
NAD-H-1	J. Rosenthal	Afternoon Meeting Transcript (06/25/02)	A-38	A.1.10
NAD-H-2	J. Rosenthal	Afternoon Meeting Transcript (06/25/02)	A-41	A.1.12
NAD-H-3	J. Rosenthal	Afternoon Meeting Transcript (06/25/02)	A-49	A.1.15
NAD-H-4	J. Rosenthal	Afternoon Meeting Transcript (06/25/02)	A-56	A.1.19
NAD-H-5	J. Rosenthal	Afternoon Meeting Transcript (06/25/02)	A-56	A.1.19
NAD-H-6	J. Rosenthal	Afternoon Meeting Transcript (06/25/02)	A-36	A.1.7
NAD-H-7	J. Rosenthal	Afternoon Meeting Transcript (06/25/02)	A-38	A.1.10
NAD-H-8	J. Rosenthal	Afternoon Meeting Transcript (06/25/02)	A-36	A.1.6
NAD-H-9	J. Rosenthal	Afternoon Meeting Transcript (06/25/02)	A-50	A.1.15
NAD-H-10	J. Rosenthal	Afternoon Meeting Transcript (06/25/02)	A-43	A.1.12
NAD-H-11	J. Rosenthal	Afternoon Meeting Transcript (06/25/02)	A-55	A.1.18
NAD-H-12	J. Rosenthal	Afternoon Meeting Transcript (06/25/02)	A-50	A.1.17
NAD-H-13	J. Rosenthal	Afternoon Meeting Transcript (06/25/02)	A-56	A.1.18
NAD-H-14	J. Rosenthal	Afternoon Meeting Transcript (06/25/02)	A-51	A.1.17
NAD-H-15	J. Rosenthal	Afternoon Meeting Transcript (06/25/02)	A-51	A.1.17
NAD-H-16	J. Rosenthal	Afternoon Meeting Transcript (06/25/02)	A-42	A.1.12
NAD-H-17	J. Rosenthal	Afternoon Meeting Transcript (06/25/02)	A-42	A.1.12
NAD-H-18	J. Rosenthal	Afternoon Meeting Transcript (06/25/02)	A-54	A.1.18
NAD-H-19	J. Rosenthal	Afternoon Meeting Transcript (06/25/02)	A-41	A.1.12
NAD-I-2	M. Cobb	Evening Meeting Transcript (06/25/02)	A-52	A.1.17
NAD-I-3	M. Cobb	Evening Meeting Transcript (06/25/02)	A-34	A.1.4
NAD-I-4	M. Cobb	Evening Meeting Transcript (06/25/02)	A-41	A.1.12
NAD-I-5	M. Cobb	Evening Meeting Transcript (06/25/02)	A-34	A.1.4
NAD-I-6	M. Cobb	Evening Meeting Transcript (06/25/02)	A-35	A.1.4
NAD-I-7	M. Cobb	Evening Meeting Transcript (06/25/02)	A-35	A.1.5
NAD-I-8	M. Cobb	Evening Meeting Transcript (06/25/02)	A-35	A.1.5
NAD-I-9	M. Cobb	Evening Meeting Transcript (06/25/02)	A-55	A.1.18
NAD-I-10	M. Cobb	Evening Meeting Transcript (06/25/02)	A-55	A.1.18
NAD-I-11	M. Cobb	Evening Meeting Transcript (06/25/02)	A-42	A.1.12
NAD-J-2	G. Root	Evening Meeting Transcript (06/25/02)	A-36	A.1.7
NAD-J-3	G. Root	Evening Meeting Transcript (06/25/02)	A-39	A.1.10
NAD-J-4	G. Root	Evening Meeting Transcript (06/25/02)	A-33	A.1.3
NAD-K-3	A. Dellorco	Evening Meeting Transcript (06/25/02)	A-42	A.1.12
NAD-K-4	A. Dellorco	Evening Meeting Transcript (06/25/02)	A-49	A.1.14
NAD-K-5	A. Dellorco	Evening Meeting Transcript (06/25/02)	A-51	A.1.17
NAD-K-6	A. Dellorco	Evening Meeting Transcript (06/25/02)	A-50	A.1.16

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Table A-2. (contd)

No.	Speaker or Author	Source	Page of Comment	Section(s) Where Addressed
NAD-M-1	F. Barnes	Evening Meeting Transcript (06/25/02)	A-40	A.1.11
NAD-M-2	F. Barnes	Evening Meeting Transcript (06/25/02)	A-40	A.1.11
NAD-M-3	F. Barnes	Evening Meeting Transcript (06/25/02)	A-33	A.1.3
NAD-M-4	F. Barnes	Evening Meeting Transcript (06/25/02)	A-49	A.1.14
NAD-M-5	F. Barnes	Evening Meeting Transcript (06/25/02)	A-33	A.1.3
NAD-N-1	D. Morgan	Evening Meeting Transcript (06/25/02)	A-53	A.1.18
NAD-N-2	D. Morgan	Evening Meeting Transcript (06/25/02)	A-53	A.1.18
NAD-O-1	B. Beasley	Evening Meeting Transcript (06/25/02)	A-40	A.1.11
NAD-O-2	B. Beasley	Evening Meeting Transcript (06/25/02)	A-33	A.1.3
NAD-P-1	M. Schlemmen	Evening Meeting Transcript (06/25/02)	A-53	A.1.18
NAD-P-2	M. Schlemmen	Evening Meeting Transcript (06/25/02)	A-53	A.1.18
NAD-P-3	M. Schlemmen	Evening Meeting Transcript (06/25/02)	A-53	A.1.18
NAD-P-4	M. Schlemmen	Evening Meeting Transcript (06/25/02)	A-53	A.1.18
NAD-P-5	M. Schlemmen	Evening Meeting Transcript (06/25/02)	A-53	A.1.18
NAD-Q-1	J. Davis	Evening Meeting Transcript (06/25/02)	A-49	A.1.14
NAD-Q-2	J. Davis	Evening Meeting Transcript (06/25/02)	A-56	A.1.18
NAD-Q-3	J. Davis	Evening Meeting Transcript (06/25/02)	A-49	A.1.14
NAD-Q-4	J. Davis	Evening Meeting Transcript (06/25/02)	A-52	A.1.18
NAD-Q-5	J. Davis	Evening Meeting Transcript (06/25/02)	A-36	A.1.7
NAD-Q-6	J. Davis	Evening Meeting Transcript (06/25/02)	A-32	A.1.3
NAD-Q-7	J. Davis	Evening Meeting Transcript (06/25/02)	A-40	A.1.11
NAD-Q-8	J. Davis	Evening Meeting Transcript (06/25/02)	A-53	A.1.18
NAD-Q-9	J. Davis	Evening Meeting Transcript (06/25/02)	A-49	A.1.14
NAD-Q-10	J. Davis	Evening Meeting Transcript (06/25/02)	A-33	A.1.3
NAD-R-1	J. White	Evening Meeting Transcript (06/25/02)	A-33	A.1.3
NAD-R-2	J. White	Evening Meeting Transcript (06/25/02)	A-33	A.1.3
NAD-R-3	J. White	Evening Meeting Transcript (06/25/02)	A-36	A.1.7
NAD-R-4	J. White	Evening Meeting Transcript (06/25/02)	A-33	A.1.3
NAD-S-1	I. Dusinberre	Evening Meeting Transcript (06/25/02)	A-55	A.1.18
NAD-S-2	I. Dusinberre	Evening Meeting Transcript (06/25/02)	A-35	A.1.4
NAD-T-1	D. Clark	Evening Meeting Transcript (06/25/02)	A-34	A.1.3
NAD-T-2	D. Clark	Evening Meeting Transcript (06/25/02)	A-54	A.1.18
NAD-U-1	D. Schwartz	Email (07/27/02)	A-35	A.1.4
NAD-U-2	D. Schwartz	Email (07/27/02)	A-31	A.1.2
NAD-U-3	D. Schwartz	Email (07/27/02)	A-52	A.1.17
NAD-V-1	L. Hartz	Letter (07/30/02)	A-56	A.1.19
NAD-V-2	L. Hartz	Letter (07/30/02)	A-57	A.1.19
NAD-V-3	L. Hartz	Letter (07/30/02)	A-57	A.1.19
NAD-V-4	L. Hartz	Letter (07/30/02)	A-57	A.1.19
NAD-V-5	L. Hartz	Letter (07/30/02)	A-57	A.1.19
NAD-V-6	L. Hartz	Letter (07/30/02)	A-57	A.1.19
NAD-V-7	L. Hartz	Letter (07/30/02)	A-57	A.1.19
NAD-V-8	L. Hartz	Letter (07/30/02)	A-58	A.1.19
NAD-V-9	L. Hartz	Letter (07/30/02)	A-58	A.1.19
NAD-V-10	L. Hartz	Letter (07/30/02)	A-58	A.1.19
NAD-V-11	L. Hartz	Letter (07/30/02)	A-58	A.1.19
NAD-V-12	L. Hartz	Letter (07/30/02)	A-58	A.1.19

Table A-2. (contd)

No.	Speaker or Author	Source	Page of Comment	Section(s) Where Addressed
NAD-V-13	L. Hartz	Letter (07/30/02)	A-58	A.1.19
NAD-V-14	L. Hartz	Letter (07/30/02)	A-58	A.1.19
NAD-V-15	L. Hartz	Letter (07/30/02)	A-58	A.1.19
NAD-V-16	L. Hartz	Letter (07/30/02)	A-59	A.1.19
NAD-V-17	L. Hartz	Letter (07/30/02)	A-59	A.1.19
NAD-W-1	M. Chezick	Letter (07/24/02)	A-37	A.1.9
NAD-W-2	M. Chezick	Letter (07/24/02)	A-45	A.1.13
NAD-W-3	M. Chezick	Letter (07/24/02)	A-38	A.1.9
NAD-W-4	M. Chezick	Letter (07/24/02)	A-46	A.1.13
NAD-W-5	M. Chezick	Letter (07/24/02)	A-47	A.1.13
NAD-W-6	M. Chezick	Letter (07/24/02)	A-47	A.1.13
NAD-W-7	M. Chezick	Letter (07/24/02)	A-48	A.1.13
NAD-W-8	M. Chezick	Letter (07/24/02)	A-47	A.1.13
NAD-Y-1	G. Morrison	Letter (06/25/02)	A-34	A.1.3
NAD-Y-2	G. Morrison	Letter (06/25/02)	A-49	A.1.14
NAD-Y-3	G. Morrison	Letter (06/25/02)	A-49	A.1.14
NAD-Y-4	G. Morrison	Letter (06/25/02)	A-34	A.1.3
NAD-Y-5	G. Morrison	Letter (06/25/02)	A-54	A.1.18
NAD-Y-6	G. Morrison	Letter (06/25/02)	A-56	A.1.18
NAD-Y-7	G. Morrison	Letter (06/25/02)	A-34	A.1.3

(a) This comment was determined upon later review to either be combined with another comment or to be un-related to the scope of the SEIS.

A.1 Comments and Responses

A.1.1 General Comments in Support of the License Renewal Process

Comment: We are in favor of renewing the license, and thanks for the statement. (NAD-G-6)

Response: *The comment is noted. The comment is supportive of license renewal and its processes, and is general in nature. The comment provides no new information and, therefore, will not be evaluated further.*

A.1.2 General Comments in Opposition of the License Renewal Process

Comment: We need to phase out all nuclear power plants because it is highly irresponsible for our generation to create the nuclear waste that generations thousands of years to come will have to continue to monitor long after our civilization has died out. This is playing God on a grand scale in an area where we have no business trading. Nuclear power is ethically

untenable and morally reprehensible. We needed to have the technology for handling nuclear waste perfected decades ago, before the first plant was ever built. (NAD-U-2)

Response: *The comment is noted. The comment opposes license renewal and its processes, and does not provide new information. This comment is not within the scope of 10 CFR Part 51 for the environmental review associated with the application for license renewal at North Anna Power Station, Units 1 and 2. Therefore, this comment will not be evaluated further.*

A.1.3 General Comments in Support of License Renewal at North Anna Power Station, Units 1 and 2

Comment: It is a well managed corporation. They've shown signs of this in so many ways, in the nine years that I have lived here, which is a key to any kind of good operation. (NAD-A-4)

Comment: We want them to continue as a part of Louisa County for many years to come. (NAD-A-6)

Comment: And I have to say that I'm extremely impressed here, not only by the quality of people, and the quality of programs that they have, but the attitude in general. I think that they are very concerned about this county, and the safety and welfare of this county. (NAD-B-1)

Comment: And they are also good corporate neighbors for us. The things that they do for our county in terms of support to the county itself. (NAD-B-2)

Comment: And I feel very safe, and very happy, and I tell you, it is a pleasure to not only work with these people, but associate with them, and have them be a part of the community here. (NAD-B-6)

Comment: We hold numerous drills of all kinds in cooperation with NAPS, and we make numerous visits to the plant for training, and information. As an outsider I'm convinced that the North Anna Power Station is an excellently run plant with highly trained professionals in charge. (NAD-C-1)

Comment: I have nothing but praise for this Dominion/Virginia Power operation. Its open communication, and its safety conscious employees. (NAD-C-3)

Comment: We strive to be a good corporate citizen, and have enjoyed the professional supportive working relationship that we have with the county, and the other local communities surrounding the station. (NAD-D-6) (NAD-Q-6)

Comment: In preparing North Anna's relicensing application more than 50 individuals have spent, literally, thousands of hours reviewing all environmental aspects of continued plant operation. The report concluded that continued operation of North Anna Power Station beyond 40 years will not negatively impact the environmental surrounding of the plant. (NAD-D-10) (NAD-Q-10)

Comment: The impact statement is a thorough, in my opinion, and accurate scientific assessment of the potential environmental impacts associated with the proposed action. (NAD-E-1) (NAD-R-1)

Comment: We support and agree with the conclusions of the NRC Staff that renewing the North Anna Power Station operating license is a reasonable action that will not result in any noticeable impact to the environment. (NAD-E-2) (NAD-R-2)

Comment: As a result of that process no new information was identified, but we did go through the process, as it was important to do. This activity is considered very important, in my opinion, in all license renewal projects for verification of the findings in the Generic Environmental Impact Statement. (NAD-E-4) (NAD-R-4)

Comment: And I must say our experience with Virginia Power has been nothing but absolutely terrific. They have been wonderful neighbors, very sensitive to the environment, sensitive to recreational issues. And we certainly support, very much, the relicensing effort of the power plant. (NAD-F-1)

Comment: First thing is I'm in favor of renewing the license for North Anna. I think it is a safe operation, I think it is a benefit to the population as a whole, and Louisa County in particular. (NAD-G-1)

Comment: I personally would favor relicensing for an additional 20 years. (NAD-J-4)

Comment: Most of all is the openness that Virginia Power has brought. If something happens, as an elected official, I get a phone call. I don't read it in the paper first. Somebody from Virginia Power makes sure that we know first-hand anything that we need to know. (NAD-M-3)

Comment: So without a doubt, I'm in support of Virginia Power. I'm in support of the application. And if my two cents count, I would like for them to count, and I'm in support of Virginia Power's application. (NAD-M-5)

Comment: Basically lots of changes taking place in the last 34 years, a very positive impact on our community, our town. We've enjoyed the past 34, and we hope there is another, at least

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34. And at that time I hope there is someone here, standing, that says we have had 68, and we want 68 more. It has been very positive. (NAD-O-2)

Comment: And the bottom line is, ..., but I strongly recommend it. I mean, I reviewed this, the environmental statement, I reviewed the procedure. (NAD-T-1)

Comment: Throughout Dominion Virginia Power's twenty year history in Central Virginia they have proven themselves good corporate citizens — financially as well as environmentally. (NAD-Y-1)

Comment: North Anna Power Station commitment to the environment is above reproach. Nuclear energy itself does not produce any of the air emissions associated with fossil-fueled generation plants, thus nuclear generation helps to protect the environment. The company's conservation efforts focus on protecting and enhancing fish populations as well as migratory birds through policies, procedures and permits obtained from the United States Fish and Wildlife Service. As good stewards to the environment Dominion biologists regularly monitor the health of fish populations with no harmful results found. As I perceive it, North Anna Nuclear Power Station is environmentally safe, environmental sound and environmentally responsible. (NAD-Y-4)

Comment: For nine consecutive years North Anna Power Station has been recognized as among the lowest-cost producers of nuclear generated electricity in the United States. The North Anna station plays a crucial role in providing low-cost energy that makes Virginia attractive to business. The continued operation of North Anna Power Station is critical to the development of a robust, competitive retail electric market in Virginia. (NAD-Y-7)

Response: *The comments are noted. The comments are supportive of license renewal at North Anna Power Station, Units 1 and 2, and are general in nature. The comments provide no new information; therefore, will not be evaluated further.*

A.1.4 General Comments in Opposition of License Renewal at North Anna Power Station, Units 1 and 2

Comment: If we had given the supports, the financial incentives to alternative energy that we've given to the nuclear industry, we would not be currently living with the threats that, for instance, the nuclear waste disposal brings, effectively to our doorstep if the North Anna plant is going to be transporting toxic waste. (NAD-I-3)

Comment: We have good schools, we have good roads. This is a terrible choice for our Board of Supervisors, and other public servants, because they see the benefits of this money, they

see the benefits of the philanthropy that the power plant employees have given to the county, and to our children. (NAD-I-5)

Comment: Nevertheless, as a concerned citizen I look at the larger picture, I believe, and see that the threat continues to exist. I think , as I already stated, that if we put the monies that we put into nuclear energy into alternative energy, we would not have to live with this threat. (NAD-I-6)

Comment: North Anna has been a fantastic provider of safety. But what if we put the thousands of hours that you put in, what if we put it into alternative sources? If we give a thought to something different, wouldn't we have a beautiful future? (NAD-S-2)

Comment: I disapprove of the relicensing of the North Anna nuclear plant when the current license expires. (NAD-U-1)

Response: *The comments are noted. The comments opposing license renewal at North Anna Power Station, Units 1 and 2, are general in nature, and do not provide new information. These comments are not within the scope of 10 CFR Part 51 for the environmental review associated with the application for license renewal at North Anna Power Station, Units 1 and 2. Therefore, these comments will not be evaluated further in the SEIS.*

A.1.5 Comments Concerning Decommissioning Issues

Comment: The cost of nuclear power is borne by taxpayers in general, as well as by rate payers. The nuclear waste costs are insufficient to be covered by funds set aside for disposal and decommissioning of plants. More waste, another 20 years, or however many years, means more taxes, perhaps hidden taxes. (NAD-I-7)

Response: *NRC regulation (10 CFR 50.75) requires the establishment of a decommissioning trust fund. Sufficient funds are required to be collected and placed in a secure trust that would assure decommissioning, including the disposal of low-level waste. Funds are also collected from licensees annually to defray costs associated with the ultimate disposal of high-level waste.*

Comment: There are taxes going to support the plants, and to support the decommissioning, enormous amounts of money. Nuclear energy is not economical. (NAD-I-8)

Response: *The comment is noted. The comment provides no new information, therefore it will not be evaluated further. There were no changes to the SEIS text.*

A.1.6 Comments Concerning Surface Water Quality, Hydrology, and Use Issues

Comment: On [page] 4-40 Virginia Dominion Power is building a new building at the plant site, which is going to affect water use and quality, as well as discharge. That information is not included in here. This new building was just announced this month. (NAD-H-8)

Response: *The comment is noted. The construction of a new building on the site at this time is for current operation and, therefore, is not related to license renewal. This comment is not within the scope of 10 CFR Part 51 for the environmental review associated with the application for license renewal at North Anna Power Station, Units 1 and 2. Therefore, this comment will not be evaluated further.*

A.1.7 Comments Concerning Category 1 Aquatic Resource Issues

Comment: We also have a conservation effort that focuses on protecting and enhancing fish populations in the lake. Special structures of brush and cinder blocks were constructed and sunk in the lake to improve the fish habitat. Our biologists regularly sample, or monitor the health of the fish population. And that data is compared with data that was taken prior to our first day of operation. These comparisons have consistently shown that North Anna Power Station is not harming the lake's fish population. (NAD-D-5) (NAD-Q-5)

Comment: Based on the review of all of the historical information, including the annual monitoring, which does continue today, the NRC concluded that potential impacts to aquatic organisms are small, and that additional mitigation is not warranted, and we do agree with that finding. (NAD-E-3) (NAD-R-3)

Comment: There was concern on the cooling ponds about the fish. And that slightly higher temperatures would have very adverse effects on them. Well, after 30 years of operation we now have facts. And I hope that they go into this environmental impact statement in a factual way. (NAD-J-2)

Response: *The comments are noted. Aquatic ecology is discussed in Chapter 2 and Chapter 4 of the SEIS. The comments provide no new information and, therefore, will not be evaluated further.*

Comment: In [page] 4-4, they say thermal stratification to the lake is not a problem, but on [page] 4-16 it is noted in the thing as pronounced in the lake. I'm not sure how you can either have it pronounced and not a problem, or maybe stratification is not a problem. (NAD-H-6)

Response: *The comment is noted. Thermal stratification is a naturally-occurring process that commonly occurs in temperate lakes and reservoirs. The stratification results from the heating of the surface of the lake from the sun during the summer months. It is particularly pronounced in shallow, man-made reservoirs such as Lake Anna. This naturally-occurring thermal stratification was documented for Lake Anna in pre-operational studies (i.e. prior to the operation of the North Anna power station and any release of cooling water into Lake Anna). It was this naturally-occurring thermal stratification that was described as “pronounced” on page 4-16 of the draft SEIS. Page 4-4 of the draft SEIS refers to “altered thermal stratification of lakes” resulting from the operation of nuclear power plants, which is not expected to be a problem during the license renewal term. Data for Lake Anna, described in section 4.1.3. has shown that the naturally-occurring thermal stratification of Lake Anna has not been significantly altered by the release of cooling water from North Anna, Units 1 and 2. The comment provides no new information and, therefore, will not be evaluated further.*

A.1.8 Comments Concerning Terrestrial Resource Issues

Comment: The second part of the environment is the warm blooded part, and that is there is estimated that there are about 500 beavers around the lake. That population has remained constant over the past 20 years. (NAD-G-4)

Comment: We have seen fresh water otters, muskrats there as well. And so I would go to the other side and say that the existence of the plant is actually a benefit to the habitat of the wildlife, and has increased the wildlife around in this area. (NAD-G-5)

Response: *The comments are noted. Terrestrial ecology is discussed in Chapter 2 of the SEIS. The comments support North Anna Power Station, Units 1 and 2. The comments provide no new information and, therefore, will not be evaluated further.*

A.1.9 Comments Concerning Threatened and Endangered Specie Issues

Comment: Third is actually the plant is a benefit to the environment. Mr. Green hasn't seen any eagles, but we have certainly seen them. There are a couple that fish on Contrary Creek, there is one that fishes right across from us at the State park. (NAD-G-3)

Response: *The comment is noted. Threatened and endangered species are discussed in Chapter 2 and Chapter 4 of the SEIS. The comment provides no new information and, therefore, will not be evaluated further.*

Comment: The FWS has determined that the North Anna operations and minor refurbishment may have potential to adversely affect area natural resources. The federally threatened bald

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eagle, *Haliaeetus leucocephalus*, does not appear to be affected, but a scientific approach should be maintained to evaluate and document any mortalities. Similar records for other migratory bird impacts should be maintained and any mortality reported to the FWS. (NAD-W-1)

Comment: The FWS agrees that the potential is low for the North Anna Power Station to adversely affect the bald eagle, a federally threatened species. Our primary concern is for the incidental mortality to migratory birds associated with the transmission lines. In the event of migratory bird mortality, Virginia Electric and Power Company should complete a Raptor Incident Report for the FWS and the appropriate state agencies. (NAD-W-3)

Response: *The comments are noted. NRC understands FWS' concerns regarding protection of bald eagles. With regard to impacts from plant operations, however, the bald eagle does not appear to be affected by the proposed action and as long as operations at the North Anna Power Station, Units 1 and 2, continue to comply with the Bald Eagle Protection Guidelines of Virginia (prepared in consultation with and approved by FWS), any effects on bald eagles will not adversely impact the bald eagle population. In addition, VEPCo has a program that requires submission of an incident report when raptor injuries or mortalities occur as a result of collision with the North Anna Power Station transmission lines. Therefore, the NRC has determined that no further evaluation is needed with regard to operations at North Anna Power Station, Units 1 and 2.*

A.1.10 Comments Concerning Category 1 Human Health

Comment: On page 2-10 it says: There is not going to be increased liquid waste releases in the next 20 years. The question with all the releases, and the stuff, the gaseous, the liquid, or the solid waste, is we are talking about comparative versus cumulative. (NAD-H-1)

Response: *The comment is noted. The statement on page 2-10 refers to the annual effluent release rates. Annual effluent releases are not expected to increase during the license renewal term. The text has been modified to make this clear. The comment provides no new information; therefore, the comment will not be evaluated further.*

Comment: On [page] 4-24, long term effects of exposure to low level radiation has not been studied, we don't have information. What are the effects for 30 years? So we are having a hard problem to know how these effects could be judged or estimated. (NAD-H-7)

Response: *The NRC's regulatory limits for radiological protection are set to protect workers and the public from the harmful health effects of radiation on humans. The limits are based on the recommendations of standards-setting organizations. Radiation standards reflect extensive*

study by national and international organizations (International Commission on Radiological Protection [ICRP], National Council on Radiation Protection and Measurements, and National Academy of Sciences) and are conservative to ensure that the public and workers at nuclear power plants are protected. The NRC radiation exposure standards are presented in 10 CFR Part 20, "Standards for Protection Against Radiation," and are based on the recommendations in ICRP 26 and 30.

Numerous scientifically designed, peer-reviewed studies of personnel exposed to occupational levels of radiation (versus life-threatening accident doses or medical therapeutic levels) have shown minimal effect of human health, and any effect was from exposures well above the exposure levels of the typical member of the public from normal operation of a nuclear power plant.

The comment provides no new information and, therefore, will not be evaluated further.

Comment: How many people have died in the United States as a result of radiation from nuclear production? (NAD-J-3)

Response: *The comment is noted. In most cases, it is not possible to determine the cause of fatal cancers. Latent cancer estimates related to nuclear power are based on dose estimates calculated by conservative models and cancer risk factors. The cancer risk factors used in this calculation are also quite conservative. They are from the BEIR-V report, "Health Effects of Exposure to Low Levels of Ionizing Radiation^a." In this report it is estimated that, "[i]f 100,000 persons of all ages received a whole body dose of 0.1 Gy (10 rad) of gamma radiation in a single brief exposure, about 800 extra cancer deaths would be expected to occur during their remaining lifetimes in addition to the nearly 20,000 cancer deaths that would occur in the absence of radiation. Because the extra cancer deaths would be indistinguishable from those that occurred naturally, even to obtain a measure of how many extra deaths occurred is a difficult statistical estimation problem."*

Regarding health effects to populations around nuclear power plants, NRC relies on the studies performed by the National Cancer Institute (NCI). NCI conducted a study in 1990, "Cancer in Populations Living Near Nuclear Facilities," to look at cancer mortality rates around 52 nuclear power plants, nine Department of Energy (DOE) facilities, and one former commercial fuel reprocessing facility. The NCI study concluded from the evidence available that there is no suggestion that nuclear facilities may be linked causally with excess deaths from leukemia or from other cancers in populations living nearby. Additionally, the American Cancer Society had

^a Prepared by the National Research Council, National Academy Press, Washington, D.C., 1990.

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concluded that although reports about cancer case clusters in such communities have raised public concern, studies show that clusters do not occur more often near nuclear plants than they do elsewhere in the population.

The comment provides no new information and, therefore, will not be evaluated further. There was no change to the SEIS text.

A.1.11 Comments Concerning Category 1 Socioeconomic Issues

Comment: There are volunteer projects in which the employees have participated, and these are many things that they have done for the county, and assisted us with. (NAD-A-2)

Comment: And I think you can look at that, over the last couple of weeks, it is just simply by the volunteers that were walking up and down the streets here, in the county, picking up bags and bags of litter, that were on the side of the road, these are volunteers. (NAD-B-3)

Comment: Dominion has a long-standing tradition of investing in the communities it serves through volunteer and philanthropic activities. Many of our employees demonstrate their commitment to the community by participating in programs such as Adopt a Highway, Thanksgiving Baskets for the Needy, blood drives, supporting the area Boy Scouts, and many other community activities. (NAD-D-7) (NAD-Q-7)

Comment: Their employees, without a doubt, the volunteer hours that they put in this community, is not duplicated at all by anybody. We had a playground, a park that we tried to get up and running, and their volunteer staff went over there, and their employees went over there and made it a reality where kids could go over there and have an opportunity. (NAD-M-1)

Comment: The library, they contributed funds, and things of that nature, in the community. From an education standpoint, being a rural county we would not enjoy the things that we enjoy from an educational standpoint, without Virginia Power. (NAD-M-2)

Comment: The people at the power plant, the employees there, have set a tremendous standard for us to follow, as far as involvement in the community, their volunteerism. I recall the first place I was aware of that was the elementary schools had science fairs. They always had folks from the power plant to act as judges in the appropriate areas, and they are very positive, and very significant impact there, brought the image up for our science fair participation. (NAD-O-1)

Response: *The comments are noted. The comments are supportive of license renewal at the North Anna Power Station, Units 1 and 2. Public services were evaluated in the GEIS and*

determined to be a Category 1 issue. Information regarding the impact on education is discussed in Chapter 4 of the SEIS. The comments provide no new information and, therefore, will not be evaluated further.

A.1.12 Comments Concerning Category 1 Uranium Fuel Cycle and Waste Management

Comment: On [page] 2-12, the low level compact for radiological waste, is non-operational. Barnwell promises to close to outside, people from outside South Carolina. The low level waste is currently stored on-site, including two generators, with no plans to be cut and removed. There are significant problems with storage, disposal, and accumulation of low level solid waste, radioactive. (NAD-H-2)

Comment: The pads are limited. Louisa County has the right to limit storage of waste on those pads. That was part of the conditional use permit. If the county limits the waste storage on the pads, what are the effects, where are they going to put the waste? If we are opening for 20 more years, and the county doesn't allow it, where is that waste going to be? If they don't allow it there, they are going to have to have another one, and there is going to be an environmental impact. (NAD-H-19)

Comment: Where else do we want this toxic waste to sit, as it is at North Anna, in the caskets, casks I should say, but maybe caskets is more appropriate, and be subject to the effects of weather, the effects of time, it is a sitting time bomb, in my estimation. (NAD-I-4)

Response: *The comments are noted. Onsite storage of spent nuclear fuel is a Category 1 issue. The safety and environmental effects of long-term storage of spent fuel onsite has been evaluated by the NRC, as set forth in the Waste Confidence Rule (10 CFR 51.23). In the Waste Confidence Rule, the Commission generically determined that spent fuel generated by any reactor can be safely stored onsite for at least 30 years beyond the licensed operating life of the reactor, which may include the term of a renewed license. In the rule, the Commission also generically determined that such storage could be accomplished without significant environmental impact. In addition, the Commission stated in the rule its belief that there is reasonable assurance that at least one mined geologic repository will be available within the first quarter of the twenty-first century, and sufficient repository capacity will be available within 30 years beyond the licensed life for any reactor to dispose of the spent fuel generated in such reactor up to that time. The "Generic Environmental Impact Statement for License Renewal of Nuclear Plants (GEIS)," NUREG-1437 is based upon the assumption that storage of the spent fuel onsite is not permanent. The plant-specific supplement to the GEIS regarding license renewal for the North Anna Power Station, Units 1 and 2, is based on the same assumption.*

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Likewise, the matter of processing and storage of low level waste is considered a Category 1 issue. The conclusion regarding this issue in the GEIS included consideration of the long-term storage of low level waste on site during the license renewal term. The comments provide no new information; therefore, the comments will not be evaluated further.

Comment: On [page] 8-15, DOE Secretary Abraham has already determined that Yucca does not have enough space for the current waste that is being produced at the nuclear power plants. They can't put the high level waste away. And now we are going to add 20 more years. Where is that going to go? (NAD-H-16)

Comment: One primary thing is that in all the analysis of the environmental impact that the shipping, and the toxic waste storage was never looked at, and I think that is a major piece of this puzzle, that we are basically shipping off our dangerous and threatening waste off to somewhere else, so that someone else can deal with it. (NAD-K-3)

Comment: And we are, of course, hearing about the churches, the schools, the homes, that the nuclear waste casks will pass by, if and when transported to Yucca Mountain. A constant threat to my, and I believe to your, well-being. (NAD-I-11)

Response: *The comments are noted. Uranium fuel cycle and waste management are Category 1 issues as evaluated in the GEIS. Repository capacity is discussed in Section 6.4.6.2 of the GEIS. Transportation is discussed in Addendum 1 to the GEIS. The comments provide no new information; therefore, the comments will not be evaluated further. There was no change to the SEIS text.*

Comment: On [pages] 8-15 and 16, with MOX, Virginia Power is not out of the contract, they have not signed out of the contract on MOX. They bring the letter saying they are not going to do it. They flip flopped, lied, whatever you want to say, three or four times about their use of MOX. If MOX is used here, that changes the profile of the storage, waste, and all accidents. And significantly changes the environmental review. (NAD-H-17)

Response: *The comment is noted. At the time the VEPCo application for North Anna license renewal was submitted, the licensee stated that MOX fuel was not going to be considered for North Anna. The licensee's withdrawal from the Department of Energy's Plutonium Disposition Project (the source of the MOX fuel) is documented in a letter to the NRC dated April 24, 2000. To date, that position has not changed. However, if VEPCo sought to use MOX fuel in the future, it would do so by submitting a license amendment application to the NRC. Such an application would be processed as required under the NRC's regulations. In particular, the NRC would publish notice of the proposed action and an opportunity to request a hearing or file a petition for leave to intervene. If the North Anna licenses are renewed, and the applicant then*

files an application for the use of MOX fuel with the NRC, the staff's review would consider the period of the renewed licenses. The comment provides no new information, does not pertain to an issue within the scope of license renewal as set in 10 CFR Part 51 and Part 54, and will not be considered further.

Comment: In [page] 6-3 and following, let's get the figures right out there. How many tons of uranium are going to be mined, how many tons are going to be processed? What are the effects? They are saying, right in there, 12 additional cancer fatalities are going to be expected because of the renewal of this license. Who, in Louisa County, wants a member of their family to be one of those 12? You live here in the county, do you want a friend or a member of your family, your grandchild, your child, to be one of these additional 12 cancer fatalities? What kinds of cancer, how many additional cases of cancer? These are fatalities. They are saying there is no significant impact, and we are talking about 12 people who are going to die. That is no impact? There is a financial impact, there is an emotional impact. Specifically, it is going to affect the people who live up at the lake. I think they should know that. (NAD-H-10)

Response: *The comment is noted. There has been much concern and confusion regarding the statements in the Federal Register notice of July 30, 2001 (66 FR 39277) regarding potential long term health effects that may occur as a result of radiation doses from an additional 20 years of operation of nuclear power plants as a result of license renewal. According to 10 CFR Part 51, Subpart A, Appendix B, Table B-1, "the 100 year environmental dose commitment to the U.S. population from the fuel cycle, high level waste and spent fuel disposal excepted, is calculated to be about 14,800 person-rem or 12 cancer fatalities, for each additional 20 year power reactor operating term."*

This calculated value of 12 additional deaths from fatal cancer over the 20 years of additional operation of a nuclear power plant is the result of several conservative assumptions. This value is, in fact, a calculated upper bound value. It does not mean that 12 people in Louisa County will die from cancer as a direct result from an additional 20 years of continued routine operation of any nuclear power plant.

These calculations use the concept of collective dose. Collective dose estimates effects across a very large population, assuming that a small amount of radiation dose spread out among a large population would yield similar effects to a larger amount of radiation dose to a much smaller population. This is a very conservative assumption. The Health Physics Society, www.hps.org, states "[b]elow the dose of ten rem, estimations of adverse health effect is speculative. Collective dose remains a useful index for quantifying dose in large populations and in comparing the magnitude of exposure from different radiation sources. However, for a population in which all individuals receive lifetime doses of less than 10 rem above background,

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collective dose is a highly speculative and uncertain measure of risk and should not be quantified for the purposes of estimating population health risks.”

The cancer risk factors used in this calculation are also quite conservative. They are from the BEIR-V report, “Health Effects of Exposure to Low Levels of Ionizing Radiation^a.” In this report it is estimated that “if 100,000 persons of all ages received a whole body dose of 0.1 Gy (10 rad) of gamma radiation in a single brief exposure, about 800 extra cancer deaths would be expected to occur during their remaining lifetimes in addition to the nearly 20,000 cancer deaths that would occur in the absence of radiation. Because the extra cancer deaths would be indistinguishable from those that occurred naturally, even to obtain a measure of how many extra deaths occurred is a difficult statistical estimation problem.”

The radiation dose contribution to the population from current nuclear power plants is estimated to be 4.8 person-rem, while the contribution to the population from the complete uranium fuel cycle is 136 person-rem per year. The dose to an individual is only a very small fraction of these population doses. The contribution to the average dose received by an individual from fuel cycle-related radiation and other sources is listed in Table A-3. The nuclear fuel-cycle contribution to an individual’s average radiation dose as shown in the table is extremely small (less than 1 millirem per year).

At the request of Congress, the National Cancer Institute (NCI) conducted a study in 1990, “Cancer in Populations Living Near Nuclear Facilities,” to look at cancer mortality rates around 52 nuclear power plants, nine Department of Energy facilities, and one former commercial fuel reprocessing facility. The NCI study concluded that “from the evidence available, this study has found no suggestion that nuclear facilities may be linked causally with excess deaths from leukemia or from other cancers in populations living nearby.” Additionally, the American Cancer Society has concluded that although reports about cancer case clusters in such communities have raised public concern, studies show that clusters do not occur more often near nuclear plants than they do elsewhere in the population.

The Generic Environmental Impact Statement identified radiation exposures to the public during the license renewal term as a Category 1 issue. This comment provides no new information; therefore, the comment will not be evaluated further in the SEIS.

^a Prepared by the National Research Council, National Academy Press, Washington, D.C., 1990.

Table A-3. Annual Effective Dose Equivalent

Source	Dose (mrem/yr)	Percent of Total
Natural		
Radon	200	55
Cosmic	27	8
Terrestrial	28	8
Internal (body)	39	11
Total Natural	300	82
Artificial		
Medical X ray	39	11
Nuclear medicine	14	4
Consumer products	10	3
Other		
Occupational	0.9	<0.3
<u>Nuclear Fuel Cycle</u>	<1	<0.03
Fallout	<1	<0.03
Miscellaneous	<1	<0.03
Total Artificial	63	18
Total Artificial and Natural	363	100
Source: NCRP Report 93, "Public Radiation Exposure from Nuclear Power Generation in the United States" as abstracted by the University of Michigan (http://www.umich.edu/~radinfo/.)		

A.1.13 Comments Concerning Category 2 Aquatic Resource Issues

Comment: Regarding aquatic species, potential impacts include the cooling water intake, discharge, and dam that provide the impounded cooling water. The rotating screens of the cooling water intake at the Power Station provide nearly unimpeded water intake, but the biota are likely to incur high mortality as a result of entrainment and impingement. There is probably less mortality associated with the cooling water discharge, but the effects on fish behavior and ecology are potentially damaging. Another fisheries impact is the Lake Anna Dam. While

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downstream fish passage maybe acceptable, the blockage of upstream migrations of American eel, and possibly anadromous fish during high flow seasons, should be corrected during this relicensing. (NAD-W-2)

Response: *The comment is noted. The potential impacts of the entrainment of fish and shellfish in early life stages and impingement of fish and shellfish (both resulting from cooling water intake) and of heat shock (resulting from cooling water discharge) are evaluated in Sections 4.1.1, 4.1.2, and 4.1.3 of this SEIS, respectively. Detailed aquatic studies as part of the Section 316(a) and Section 316(b) demonstrations performed in compliance with the Clean Water Act, as well as ongoing annual monitoring of the Lake Anna fishery, have shown these impacts to be small. While the impacts of the North Anna Dam are outside the scope of this license renewal, as explained in Section 4.7.1 of this SEIS, the staff did review available data concerning the potential for anadromous fish and American eel migration in the vicinity of the North Anna Dam. Existing and historical data suggest there was never significant anadromous fish migration in the vicinity of the North Anna Dam. Both pre-operational and post-operational studies have verified the presence of the American eel; however, there is no evidence of impacts to the eel population associated with the presence of the North Anna Dam. The comment provides no new information and, therefore, will not be evaluated further.*

Comment: The North Anna facility lacks a component of the cooling water intake system that Virginia Electric and Power Company has developed at the Surry Power Station. The traveling mesh screens at the Surry Power Station include a spray wash system that removes the biota from the screens and returns them to the James River. The North Anna facility utilizes a similar technology for the screens, but fails to provide the mechanism to return the biota unharmed back to the Lake. The traveling screens and wash system at Surry clearly minimize aquatic impacts more than the North Anna facility, which discards the impinged biota into a disposal bin. A similar process, such as at Surry, could be developed to minimize the aquatic impacts by returning the impinged biota safely back to the Lake. To further minimize the impacts, we recommend replacing worn or damaged screens with mesh less than or equal to one millimeter wide and adopting entrance velocities less than or equal to 0.5 feet per second (Gowan, C. and G. Garman 1999). (NAD-W-4)

Response: *The comment is noted. The comment relates to design features of the plant that minimize the impacts to the aquatic environment. Under the Clean Water Act, VEPCo submitted results of impingement and entrainment studies that constituted the Section 316(b) demonstration for the North Anna Power Station in 1985. The Virginia State Water Control Board, the permitting authority, determined that the intake design will assure the protection and propagation of a balanced, indigenous community of shellfish, fish, and wildlife in Lake Anna. The Section 316(b) demonstration and subsequent post-operational studies (detailed in Sections 4.1.1 and 4.1.2 of this SEIS) did not reveal any significant adverse impact on fish or*

shellfish in Lake Anna due to impingement or entrainment. Therefore, additional mitigation is not warranted. Although there is currently no compelling reason to require changes to the current practice, the staff recognizes these impacts could potentially be further reduced through the use of the technologies described in the above comment. The comment will be provided to the utility for consideration. The comment provides no new information and, therefore, will not be evaluated further.

Comment: The cooling water discharge is an additional potential hazard to fish. Unlike the Surry Power Station that discharges to the mouth of the tidal James River, the North Anna Station discharges into a series of open canals that flow back to the Lake. While the thermal discharge is likely to have a greater effect in the colder months, the increased temperatures in the summer could also have an adverse effect on fish behavior and ecology in the Lake. (NAD-W-5)

Response: *The comment is noted. The impacts of heat shock (as a result of cooling water discharge into Lake Anna from the Waste Heat Treatment Facility) are evaluated in Section 4.1.3 of this SEIS. Detailed aquatic studies conducted as part of the Section 316(a) demonstration performed in compliance with the Clean Water Act, as well as ongoing annual monitoring of the Lake Anna fishery, have shown these impacts to be small. Cooling water discharge was found to slightly increase the already naturally-pronounced thermal stratification of the lake during the summer months. This was found to slightly reduce the already marginal habitat for striped bass. This species is managed as a “put-grow-and-take” recreational fishery due to these and other habitat restrictions (streams that flow into Lake Anna appear to lack the flow, depth and length to support striped bass spawning runs). Therefore, this slight increase in summer lake temperature does not appear to have a significant impact on striped bass. Thermal discharges during the winter months were found to be beneficial to threadfin shad (an important forage fish to upper trophic level game fish) by providing a warm-water refugia during the winter months. This species would not likely survive in Lake Anna absent the operation of the North Anna Power Station. The comment provides no new information and, therefore, will not be evaluated further.*

Comment: The Lake Anna Dam provides cooling water for the Power Station, but also blocks migratory fish moving upstream from the North Anna River. (NAD-W-6)

Comment: Assess the upstream movement of fish to the Dam with continuous sampling of water quality, flow, and species composition from February 1 to November 30. The specific study design should be developed with the North Anna Power Station Staff, FWS, and other interested parties. (NAD-W-8)

Response: *The comments are noted. Impacts associated with the North Anna Dam are outside the scope of the license renewal. In response to comment NAS-AA-6, received during the scoping period, the impacts of dam operation to fish passage are described in Section 2.2.5. In addition, during the scoping and comment periods for the draft SEIS, the staff requested the Fish and Wildlife Service to make available any information on migratory fish in the vicinity of the North Anna Dam, and the staff reviewed existing available data concerning the movement of migratory fish in the vicinity of the North Anna Dam. There is currently no evidence of significant migratory fish movement in the vicinity of the North Anna Dam. The comments provide no new information and, therefore, will not be evaluated further.*

Comment: Determine the impacts from the thermal discharges on fish distribution, spawning, and feeding. The specific study design should be developed with the North Anna Power Station staff, FWS, other staff, and other interested parties. (NAD-W-7)

Response: *The comment is noted. As previously mentioned, the impacts of heat shock (as a result of cooling water discharge into Lake Anna from the Waste Heat Treatment Facility) are evaluated in Section 4.1.3 of this SEIS. Detailed aquatic studies conducted as part of the Section 316(a) demonstration performed in compliance with the Clean Water Act, as well as ongoing annual monitoring of the Lake Anna fishery, have shown these impacts to be small. The applicant currently works closely with the Virginia Department of Game and Inland Fisheries and the Virginia Department of Conservation and Recreation to cooperatively manage the aquatic resources of Lake Anna. Ongoing annual monitoring conducted since the original licensing of the plant has confirmed these impacts to be small. We have identified no new and significant information that would suggest these studies should be redone. The comment provides no new information and, therefore, will not be evaluated further.*

A.1.14 Comments Concerning Category 2 Socioeconomic Issues

Comment: First of all, North Anna is a good -- they are good corporate citizens of Louisa County. They are vital to the economic development of Louisa County for these reasons: Employment opportunity, recreation areas for many people and their families, development that has been, and continues to be built around the lake. (NAD-A-1)

Comment: The voluntary contributions the corporation has made to many county projects, and not least of all the tax revenue source to the county, tremendous tax revenue. (NAD-A-3)

Comment: North Anna Power Station has been an outstanding neighbor in our community. It has been an economic boon to Orange County for more than 30 years, providing well paid jobs to many of our citizens. (NAD-C-2)

Comment: My office is staffed by more than 30 all volunteer men and women, and all the basic office's expenses are paid by the County Board of Supervisors, the only funding we receive in my office comes from North Anna Power Station. (NAD-C-4)

Comment: A renewed license would not only be important to Louisa County and Virginia, but also to me and 852 other North Anna employees, whose livelihood depends upon providing safe and reliable electricity to the customers of this State. (NAD-D-1) (NAD-Q-1)

Comment: Additionally, renewed licenses would assure the local community that it will continue to reap the benefit of having a large employer in the area, and Louisa County would continue to receive the tax revenue from the station's operation. (NAD-D-3) (NAD-Q-3)

Comment: Just as an aside, North Anna Power Station has provided 170 million dollars in tax revenue to Louisa County since the station started building some 30 years ago. (NAD-D-9) (NAD-Q-9)

Comment: And we reap the benefits of having, you know, greater [benefit from] taxes in our area. (NAD-K-4)

Comment: From an economic standpoint a lot of families enjoy a good quality of life because of the employment opportunities here, from Virginia Power. A lot of families would not have the opportunity to make the amount of money they do if Virginia Power were not here. (NAD-M-4)

Comment: Since 1966 Dominion Virginia Power has paid more than \$170 million in property taxes to Louisa County. In 2001 alone, they contributed \$10.99 million to the County's economy. (NAD-Y-2)

Comment: North Anna employs 825 people from the surrounding communities. They demonstrate their commitment to the community through active and frequent involvement. (NAD-Y-3)

Response: *The comments are noted. Socioeconomic issues specific to the plant are Category 2 issues and are addressed in Chapter 4 of the SEIS. The comments support license renewal at the North Anna Power Station, Units 1 and 2. The comments provide no new information and, therefore, will not be evaluated further.*

A.1.15 Comments Concerning Category 2 Postulated Accident Issues

Comment: I heard a person laugh about the chance of a tornado striking the plant. What are the chances that four airplanes would be simultaneously hijacked and flown into public

buildings? These same people would have laughed a year ago if somebody had said this. But we have to deal with possibilities. (NAD-H-3)

Response: *The comment is noted. The NRC's environmental review is confined to environmental matters relevant to the extended period of operation requested by the applicant. Postulated accidents such as the ability of the North Anna Power Station to withstand a tornado or a large plane crash into the reactors are evaluated by the NRC as a part of its ongoing operational safety review process. The comment does not pertain to the scope of license renewal as set forth in 10 CFR Part 51 and Part 54. The comment provide no new information and, therefore, will not be evaluated further.*

Comment: On [page] 5-5, the NRC and VEPCO's reports have been challenged by many people, their mathematical modeling. And I don't even need to go much further than just saying that all of those mathematical models are sort of bogus. (NAD-H-9)

Response: *The comment is noted. Mathematical models are tools used to provide insight to complex problems. As set forth in Section 5.2.2.2 of this SEIS, the tools used in the SAMA analysis have been reviewed and are appropriate for this application. The comment provides no new information, and, therefore, will not be evaluated further.*

A.1.16 Comments Concerning Environmental Justice Issues

Comment: And, to me, that just exemplifies an environmental injustice, in which communities of lower income have been historically placed as sites for nuclear power plants to create a dependency upon the nuclear power plants by providing it with money, and community service. And so I would just like to point out that we are continuing this dependency that has already begun, and I think it is an unhealthy one. (NAD-K-6)

Response: *The comment is noted. Environmental justice refers to a Federal policy under which each Federal agency identifies and addresses, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority and low income populations. The staff did not find any adverse human health or environmental effects from license renewal on low-income or minority populations. Environmental justice issues and findings are discussed in Chapter 4 of the SEIS. The comment provides no new information and, therefore, will not be evaluated further.*

A.1.17 Comments Concerning Alternatives to License Renewal

Comment: When we start talking about the [page] 8-23, natural gas, two new natural gas plants are already being built in this area. One in Gordonsville, and one in Fluvana. Another

one is proposed in Gum Springs. These plants already have natural gas, and transmission lines, and can produce up to 65 percent of North Anna's annual net output. The whole discussion they had in there about putting a natural gas plant at North Anna, and having to bring natural gas lines from Gordonsville, and all this disruption, it was just a waste of time and energy. (NAD-H-12)

Comment: In [page] 8-45 and following, again the discussion, no one source has to replace all of North Anna's production. Which was also noted earlier in there, by doing things like reduction on demand, or a combination. This entire section is fundamentally flawed, logically and realistically. And that is even noted, later, on page 8-49. The Staff's conclusion that these things could happen is seriously flawed. Dominion itself is constructing new power plants. (NAD-H-14)

Comment: And conservation and management demand could, by itself, save if they close North Anna, could save all of the production that is going on right there. (NAD-H-15)

Comment: And the second part of this that I see is that the analysis said that other alternatives to nuclear power show moderate to some -- some alternatives show moderate to large impacts while the nuclear power shows small impacts. But does it also point out that other impacts, do other alternatives do show probably even smaller impacts to the environment, such as wind, solar, and hydropower? That was also somewhat omitted from this conversation. (NAD-K-5)

Response: *The comments are noted. The purpose of the Section 8 of the SEIS is to examine potential environmental impacts that would be associated with replacing the power production provided by the nuclear plant with an alternative source, in the event that the license is not renewed for the nuclear plant. The purpose is to evaluate whether or not an alternative exists that would have less of an environmental impact than continuing operation of the nuclear plant. The gas plants that are mentioned in a comment (the Gordonsville, Fluvana, and Gum Springs proposals) are intended to meet the existing expanding power demands in the area, and thus, would not be sufficient to replace North Anna's power also. The discussion of alternatives in Chapter 8 includes the possibility of expanding gas power generation in the area at the North Anna site since at least some of the infrastructure needed to supply power is already in place. In addition, the discussion in the SEIS addresses the possibility, and the range of impacts, of alternative gas generation at a generic location other than North Anna, which could include Gum Springs or any of the sites mentioned.*

Although it is possible that additional conservation or demand management efforts could potentially replace some of North Anna's power, it seems unlikely that these efforts could replace all the power produced by North Anna. VEPCo currently integrates demand side management efforts into its projections for power generation needs. Because these

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conservation assumptions are already part of the long-range plan for meeting projected demand, they are not available offsets for North Anna, Units 1 and 2. The comments provide no new information and, therefore, will not be evaluated further.

Comment: I see the beauties of alternative energy compared with a life threatening continuation of the nuclear energy plant. (NAD-I-2)

Comment: Most of the electrical energy we use is wasted. Strict conservation, wind, hydroelectric, solar, and geothermal could be adequate for our energy needs if we put a fraction of the financial resources into research for them that has been put into nuclear energy. (NAD-U-3)

Response: *The comments are noted. The comments provide no new information and, therefore, will not be evaluated further.*

A.1.18 Comments Concerning Out of Scope Issues: Operational Safety, Emergency Preparedness, Aging Management, and the Need for Power

Operational Safety and Emergency Preparedness

Comment: They are very safety conscious, which is vital to our county of Louisa. (NAD-A-5)

Comment: That the security team down at North Anna is probably one of the best I've seen. And the leadership there is excellent. (NAD-B-4)

Comment: The training that they get in the security training down there, in some areas, probably exceeds what the normal law enforcement agency would probably receive in some of those areas. (NAD-B-5)

Comment: I have been through their security training, I've been through a lot of safety training, I've seen management's attitude, and commitment to excellence in this field. (NAD-B-7)

Comment: The post 9/11 events naturally are a major concern for us here. And I can say, without getting into a grey area about safeguards stuff, that the protection of North Anna is of paramount importance to law enforcement agencies in this county, and surrounding counties, and the federal government. (NAD-B-8)

Comment: North Anna Power Station has a long history of safe, reliable, and efficient operation. Since the 1990s North Anna has consistently ranked as the most efficient producer of nuclear generated electricity in the United States, on a three year cost average. The station

has also achieved, and continues to achieve, high marks in safety and security performance from the Nuclear Regulatory Commission, and from the Institute of Nuclear Power Operations. (NAD-D-4) (NAD-Q-4)

Comment: That is not to mention the future employees that will be required to continue the safe operation of the plant well into this century. (NAD-D-8) (NAD-Q-8)

Comment: The group at North Anna is probably one of the most professional organizations that I've had the pleasure to work with. These folks really do put safety and security above all else. They have an operation that has multiple security checks, safety checks, both radiologic and security checks, based on other types of threats. And I think that is important for the community to know. These folks really have a good quality management, and quality improvement system in place, a lot of checks and balances. (NAD-N-1)

Comment: I think they've had an exemplary performance as far as safety and security is concerned, and I would wholeheartedly support their application for their 20 year renewal on their license. (NAD-N-2)

Comment: One thing I do have to say about Dominion Generation, or Virginia Power, is that to them safety is job one, it is a concern, they have a very great concern for the community. (NAD-P-1)

Comment: I can pick up the phone and call their emergency preparedness people and say, look, I need some assistance, and I will get a phone call back, and get some assistance, and whatever I need. (NAD-P-2)

Comment: Safety is so much of a concern that what we have done in the county, just for your information, is as new developments go up around the lake, within the 10 mile EPZ, we have kind of an informal agreement with the planning office, when a request for rezoning, or putting in a development into the ten mile EPZ comes across the planner's desk, and the Planning Commission, it comes down to my office for a review, we request siren easements. (NAD-P-3)

Comment: As I said, I'm a fire fighter, dealt with hazardous materials, and environmental impact. I know this is an environmental impact statement. I think dealing with hazardous materials, dealing with the terrorism threat that we've been doing, and one thing that we have been putting into our plan, is dealing with the potential terrorism threat. It is out there. (NAD-P-4)

Comment: I think the environmental impact of every day hazardous materials that come through this community, I fear are much more greater, than I do the nuclear power plant having

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a problem. There is a lot of chemicals, and a lot of things that come through, that can do just as much harm, quicker, than radiation from the power plant. So we are preparing ourselves for everything in all categories. We have major interstates and railroads that go through here every day. And one thing I can rely on is the expertise, and the assistance of Virginia Power to assist us in those areas also. (NAD-P-5)

Comment: North Anna is one of the best designed, safest plants in this country. And I will tell you that, I know, because I've done the reviews on it. It is really one of the safest and best designed plants in this country. (NAD-T-2)

Comment: Dominion Virginia Power is committed to safety at North Anna Power Station. They plan it into all aspects of work activity. Safety work practices are reinforced through training and continuous improvement measures. (NAD-Y-5)

Response: *It is noted that the comments are in support of North Anna Power Station. The NRC's environmental review is confined to environmental matters relevant to the extended period of operation requested by the applicant. The comments provide no new information, and do not pertain to the scope of license renewal as set in 10 CFR Part 51 and Part 54. Therefore, the comments will not be evaluated further.*

Comment: Lastly, concerning security, I've been around the world since 9/11, and I can tell you this. We are not prepared, we are not prepared for what is going to happen, and we are not prepared for the response. (NAD-H-18)

Response: *Operational safety, security and emergency preparedness are outside the scope of this environmental review. An NRC safety review for the license renewal period is conducted separately. Although a topic may not be within the scope of review for license renewal, the NRC is always concerned with protecting public health and safety. Any matter potentially affecting safety can be addressed under processes currently available for existing operating licenses absent a license renewal application. The comment provides no new information, and does not pertain to the scope of license renewal as set in 10 CFR Parts 51 and 54. Therefore, the comment will not be evaluated further.*

Comment: Second is I would like to encourage NRC to very carefully consider the credibility situation following the Davis Besse incident. And we ask, did you analyze so and so? You said, yes, we analyzed it. But it is your credibility that lets the public accept that statement of analysis. (NAD-G-2)

Response: *The comment is noted. As a result of recent discoveries of reactor vessel head degradation in the Davis Besse Nuclear Power Station's reactor pressure vessel head, the NRC*

is investigating the structural integrity of reactor vessel heads at 69 pressurized water reactors (PWRs). The NRC is very concerned about public safety and public perception. The NRC's mission is to regulate the Nation's civilian use of byproduct, source, and special nuclear material to ensure adequate protection of public health and safety, to promote the common defense and security, and to protect the environment. The NRC has established an extensive regulatory process that contains five main components (1) developing regulations and guidance for our applicants and licensees, (2) licensing or certifying applicants to use nuclear materials or operate nuclear facilities, (3) overseeing licensee operations and facilities to ensure that licensees comply with safety requirements, (4) evaluating operational experience at licensed facilities or involving licensed activities, and (5) conducting research, holding hearings to address the concerns of parties affected by agency decisions, and obtaining independent reviews to support our regulatory decisions. The comment is noted. The comment provides no new information and relates to an operational safety issue and, therefore, will not be evaluated further.

Aging Management

Comment: Mention has been made of the aging process issue. And the many attempts that have been, that are being made to address it. There is also repetition of a phrase, cost beneficial. So we are not going to have a new plant, we are going to look at the cost beneficial aspects in replacing older items. (NAD-I-9)

Comment: We've seen, recently, at the Davis Besse plant in Ohio, that aging parts can be a route to catastrophic failure, without warning. Extension of the license of this plant increases the danger to our community. (NAD-I-10)

Comment: The 20 years I've been here, so 20 years North Anna has been here. Pretend this is a tin can stress, stress, stress, stress. North Anna has undergone 20 years of stress. What happens? Fatigue. I'm very fearful that we will have another Chernobyl here. Everywhere you go you hear, it couldn't happen here, it couldn't happen to me. All kinds of accidents, it wouldn't be me, couldn't be me. (NAD-S-1)

Comment: On [page] 6-8, on-site spent fuel. The pool is not designed to hold the waste for more than X number of years. And from its original design they've already crammed more fuel in there than was originally designed. We need to have an analysis of what are the effects of a concrete pool with another 20 years, with all that radiation. (NAD-H-11)

Response: *The comments are noted. The NRC's environmental review is confined to environmental matters relevant to the extended period of operation requested by the applicant. Safety matters related to aging are outside the scope of this environmental review. An NRC*

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safety review for the license renewal period is conducted separately. The comments provide no new information and will not be evaluated further in the context of the environmental review. However, the comments will be forwarded to the project manager for the license renewal safety review for consideration. To the extent that these comments pertain to managing the effects of aging on components and structures specified in 10 CFR 54.21 during the period of extended operation to ensure functionality, they will be addressed in the parallel safety review.

Need for Power

Comment: Currently, North Anna provides about 17 percent of the electric power used in Virginia. A renewed license would ensure that we could continue to provide that safe, reliable power, to our customers. (NAD-D-2) (NAD-Q-2)

Comment: There is a surplus of electricity right now, and a surplus of plants. The plants are being cancelled. (NAD-H-13)

Comment: North Anna Power Station plays an essential role in meeting the Commonwealth's energy needs. It produces approximately 17 percent of the electricity used by fellow Virginians, that is the equivalent to lighting up some 450 homes across the Old Dominion. (NAD-Y-6)

Response: *The comments are noted. As stated in 10 CFR 51.95(c)(2), the SEIS for license renewal is not required to include a discussion of the need for power. The comments provide no new information and, therefore, will not be evaluated further.*

A.1.19 Editorial Comments

Comment: On [page] 2-27, and following the pages there, they keep referring to Richmond County. Richmond County happens to be all the way on the eastern part of Virginia, not anywhere near here. All of the comments related to the sociological stuff that relate to Richmond County are ridiculous, they have nothing to do, and they should not belong in there at all. (NAD-H-4)

Comment: On [page] 2-41, Tradewinds they put in there as a major employer, they folded. Actually the major employment in the county, outside of Dominion Power, are the schools and the government, which were not mentioned at all. (NAD-H-5)

Comment: Page 1-9, Line 8: Table 1-1 indicates that the US Fish & Wildlife Service Migratory Bird Treaty Act Permit expired December 31, 2001. Depredation Permit Number MB705136-0 was renewed effective 4/22/02, and expires 3/31/03. It is suggested that this update be reflected in Table 1-1. (NAD-V-1)

Comment: Page 2-12, Line 34: The statement is made that, "An onsite solvent shop recycles paint." The following correction is suggested as a replacement: "An onsite paint shop recycles solvent." (NAD-V-2)

Comment: Page 2-13, Line 2: The statement is made that, "Non-radioactive liquid waste produced...(e.g., water treatment activities, stormwater runoff, housekeeping wastes) are sampled and treated..." The statement is not accurate without exception. It is suggested that "housekeeping wastes" be deleted from this statement since there are waste disposal processes in which not all "housekeeping wastes" are sampled. (NAD-V-3)

Comment: Page 2-17, Line 29: It is stated that "The US EPA has authorized VDEQ to implement NPDES within the State." It is suggested that the statement read "The US EPA has delegated implementation of NPDES to VDEQ within the Commonwealth of Virginia." to reflect the actual federal-to-state relationship. (NAD-V-4)

Comment: Page 2-18, Line 14: It is stated "...that annual average wind power rated as 1 on a scale of 1 to 7 (Elliott, et al. 1987). It is suggested that the following words be inserted "...on a scale of 1 to 7, with 1 being the lowest..." prior to the reference callout. (NAD-V-5)

Comment: Page 2-22, Lines 21-22, Table 2-2: The slippershell mussel (*Alasmidonta viridis*) is given as a Federal-listed species. Based on a 2002 review of the Virginia Fish & Wildlife Information Service web site for the slippershell mussel, this species only occurs in the extreme western part of the Commonwealth of Virginia. It is not considered to occur in streams in counties adjacent to Lake Anna, immediately upstream or downstream North Anna River, or in counties crossed by North Anna transmission line corridors. Table 2-1 of the License Renewal Application Environmental Report does not list this species as a species of concern, and the description of this species within the SEIS implies it is of potential concern for the area in which North Anna Power Station is located. It is therefore requested that this species be deleted from the SEIS. (NAD-V-6)

Comment: Page 2-24, Table 2-3, and Page 2-25, Lines 4-7: The sensitive joint-vetch is listed in Table 2-3 and discussed on Page 2-25, yet stated "It is not known to occur at North Anna or the transmission line rights-of-way." Based on a review of the Virginia Fish & Wildlife Information Service web site for the sensitive joint-vetch, this species is only located along tidally-influenced fresh waters. This is not the case for North Anna, near Lake Anna, nor for any transmission line corridors for North Anna Power Station. The description of this species within the SEIS implies it is of potential concern for the area in which North Anna Power Station is located. It is therefore requested that the listing and description of this species be deleted from the SEIS. (NAD-V-7)

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Comment: Page 2-28, Line 50: It is stated that "Louisa County is currently updating its plan (VEPCo 2001b)." Louisa County approved an updated Louisa County Comprehensive Plan in September 2001, referenced on Page 2-51, Lines 33-34. This statement should be updated accordingly. (NAD-V-8)

Comment: Page 2-30, Table 2-7: Table 2-7 is titled "Population Growth...1980-2010". Population data includes Richmond City & County. It is suggested the title read "Estimated Population Growth..." Population data given in Table 2-7 varies from the License Renewal Application Environmental Report due to the inclusion of Richmond City & County. Richmond County is not located in the population zone for consideration. (NAD-V-9)

Comment: Page 2-30, Lines 21-22: It is stated that Henrico County provides water to approximately 80,215 customers. The License Renewal Application Environmental Report stated 74,000 customers, and the Draft SEIS references the ER. We cannot substantiate the source of the SEIS number and suggest that the number be revised to reflect the LRA ER identified number of customers, or the source of the SEIS number specified. (NAD-V-10)

Comment: Page 2-30, Line 30: It is stated that the maximum capacity of the City of Richmond is 128 MGD. The License Renewal Application Environmental Report stated the maximum capacity at 132 MGD. We cannot substantiate the source of the SEIS number and suggest that the number be revised to reflect the LRA ER number, or the source of the SEIS number specified. (NAD-V-11)

Comment: Page 4-42, Line 23: It has been determined that impacts "...would be SMALL,..." It is requested that the following words be added to the above sentence to be consistent with Endangered Species Act wording and Surry Draft SEIS conclusion statements: "would be SMALL and would not be adversely affected,...". (NAD-V-12)

Comment: Page 4-44, Lines 24-27: It is written that the NRC staff will inform VEPCo of comments provided by FWS and recommend further dialogue. It is requested that this statement be changed to reflect recent discussions regarding this issue and the final course of action as determined by NRC staff. We recommend that the April 30, 2002 correspondence from NRC to FWS be referenced for completeness. (NAD-V-13)

Comment: Page 5-22, Line 32: There is a "?" provided in the APE formula. The question mark "?" should be a "delta symbol" in the APE formula. (NAD-V-14)

Comment: Page 5-23, Line 16: It is written that "This higher value is primarily due to the high frequency of SGTRs...". It is requested that the words "frequency of" be replaced with "contribution to CDF from". (NAD-V-15)

Comment: Page 8-35, Line 24-35: It is written that "Approximately 200 ha (500 ac) would be needed for the construction of the new plant." Since the initial Final Environmental Statement for North Anna Power Station was written for four units, it should be summarized that no additional land may be needed for construction of a new plant. (NAD-V-16)

Comment: Page 9-6, Lines 20-21: It is written that "The most significant resource commitments related to operation during the renewal term are the fuel and permanent storage space." It is our presumption that permanent storage space refers to a national repository. In light of recent federal government actions regarding spent fuel disposition, it is requested that this statement be changed to reflect federal direction, and add the word "offsite" to the phrase "permanent storage space" to be consistent with the phrase "permanent offsite storage space" in Line 18. (NAD-V-17)

Response: *The comments are noted. As appropriate, the comments resulted in modification of the SEIS text.*

A.2 Public Meeting Transcript Excerpts and Comment Letters

Transcript of the Afternoon Public Meeting on June 25, 2002, in Louisa, Virginia

[Introduction, Mr. Cameron]

[Presentation, Mr. Tappert]

[Presentation, Mr. Tabatabai]

[Presentation, Mr. Kugler]

[Presentation, Ms. Hickey]

- NAD-A Mr. Wright: I'm Jack Wright, I'm with the Board of Supervisors of the southeastern portion of the county. And to make sure that I'm concise, and I put all my points in, I will basically read, and make sure I can see it.
- NAD-A-1 First of all, North Anna is a good -- they are good corporate citizens of Louisa County. They are vital to the economic development of Louisa County for these reasons: Employment opportunity, recreation areas for many people and their families, development that has been, and continues to be built around the lake.
- NAD-A-2 There are volunteer projects in which the employees have participated, and these are many things that they have done for the county, and assisted us with.
- NAD-A-3 The voluntary contributions the corporation has made to many county projects, and not least of all the tax revenue source to the county, tremendous tax revenue.

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- NAD-A-4 | It is a well managed corporation. They've shown signs of this in so many ways, in the nine years that I have lived here, which is a key to any kind of good operation.
- NAD-A-5 | They are very safety conscious, which is vital to our county of Louisa, and most of you have just discussed this in some detail, but very safety conscious.
- NAD-A-6 | We want them to continue as a part of Louisa County for many years to come. Thank you.
- Mr. Cameron: Thank you, very much, Mr. Wright. Next we are going to hear from two officials from the safety and emergency preparedness field. First of all we are going to go to Major Donald Lowe, who is with the Sheriff's office in Louisa County.
- Please come up here.
- NAD-B | Major Lowe: Thank you, sir. Good evening, ladies and gentlemen. I'm Major Lowe, from the Louisa County Sheriff's office, and I'm just going to take a couple of minutes of your time, and talk a little bit about safety and security at North Anna. I have been fortunate to have a professional working relationship with North Anna, off and on, probably for over the last 22 years, and also fortunate enough to be able to experience a lot of the programs that they have, in terms of security.
- NAD-B-7 | I have been through their security training, I've been through a lot of safety training, I've seen management's attitude, and commitment to excellence in this field.
- NAD-B-1 | And I have to say that I'm extremely impressed here, not only by the quality of people, and the quality of programs that they have, but the attitude in general. I think that they are very concerned about this county, and the safety and welfare of this county.
- NAD-B-2 | And they are also good corporate neighbors for us. The things that they do for our county in terms of support to the county itself. And I know in law enforcement agencies, and emergency services, and other agencies, they have been tremendous in that area.
- NAD-B-3 | And I think you can look at that, over the last couple of weeks, it is just simply by the volunteers that were walking up and down the streets here, in the county, picking up bags and bags on litter, that were on the side of the road, these are volunteers. And that is all attitude.
- NAD-B-8 | The post 9/11 events naturally are a major concern for us here. And I can say, without getting into a grey area about safeguards stuff, that the protection of North Anna is of paramount importance to law enforcement agencies in this county, and surrounding counties, and the federal government.

NAD-B-4 And that we are aggressively pursuing all our options, and anything that is available to us, to make sure that North Anna is a safe place here. That the security team down at North Anna is probably one of the best I've seen. And the leadership there is excellent.

NAD-B-5 The training that they get in the security training down there, in some areas, probably exceeds what the normal law enforcement agency would probably receive in some of those areas.

Again, I feel very comfortable with North Anna being there. And I guess the only way I can kind of prove my assertions up here is just to let you know that over the last month or so, we finally finished building our house two miles from North Anna.

NAD-B-6 And I feel very safe, and very happy, and I tell you, it is a pleasure to not only work with these people, but associate with them, and have them be a part of the community here.

Mr. Cameron: Thank you very much, Major Lowe.

Next we are going to go to Duff Green, who is with the emergency operation center in Orange County.

NAD-C Mr. Green: My name is Duff Green, I'm the emergency management coordinator for Orange County, Virginia.

Others have given the background. I'm eighth generation native of Orange County. I'm a graduate from the University of Virginia with a major in biology, and I appreciate the environment concern that the NRC has for North Anna.

But being a native, here for 74 years, I have never seen a bald eagle. I served almost 20 years on the Orange County Board of Supervisors, the following four years as chairman of the board.

I'm not employed by Dominion Virginia Power, I have no relatives who work there, and I do not own any stock in this electric company. On the other hand I've had an association with the North Anna Nuclear Power Station since the late 1970s, when I first went on the Orange County Board of Supervisors.

The reason for this being the fact that Orange is considered one of the five risk counties surrounding the power station, and the board of supervisor's chairman, by Virginia law, is the director of emergency management.

As the emergency management coordinator one of my jobs is to study, train, and maintain plans for a possible radiological accident that may occur at the North Anna plant.

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NAD-C-1 | We hold numerous drills of all kinds in cooperation with NAPS, and we make numerous visits to the plant for training, and information. As an outsider I'm convinced that the North Anna Power Station is an excellently run plant with highly trained professionals in charge.

They keep my office informed on all activities, even the most unimportant occurrences. There are simulated drills by evaluators from the Federal Emergency Management Agency.

NAD-C-2 | North Anna Power Station has been an outstanding neighbor in our community. It has been an economic boom to Orange County for more than 30 years, providing well paid jobs to many of our citizens.

NAD-C-4 | My office is staffed by more than 30 all volunteer men and women, and all the basic office's expenses are paid by the County Board of Supervisors, the only funding we receive in my office comes from North Anna Power Station.

NAD-C-3 | I have nothing but praise for this Dominion Virginia Power operation. Its open communication, and it safety conscious employees. Thank you.

Mr. Cameron: Thank you very much, Mr. Green.

Before we go to some other members of the community, we are going to hear from some officials of Dominion Virginia Power to talk, tell us a little bit about their rationale for license renewal, their vision behind this.

And first we are going to go to Mr. Jack Davis, who is the director of nuclear safety, and licensing, at the North Anna station, and then he will be introducing you to Jud White, who is the environmental manager for Dominion. Jack?

NAD-D | Mr. Davis: Thank you. Good afternoon, ladies and gentlemen. I'm Jack Davis, and I'm the director of nuclear station safety and licensing at North Anna Power Station.

I would like to take this opportunity to thank the Nuclear Regulatory Commission for holding this important meeting to receive public comment on the NRC's supplemental environmental impact statement that supports Dominion's application for license renewal for North Anna Power Station.

We welcome the public comment process, and we believe that Dominion, Louisa County, and other nearby communities all have a stake in the future of North Anna Power Station.

NAD-D-1 As an employee of Dominion I'm excited about the license renewal for North Anna. A renewed license would not only be important to Louisa County, and Virginia, but also to me and 852 other North Anna employees, whose livelihood depends upon providing safe and reliable electricity to the customers of this state.

NAD-D-8 That is not to mention the future employees that will be required to continue the safe operation of the plant well into this century.

NAD-D-2 Currently North Anna provides about 17 percent of the electric power used in Virginia. A renewed license would ensure that we could continue to provide that safe, reliable power, to our customers.

NAD-D-3 Additionally, renewed licenses would assure the local community that it will continue to reap the benefit of having a large employer in the area, and Louisa County would continue to receive the tax revenue from the station's operation.

NAD-D-9 Just as an aside, North Anna Power Station has provided 170 million dollars in tax revenue to Louisa County since the station started building some 30 years ago.

I would like to digress for just a moment, and tell you a little bit about myself, and how I came to be associated with North Anna Power Station. I began my professional life in the nuclear Navy, during which time I had the pleasure of three tours as commanding officer.

First of the USS Baton Rouge, a nuclear powered attack submarine, then the Navy's three reactor training facility, near Idaho Falls, Idaho. And last, the USS L.Y. Spear, which is a nuclear submarine repair ship.

I joined Dominion in the fall of 1997 as the assistant superintendent of outage and planning. And in the summer of 1999 I entered the senior reactor operator license class, and received my license from the Nuclear Regulatory Commission in October of 2000. In November of that same year I assumed my current duties at the station.

NAD-D-4 North Anna Power Station has a long history of safe, reliable, and efficient operation. Since the 1990s North Anna has consistently ranked as the most efficient producer of nuclear generated electricity in the United States, on a three year cost average.

The station has also achieve, and continues to achieve, high marks in safety and security performance from the Nuclear Regulatory Commission, and from the Institute of Nuclear Power Operations.

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During the period 1993 through 1997, the Nuclear Regulatory Commission, in its oversight program, then known as the systematic assessment of licensee performance report, graded North Anna as having superior safety performance in all station functional areas.

Under the NRC's new reactor oversight process the results of which are updated quarterly, on a quarterly basis, on the Commission's website, North Anna continues to fully meet the NRC safety cornerstone objectives.

Additionally, since 1991, the Institute of Nuclear Power Operations has also consistently awarded North Anna its highest marks for nuclear safety and operational excellence.

As to environmental performance, our commitment to environmental stewardship dates back to the construction days of the power station in '60s and '70s. North Anna Power Station was designed so that the water that is used to cool the steam that generates electricity, discharges into an innovative 3,400 acre system of lagoons that returns the water to Lake Anna at nearly normal temperatures.

NAD-D-5 | We also have a conservation effort that focuses on protecting and enhancing fish populations in the lake. Special structures of brush and cinder blocks were constructed and sunk in the lake to improve the fish habitat.

Our biologists regularly sample, or monitor the health of the fish population. And that data is compared with data that was taken prior to our first day of operation.

These comparisons have consistently shown that North Anna Power Station is not harming the lake's fish population.

NAD-D-10 | In preparing North Anna's relicensing application more than 50 individuals have spent, literally, thousands of hours reviewing all environmental aspects of continued plant operation.

The report concluded that continued operation of North Anna Power Station beyond 40 years will not negatively impact the environmental surrounding of the plant.

In a moment Dr. Jud White, Dominion's manager of environmental policy and compliance, will share with you more about our environmental programs, and review the findings of the NRC draft report.

NAD-D-6 | Finally I would like to thank you all on behalf of Dominion for allowing us to do business in Louisa County. We strive to be a good corporate citizen, and have enjoyed the professional

supportive working relationship that we have with the county, and the other local communities surrounding the station.

NAD-D-7 As many of you know, Dominion has a long-standing tradition of investing in the communities it serves through volunteer and philanthropic activities. Many of our employees demonstrate their commitment to the community by participating in programs such as Adopt a Highway, Thanksgiving Baskets for the Needy, blood drives, supporting the area Boy Scouts, and many other community activities.

Our volunteer programs and civic participation are an essential element of Dominion's corporate philosophy. We will continue our commitment to our communities in the future.

Again, I appreciate the opportunity to speak to you about North Anna Power Station's license renewal. I would now like Jud White, if he would provide you some more details on the environmental aspects of our application. Jud?

NAD-E Dr. White: Thank you, Jack. As Jack said, my name is Jud White, I'm the environmental manager at Dominion, with responsibilities for environmental compliance activities at all of our power stations in Virginia, as well as other states. But it also includes the North Anna Power Station.

I have over 25 years experience in the environmental field. My first ten years of my career I spent at North Anna, with responsibilities for studies, environmental studies in the lake, as well as the downstream North Anna River.

I do have a master's degree in Biology, and a PhD in environmental policy. I was directly involved and helped in assisting the Dominion nuclear team, helping them prepare the license renewal application to NRC. And, in particular, I helped develop the environmental report to the NRC, and coordinated with federal and state environmental agencies.

NAD-E-1 We commend the NRC in developing what is, in my opinion, a high quality and professional draft supplemental environmental impact statement. The impact statement is a thorough, in my opinion, and accurate scientific assessment of the potential environmental impacts associated with the proposed action.

NAD-E-2 We support and agree with the conclusions of the NRC Staff that renewing the North Anna Power Station operating license is a reasonable action that will not result in any noticeable impact to the environment.

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Basically this means, as has been said several times already, that the license renewal option is preserved, or remains acceptable for the power station to continue to provide safe and reliable, and clean electricity to the Commonwealth of Virginia.

We prepared, over a several year period, and submitted to the NRC an extensive environmental report for license renewal that was part of the information used by NRC in developing their supplemental environmental impact statement.

I say in part because it was just one area where the NRC relied on information. They had other sources including what was mentioned earlier, the generic environmental impact statement, the extensive consultation with federal, state, and local authorities, and environmental agencies, independent review by the NRC Staff, National Laboratory consultants, and the consideration of the public comments during the scoping process, which was held last fall, here.

Of particular note, relative to information sources, Dominion proactively engaged in discussions and meetings with key state, federal, and environmental agency staffs very early in the license renewal process.

This helped ensure that all issues were identified and appropriately addressed in the environmental review submitted to NRC. Dominion also proactively communicated with environmental and other pertinent stakeholders about license renewal.

This helped considerably, in my opinion, in the development of a thorough and accurate report. The report speaks specifically, and it has been mentioned somewhat previously, about specific impacts to fish, various aquatic resources, and is listed in detail in the report.

The report goes back to studies that began in the early '70s, even before the plant went operational. The creation of Lake Anna, a key point for this area, it created by damming up the North Anna river, it created Lake Anna, which is a 9,600 acre impoundment.

It basically ameliorated the effects of the communities downstream from Contrary Creek, which is a known source of acid mine drainage in the area. And as a result of impounding the river, and creating the lake, that impact was greatly reduced.

Also many of you who are fishermen probably are well aware that Lake Anna continues to rank high in the state as a trophy bass lake in Virginia, which is a clear indication that the underlying food chain, on which it depends, is healthy and stable.

NAD-E-3 Based on the review of all of the historical information, including the annual monitoring, which does continue today, the NRC concluded that potential impacts to aquatic operations are small, and that additional mitigation is not warranted, and we do agree with that finding.

To work with the NRC in evaluating the current applicability of the generic environmental impact statement, that information in it, as it pertained to generic issues, requiring no further review, Dominion developed an internal procedure, and protocol, to identify any new and significant information related to those issues that NRC identified as generic.

NAD-E-4 As a result of that process no new information was identified, but we did go through the process, as it was important to do. This activity is considered very important, in my opinion, in all license renewal projects for verification of the findings in the generic environmental impact statement.

We also agree with the NRC findings that the potential impacts of license renewal for the remaining environmental issues evaluate separately in the impact statement are small, and of noteworthiness is that a significant consideration is that there is no new major construction or land disturbing activity associated with this license renewal process.

As a result a lot of the impacts were considered small. In essence current measures to mitigate environmental impacts associated with operations were found to be adequate.

Dominion, and its entire staff, its entire environmental staff, takes pride in its environmental performance, and its positive relationships with environmental agency staffs, environmental organizations, the general public, and community neighbors.

It goes without saying that developing that relationship takes time to foster, as well as a major commitment by upper management for openness and candor, which I'm proud that we have.

Examples of these relationships that we have with the various groups and organizations, including the Department of Environmental Quality, the Virginia Department of Game and Inland Fisheries, Lake Anna Civic Association, as well as Lake Anna Advisory Committee, and the River Association.

In this license renewal process we want to ensure that we continue on this path, and not do anything adversely impacting our future performance or relationships with these groups.

Dominion believes that our obligation to provide safe and reliable energy from nuclear power extends well beyond this license renewal milestone. Federal, state, and local oversight will

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continue to test and challenge, just as it does today, our standard of environmental excellence, and the conduct of our daily business.

We welcome all comments on the contents of this supplemental environmental impact statement, during the comment period, and we look forward to working positively and constructively with NRC staff. Thank you.

Mr. Cameron: Thank you, Jud. We are going to start with Mr. James Kogle, then we will go to William Murphy, and then to Jerry Rosenthal. Mr. Kogle?

NAD-F | Mr. Kogle: Good afternoon. I'm Jim Kogle, I'm vice president of the Windwood Coves Property Owners Association in Louisa County.

Windwood Coves represents a residential community of approximately 260 properties, which about 50 percent are currently built up. We are a mixture of full time residents, and also some weekend people, that are certainly enjoying the lake.

We are located about a mile north, if you will, up lake from the plant. I have been associated with Virginia Power since I went on our first Board of Directors back in the mid-1960s, when Windwood Coves was developed.

NAD-F-1 | And I must say our experience with Virginia Power has been nothing but absolutely terrific. They have been wonderful neighbors, very sensitive to the environment, sensitive to recreational issues. And we certainly support, very much, the relicensing effort of the power plant.

Thank you.

Mr. Cameron: Thank you Mr. Kogle. Next let's hear from Mr. Murphy.

NAD-G | Mr. Murphy: Hi, my name is Bill Murphy, I'm a resident of Louisa County and, in fact, live right on the lake myself.

NAD-G-1 | First thing is I'm in favor of renewing the license for North Anna. I think it is a safe operation, I think it is a benefit to the population as a whole, and Louisa County in particular.

NAD-G-2 | Second is I would like to encourage NRC to very carefully consider the credibility situation following the Davis-Besse incident. And we ask, did you analyze so and so? You said, yes, we analyzed it. But it is your credibility that lets the public accept that statement of analysis.

NAD-G-3 Third is actually the plant is a benefit to the environment. Mr. Green hasn't seen any eagles, but we have certainly seen them. There are a couple that fish on Contrary creek, there is one that fishes right across from us at the state park.

And at one time we were sitting out, and there was one fishing right in front of our house. So we know there are eagles there, we've seen them.

NAD-G-4 The second part of the environment is the warm blooded part, and that is there is estimated that there are about 500 beavers around the lake. That population has remained constant over the past 20 years.

NAD-G-5 We have seen fresh water otters, muskrats there as well. And so I would go to the other side and say that the existence of the plant is actually a benefit to the habitat of the wildlife, and has increased the wildlife around in this area.

NAD-G-6 So the final close, we are in favor of renewing the license, and thanks for the statement.

Mr. Cameron: Thank you, very much, Mr. Murphy. And let's go to Mr. Rosenthal.

NAD-H Mr. Rosenthal: I'm Jerry Rosenthal, I'm the president of Concerned Citizens of Louisa County. We have been an environmental organization dealing with North Anna for over 25 years.

Been involved with the Concerned Citizens since Virginia Power first proposed transshipping waste from Surrey, to store up at North Anna, which they assured us if they did not get that waste moved from Surrey to North Anna, they were going to close North Anna. Of course that never happened. We will deal with that.

A few other quick notes. I'm a fifth generation Virginian, I'm a stock owner on Dominion Power, and I have a list of comments, and I'm going to comment by the page number. And you can take it from there, out of the book.

NAD-H-1 On page 2-10 it says: There is going to be increased liquid waste releases in the next 20 years. The question with all the releases, and the stuff, the gaseous, the liquid, or the solid waste, is we are talking about comparative versus cumulative.

There are going to be greater releases if the plant is extended for 20 years. That is logical. They are there, it is going to be operating. They may not be releasing more five years from now, than they are releasing now, but cumulatively they will be releasing more.

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- NAD-H-2 | On 2-12, the low level compact for radiological waste, is non-operational. Barnwell promises to close to outside, people from outside South Carolina. The low level waste is currently stored on-site, including two generators, with no plans to be cut and removed. There are significant problems with storage, disposal, and accumulation of low level solid waste, radioactive.
- NAD-H-3 | I heard a person laugh about the chance of a tornado striking the plant. What are the chances that four airplanes would be simultaneously hijacked and flown into public buildings? These same people would have laughed a year ago if somebody had said this. But we have to deal with possibilities.
- NAD-H-4 | On 2-27, and following the pages there, they keep referring to Richmond County. Richmond County happens to be all the way on the eastern part of Virginia, not anywhere near here. All of the comments related to the sociological stuff that relate to Richmond County are ridiculous, they have nothing to do, and they should not belong in there at all.
- NAD-H-5 | On 2-41, Tradewinds they put in there as a major employer, they folded. Actually the major employment in the county, outside of Dominion Power, are the schools and the government, which were not mentioned at all.
- NAD-H-6 | In 4-4, they say thermal stratification to the lake is not a problem, but on 4-16 it is noted in the thing as pronounced in the lake. I'm not sure how you can either have it pronounced and not a problem, or maybe stratification is not a problem.
- NAD-H-7 | On 4-24, long term effects of exposure to low level radiation has not been studied, we don't have information. What are the effects for 30 years? So we are having a hard problem to know how these effects could be judged or estimated.
- NAD-H-8 | On 4-40 Virginia Dominion Power is building a new building at the plant site, which is going to affect water use and quality, as well as discharge. That information is not included in here. This new building was just announced this month.
- NAD-H-9 | On 5-5, the NRC and VEPCO's reports have been challenged by many people, their mathematical modeling. And I don't even need to go much further than just saying that all of those mathematical models are sort of bogus.
- NAD-H-10 | In 6-3 and following, let's get the figures right out there. How many tons of uranium are going to be mined, how many tons are going to be processed? What are the effects? They are saying, right in there, 12 additional cancer fatalities are going to be expected because of the renewal of this license.

Who, in Louisa County, wants a member of their family to be one of those 12? You live here in the county, do you want a friend or a member of your family, your grandchild, your child, to be one of these additional 12 cancer fatalities?

What kinds of cancer, how many additional cases of cancer? These are fatalities. They are saying there is no significant impact, and we are talking about 12 people who are going to die. That is no impact?

There is a financial impact, there is an emotional impact. Specifically it is going to affect the people who live up at the lake. I think they should know that.

Go back to your association and tell them that 12 additional people, there are 12 additional cases of cancer, and see what type of support you get.

NAD-H-11 On 6-8, on-site spent fuel. The pool is not designed to hold the waste for more than X number of years. And from its original design they've already crammed more fuel in there than was originally designed.

NAD-H-19 We need to have an analysis of what are the effects of a concrete pool with another 20 years, with all that radiation. The pads are limited. Louisa County has the right to limit storage of waste on those pads.

That was part of the conditional use permit. If the county limits the waste storage on the pads, what are the effects, where are they going to put the waste?

If we are opening for 20 more years, and the county doesn't allow it, where is that waste going to be? If they don't allow it there, they are going to have to have another one, and there is going to be an environmental impact.

NAD-H-12 When we start talking about the 8-23, natural gas, two new natural gas plants are already being built in this area. One in Gordonsville, and one I Fluvana. Another one is proposed in Gum Springs.

These plants already have natural gas, and transmission lines, and can produce up to 65 percent of North Anna's annual net output. The whole discussion they had in there about putting a natural gas plant at North Anna, and having to bring natural gas lines from Gordonsville, and all this disruption, it was just a waste of time and energy.

That wasn't going to happen. Dominion already is one of the largest natural gas producers, and marketers in the country. They are putting up natural gas plants, they've canceled, in the

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last year, they've canceled more plants than had the output of North Anna, that they had already announced.

NAD-H-13 | There is a surplus of electricity right now, and a surplus of plants. The plants are being canceled.

NAD-H-14 | In 8-45 and following, again the discussion, no one source has to replace all of North Anna's production. Which was also noted earlier in there, by doing things like reduction on demand, or a combination. This entire section is fundamentally flawed, logically and realistically.

And that is even noted, later, on page 8-49. The Staff's conclusion that these things could happen is seriously flawed. Dominion itself is constructing new power plants.

NAD-H-15 | And conservation and management demand could, by itself, save if they close North Anna, could save all of the production that is going on right there.

NAD-H-16 | On 8-15, DOE Secretary Abraham has already determined that Yucca does not have enough space for the current waste that is being produced at the nuclear power plants. They can't put the high level waste away. And now we are going to add 20 more years. Where is that going to go?

They don't have it, it is a fundamental flaw, you can't produce it if you don't have a place for it to go. Even with Yucca fully operational, they can't take the waste from the nuclear power plants.

NAD-H-17 | It is ridiculous to say we will do it, and then we will deal with it later. On 8-15 and 16, with MOX, Virginia Power is not out of the contract, they have not signed out of the contract on MOX. They bring the letter saying they are not going to do it.

They flip flopped, lied, whatever you want to say, three or four times about their use of MOX. If MOX is used here, that changes the profile of the storage, waste, and all accidents. And significantly changes the environmental review.

NAD-H-18 | Lastly, concerning security, I've been around the world since 9/11, and I can tell you this. We are not prepared, we are not prepared for what is going to happen, and we are not prepared for the response.

It is a sad thing, America is a wonderful open society, and we are just not ready. So I encourage the NRC to take this very seriously, and look at it, and try to deal with the real reality of this new world since 9/11. Thank you.

Mr. Cameron: Thank you, Mr. Rosenthal for those detailed comments.

Before I ask Andy to address the question from before, we did get a letter from the Town Manager here in Louisa, Mr. Morrison, who couldn't be with us today, and we are going to attach that to the transcript.

But because it has been submitted I thought I would just read one main paragraph, for your information. It doesn't mean anything more than that. And this is from Mr. Morrison, Town Manager of the Town of Louisa.

NAD-Y-4

North Anna Power Station commitment to the environment is above reproach. Nuclear energy itself does not produce any of the air emissions associated with fossil fuel generation plants. Thus nuclear generation helps to protect the environment. The company's conservation efforts focus on protecting and enhancing fish populations, as well as migratory birds through policies, procedures, and permits obtained from the United States Fish and Wildlife Service.

As good stewards to the environment Dominion biologists regularly monitor the health of fish populations with no harmful results found. As I perceive it, North Anna Nuclear Power Station is environmentally safe, environmentally sound, and environmentally responsible.

If you want to see the entire letter it is on the transcript. And, Andy, I will just ask you to make sure that we have a copy of this, also, to take back to Rockville with us.

Now, Andy, do you have -- are you ready to respond to the question that was asked previously?

Mr. Kugler: Jerry, you raised a question related to the inspections of the vessel heads, and results of that.

What I have here is a letter that Dominion wrote back to us. This is in response to bulletin 2002-01. And I believe that bulletin was as a result of -- that may be the result of the Davis-Besse --

But, at any rate, they have inspected the vessel heads. And I think this may be what you were referring to. On North Anna Unit 1 they did find some boron deposits on the reactor vessel head.

And what I was saying was they didn't find any wastage. In other words, there was boron there, but it had not been corroded the metal. I guess I believe that -- I'm not an expert in this

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area, but I believe that they indicated that it had not been there very long, or at least it had not had an environment that encouraged the corrosion.

The boron deposits by themselves won't corrode it, you have to have moisture. And normally there is plenty of moisture in the containment, that is the nature of it.

I'm trying to see what else I've highlighted here. There is a degradation, in other words, wastage of the reactor vessel head base metal was not observed on the reactor vessel head, including the area around the penetrations that are required in care or evaluation, and the boric acid residue deposits were removed, visual inspections were performed.

I'm trying to see if there is anything else. In the case of North Anna Unit 1, and Surry Unit 1, even where leakage was suspected, no evidence of reactor vessel head degradation was found, and the repairs were completed, and should prevent future leakage at the affected location. So do you know, were you referring to the places where they found boron, is that what you were referring to?

Mr. Rosenthal: I had read in the internet story, in response to Davis-Besse, in which they listed the reactors which they had found -- I mean, it came from Reuter's, so it is hard to tell what they really were commenting on.

But they had mentioned different reactors around the country, and North Anna was in there, and it said, I think they said 17 or 19 spots of boron degradation. Now, I don't know if it is degradation, or --

Mr. Kugler: Right. This report doesn't list how many, but it does indicate there were places where there were boron deposits, but there wasn't any sign of where it actually corroded. That is the report that we received.

Mr. Cameron: And I think those are the facts in that report, and the term used was deposits. Okay, thank you.

Was there anybody else who wanted to make a statement before we adjourn?

(No response.)

Mr. Cameron: We are going to be here tonight at 7 o'clock for a meeting, open house at 6 o'clock, for those of you who might want to talk with us.

But thank you for concern, comments, detailed comments, your questions are always important for us to heed the admonitions about the credibility of our program. And so we thank you all. And we will be here at 7 o'clock. We are adjourned.

(Whereupon, at 3:25 p.m. the above-entitled matter was concluded.)

Appendix A

Transcript of the Evening Public Meeting on June 25, 2002, in Louisa, Virginia

[Introduction, Mr. Cameron]

[Presentation, Mr. Tappert]

[Presentation, Mr. Tabatabai]

[Presentation, Mr. Kugler]

[Presentation, Ms. Hickey]

NAD-M Mr. Barnes: Good evening. I'm Fitzgerald Barnes, I represent the Patrick Henry District, in the Louisa County Board of Supervisors. This is my second term.

Without a doubt, when you talk about the term that we all hear, on commercial, like a good neighbor State Farm is there, you can use that with Virginia Power.

NAD-M-1 Never had a case where we didn't look to an answer they had where we didn't get it. Their employees, without a doubt, the volunteer hours that they put in this community, is not duplicated at all by anybody.

We had a playground, a park that we tried to get up and running, and their volunteer staff went over there, and their employees went over there and made it a reality where kids could go over there and have an opportunity.

NAD-M-2 But that is just the tip of the iceberg, some of the things that they do here. The library, they contributed funds, and things of that nature, in the community.

From an education standpoint, being a rural county we would not enjoy the things that we enjoy from an educational standpoint, without Virginia Power.

NAD-M-3 I'm very proud of our school system, of the technology that we have here. Those things we get from Virginia Power. But most of all is the openness that Virginia Power has brought.

If something happens, as an elected official, I get a phone call. I don't read it in the paper first. Somebody from Virginia Power makes sure that we know first-hand anything that we need to know.

And a lot of companies don't do that, a lot of people can't say that. And I'm very, very proud that we have them here as a neighbor.

NAD-M-4 From an economic standpoint a lot of families enjoy a good quality of life because of the employment opportunities here, from Virginia Power. A lot of families would not have the opportunity to make the amount of money they do if Virginia Power were not here.

Sometimes I joke with people and I tell people, I say, we wouldn't be on the map if it was not for Virginia Power in this county. And in fact I was in a meeting the other day and I just realized that we are probably one of the few localities in the state that offer, you go to the landfill free, and things of that nature, don't pay fees, as of right now, and that is because of the tax dollars and things that we get from Virginia Power.

NAD-M-5 So without a doubt, I'm in support of Virginia Power. Like I said before, it is, without effort they always come to our aid, and this is something that they do.

But I'm in support of the application. And if my two cents count, I would like for them to count, and I'm in support of Virginia Power's application.

Mr. Cameron: Thank you very much, Supervisor Barnes. And now we are going to go to Dr. Morgan, who is also on the Louisa County Board of Supervisors.

NAD-N Dr. Morgan: Good evening, I'm Dr. David Morgan, I'm the Supervisor from the Green Springs District here in Louisa County, I work as a radiation oncologist. Basically, I use radiation to treat cancer.

In my previous life in the Navy, where I spent 15 years, I worked as a submarine medical officer, so I had experience with radiation protection, as well, and transferred that to oncology in my private life, after I left the Navy.

Basically, I'm not going to reiterate what Mr. Barnes has talked about in terms of the economic impacts of Virginia Power, I think those are obvious. But I think that safety and security come first, in my mind, and the economic impacts come second.

NAD-N-1 The group at North Anna is probably one of the most professional organizations that I've had the pleasure to work with. These folks really do put safety and security above all else.

They have an operation that has multiple security checks, safety checks, both radiologic and security checks, based on other types of threats. And I think that is important for the community to know.

These folks really have a good quality management, and quality improvement system in place, a lot of checks and balances. The organizations like NRC, regulatory bodies kind of

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overlooking, and the oversight committees that look over North Anna really do a good job in making sure that the public in the area is safe.

I think, you know, my personal bias is for nuclear power. I think it has been a proven method of power generation here in the United States. I'm really not going to debate the benefits of it here tonight.

NAD-N-2 Just to say that of the units in the United States, I think North Anna has one of the best safety records out there. I think they've had an exemplary performance as far as safety and security is concerned, and I would wholeheartedly support their application for their 20 year renewal on their license. Thank you.

Mr. Cameron: Thank you, Dr. Morgan. And next we are going to go to Brooks Besley who is on the Town Council of the town of Mineral, and also on the Planning Commission. And then we are going to get to Mike Schlemmen from Louisa Emergency Services. Mr. Besley?

NAD-O Mr. Besley: Thank you, Mr. Cameron.

I'm here on behalf of the Town of Mineral Town Council. Thank you for this opportunity. The Town and North Anna have enjoyed a very long, very positive relationship. Thirty-four years ago the announcement for this project was made at a meeting in the town of Mineral.

Shortly thereafter Stone and Webster came, set up a field office, lots of employment followed, a lot of jobs. The retail merchants truly enjoyed the impact.

NAD-O-1 But the dollar aspect is probably a type of comment you all hear everywhere. The people at the power plant, the employees there, have set a tremendous standard for us to follow, as far as involvement in the community, their volunteerism.

They -- I recall the first place I was aware of that was the elementary schools had science fairs. They always had folks from the power plant to act as judges in the appropriate areas, and they are very positive, and very significant impact there, brought the image up for our science fair participation.

NAD-O-2 Basically lots of changes taking place in the last 34 years, a very positive impact on our community, our town. We've enjoyed the past 34, and we hope there is another, at least 34. And at that time I hope there is someone here, standing, that says we have had 68, and we want 68 more. It has been very positive. Thank you.

Mr. Cameron: Thank you, very much, Councilman Besley.

Next let's hear from Mike Schlemmen, who is with Louisa Emergency Services. Thanks, Mike.

NAD-P Mr. Schlemmen: Good evening. You are going to have to excuse me. I have been two places at once tonight, I've got two meetings going on at the same time.

My position for the County is the emergency services coordinator. And what that position does is basically provide the locality's response in case there is an emergency for North Anna, or any type of emergency, where we have to declare, where the County Board of Supervisors declares a local emergency.

One thing my experience, and I have been in the field, I'm a fire fighter, plain and simple. I'm the guy that rides in, you saw those folks going into New York, that is what I did for many years. So you are looking at it from a fire fighter's point of view.

I've been in the field for 25 years, I've worked different areas, hazardous materials response has been my last position, with the state, prior to coming to Louisa County.

NAD-P-1 One thing I do have to say about Dominion Generation, or Virginia Power, is that to them safety is job one, it is a concern, they have a very great concern for the community.

And I will explain this to you, because when I first came here, and when I was notified that I -- when I accepted the position here three years ago as emergency services coordinator, the folks from Dominion Generation worked in the same building. They had a representative that worked in the same building with radiological hazmat response.

And when they found out that I was coming up here we sat down, and met, and began to learn the process. To me radiation was, God-awful thing. I began to learn, through education, and the process of what they were discussing, and in my own background, that it is something not to be feared, we can deal with it, and work with it.

And I feel very comfortable with them. They have been a great help to my office. I've taken an office here and we have been slowly growing. A lot of things coming forth. And if it wasn't for the help of Dominion Generation, I don't know where we would be at.

NAD-P-2 I can pick up the phone and call their emergency preparedness people and say, look, I need some assistance, and I will get a phone call back, and get some assistance, and whatever I need.

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So I'm very grateful to those folks. Our relationship has grown over the three years. One of the things I do want to advise the citizens of Louisa County, which we have, and you folks in the NRC, is that we had our last drill in December of 2000.

Boy, you talk about being nervous going through that. It was a great deal, I think we had some of the folks from the NRC here. We also had FEMA. It was a graded exercise, and a lot of things ride on that, how the localities respond to a potential incident.

And if we did not do things right it could affect the operation of the plant. So you can say I was put on the hot seat. One of the things that we did before that drill was work with Dominion Generation, work with the Department of Emergency Management in Richmond, held a lot of training, brought our people up to speed. And our last drill, it was the best that Louisa has ever done.

We received no new issues, no new ARCAs, it was just one of those things that occurred, and how well prepared. That plan, we are getting ready to go through this drill July 16th. I will tell you that we have been working constantly on that plan, updating, upgrading it, because our concern is for the citizens right there.

NAD-P-3 Safety is so much of a concern that what we have done in the county, just for your information, is as new developments go up around the lake, within the 10 mile EPZ, we have kind of an informal agreement with the planning office, when a request for rezoning, or putting in a development into the ten mile EPZ comes across the planner's desk, and the Planning Commission, it comes down to my office for a review, we request siren easements.

I think this is one of the only localities in the area, and actually in the state, that has requested siren easements. So if you are going to put a new subdivision up around that lake, we would like to have a place that we can put a siren to eliminate sending people in for alarming, that we can blow that siren, and it frees our people up to do other things.

So these are some of the new initiatives that we've done in working with Virginia Power. And I do have to say it has been a very successful operation.

NAD-P-4 As I said, I'm a fire fighter, dealt with hazardous materials, and environmental impact. I know this is an environmental impact statement. I think dealing with hazardous materials, dealing with the terrorism threat that we've been doing, and one thing that we have been putting into our plan, is dealing with the potential terrorism threat. It is out there.

NAD-P-5 I think the environmental impact of every day hazardous materials that come through this community, I fear are much more greater, than I do the nuclear power plant having a problem.

There is a lot of chemicals, and a lot of things that come through, that can do just as much harm, quicker, than radiation from the power plant. So we are preparing ourselves for everything in all categories.

We have major interstates and railroads that go through here every day. And one thing I can rely on is the expertise, and the assistance of Virginia Power to assist us in those areas also.

So I just wanted to give you a little perspective of emergency services. Thank you.

Mr. Cameron: Thank you, very much, Mike.

It is always useful to hear from the company in terms of the rationale for the license renewal application, and some of the details behind that. And we are going to have Jack Davis, who is the director of nuclear safety and licensing, at the North Anna Station, talk to us.

And then he is going to introduce Jud White, who is over here, as the environmental manager for Dominion. And then we are going to go to some citizens in the community who have signed up to speak. Jack?

NAD-Q Mr. Davis: Thanks, Chip. Good evening, ladies and gentlemen. As Chip said, I'm Jack Davis, and I'm the director of nuclear station safety and licensing at North Anna Power Station.

I would like to take this opportunity to thank the Nuclear Regulatory Commission for holding this important meeting to receive public comment on the NRC's supplemental environmental impact statement that supports Dominion's application for license renewal for North Anna Power Station.

We welcome the public comment process, and we believe that Dominion, Louisa County, and other nearby communities all have a stake in the future of North Anna Power Station.

NAD-Q-1 As an employee of Dominion I'm excited about the license renewal for North Anna. A renewed license would not only be important to Louisa County, and Virginia, but also to me and 852 other North Anna employees, whose livelihood depends upon providing safe and reliable electricity to the customers of this state.

NAD-Q-8 That is not to mention the future employees that will be required to continue the safe operation of the plant well into this century.

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NAD-Q-2 | Currently North Anna provides about 17 percent of the electric power used in Virginia. A renewed license would ensure that we could continue to provide that safe, reliable power, to our customers.

NAD-Q-3 | Additionally, renewed licenses would assure the local community that it will continue to reap the benefit of having a large employer in the area, and Louisa County would continue to receive the tax revenue from the station's operation.

NAD-Q-9 | Just as an aside, North Anna Power Station has provided 170 million dollars in tax revenue to Louisa County since the station started building some 30 years ago.

I would like to digress for just a moment, and tell you a little bit about myself, and how I came to be associated with North Anna Power Station. I began my professional life in the nuclear Navy, during which time I had the pleasure of three tours as commanding officer -- first of the USS Baton Rouge, a nuclear powered attack submarine, then the Navy's three reactor training facility, near Idaho Falls, Idaho. And last, the USS L.Y. Spear, which is a nuclear submarine repair ship.

I joined Dominion in the fall of 1997 as the assistant superintendent of outage and planning. And in the summer of 1999 I entered the senior reactor operator license class, and received my license from the Nuclear Regulatory Commission in October of 2000. In November of that same year I assumed my current duties at the station.

NAD-Q-4 | North Anna Power Station has a long history of safe, reliable, and efficient operation. Since the 1990s North Anna has consistently ranked as the most efficient producer of nuclear generated electricity in the United States, on a three year cost average.

The station has also achieved, and continues to achieve, high marks in safety and security performance from the Nuclear Regulatory Commission, and from the Institute of Nuclear Power Operations.

During the period 1993 through 1997, the Nuclear Regulatory Commission, in its oversight program, then known as the systematic assessment of licensee performance report, graded North Anna as having superior safety performance in all station functional areas.

Under the NRC's new reactor oversight process, the results of which are updated quarterly, on a quarterly basis, on the Commission's website, North Anna continues to fully meet the NRC safety cornerstone objectives.

Additionally, since 1991, the Institute of Nuclear Power Operations has also consistently awarded North Anna its highest marks for nuclear safety and operational excellence.

As to environmental performance, our commitment to environmental stewardship dates back to the construction days of the power station in '60s and '70s. North Anna Power Station was designed so that the water that is used to cool the steam that generates electricity, discharges into an innovative 3,400 acre system of lagoons that returns the water to Lake Anna at nearly normal temperatures.

NAD-Q-5 We also have a conservation effort that focuses on protecting and enhancing fish populations in the lake. Special structures of brush and cinderblocks were constructed and sunk in the lake to improve the fish habitat.

Our biologists regularly sample, or monitor the health of the fish population. And that data is compared with data that was taken prior to our first day of operation.

These comparisons have consistently shown that North Anna Power Station is not harming the lake's fish population.

NAD-Q-10 In preparing North Anna's relicensing application more than 50 individuals have spent, literally, thousands of hours reviewing all environmental aspects of continued plant operation.

The report concluded that continued operation of North Anna Power Station beyond 40 years will not negatively impact the environment surrounding the plant.

In a moment Dr. Jud White, Dominion's manager of environmental policy and compliance, will share with you more about our environmental programs, and review the findings of the NRC draft report.

NAD-Q-6 Finally, I would like to thank you all on behalf of Dominion for allowing us to do business in Louisa County. We strive to be a good corporate citizen, and have enjoyed the professional supportive working relationship that we have with the county, and the other local communities surrounding the station.

NAD-Q-7 As many of you know, Dominion has a long-standing tradition of investing in the communities it serves through volunteer and philanthropic activities. Many of our employees demonstrate their commitment to the community by participating in programs such as Adopt a Highway, Thanksgiving Baskets for the Needy, blood drives, supporting the area Boy Scouts, and many other community activities.

Appendix A

Our volunteer programs and civic participation are an essential element of Dominion's corporate philosophy. We will continue our commitment to our communities in the future.

Again, I appreciate the opportunity to speak to you about North Anna Power Station's license renewal. I would now like Jud White, if he would provide you some more details on the environmental aspects of our application. Jud?

NAD-R

Dr. White: Thank you, Jack. As Jack said, my name is Jud White, I'm the environmental manager at Dominion, with responsibilities for environmental compliance activities at all of our power stations in Virginia, as well as other states. But it also includes the North Anna Power Station.

I have over 25 years experience in the environmental field. My first ten years of my career I spent at North Anna, with responsibilities for studies, environmental studies in the lake, as well as the downstream North Anna River.

I do have a master's degree in Biology, and a PhD in environmental policy. I was directly involved and helped in assisting the Dominion nuclear team, helping them prepare the license renewal application to NRC. And, in particular, I helped develop the environmental report to the NRC, and coordinated with Federal and state environmental agencies.

NAD-R-1

We commend the NRC in developing what is, in my opinion, a high quality and professional draft supplemental environmental impact statement. The impact statement is a thorough, in my opinion, and accurate scientific assessment of the potential environmental impacts associated with the proposed action.

NAD-R-2

We support and agree with the conclusions of the NRC Staff that renewing the North Anna Power Station operating license is a reasonable action that will not result in any noticeable impact to the environment.

Basically this means, as has been said several times already, that the license renewal option is preserved, or remains acceptable for the power station to continue to provide safe and reliable, and clean electricity to the Commonwealth of Virginia.

We prepared, over a several year period, and submitted to the NRC an extensive environmental report for license renewal that was part of the information used by NRC in developing their supplemental environmental impact statement.

I say in part because it was just one area where the NRC relied on information. They had other sources including what was mentioned earlier, the Generic Environmental Impact

Statement, the extensive consultation with Federal, state, and local authorities, and environmental agencies, independent review by the NRC Staff, National Laboratory consultants, and the consideration of the public during the scoping process, which was held last fall, here.

Of particular note, relative to information sources, Dominion proactively engaged in discussions and meetings with key state, Federal, and environmental agency staffs very early in the license renewal process.

This helped ensure that all issues were identified and appropriately addressed in the environmental review submitted to NRC. Dominion also proactively communicated with environmental and other pertinent stakeholders about license renewal.

This helped considerably, in my opinion, in the development of a thorough and accurate report. The report speaks specifically, and it has been mentioned somewhat previously, about specific impacts to fish, various aquatic resources, and is listed in detail in the report.

The report goes back to studies that began in the early '70s, even before the plant went operational. The creation of Lake Anna, a key point for this area, it created by damming up the North Anna river, it created Lake Anna, which is a 9,600 acre impoundment.

It basically ameliorated the effects on the communities downstream from Contrary Creek, which is a known source of acid mine drainage in the area. And as a result of impounding the river, and creating the lake, that impact was greatly reduced.

Also many of you who are fishermen probably are well aware that Lake Anna continues to rank high in the state as a trophy bass lake in Virginia, which is a clear indication that the underlying food chain, on which it depends, is healthy and stable.

NAD-R-3 Based on the review of all of the historical information, including the annual monitoring, which does continue today, the NRC concluded that potential impacts to aquatic operations are small, and that additional mitigation is not warranted, and we do agree with that finding.

To work with the NRC in evaluating the current applicability of the generic environmental impact statement, that information in it, as it pertained to generic issues, requiring no further review, Dominion developed an internal procedure, and protocol, to identify any new and significant information related to those issues that NRC identified as generic.

NAD-R-4 As a result of that process no new information was identified, but we did go through the process, as it was important to do. This activity is considered very important, in my opinion, in

Appendix A

all license renewal projects for verification of the findings in the generic environmental impact statement.

We also agree with the NRC findings that the potential impacts of license renewal for the remaining environmental issues evaluated separately in the impact statement are small, and of noteworthiness is that a significant consideration is that there is no new major construction or land disturbing activity associated with this license renewal process.

As a result a lot of the impacts were considered small. In essence current measures to mitigate environmental impacts associated with operations were found to be adequate.

Dominion, and its entire staff, its entire environmental staff, takes pride in its environmental performance, and its positive relationships with environmental agency staffs, environmental organizations, the general public, and community neighbors.

It goes without saying that developing that relationship takes time to foster, as well as a major commitment by upper management for openness and candor, which I'm proud that we have.

Examples of these relationships that we have with the various groups and organizations, including the Department of Environmental Quality, the Virginia Department of Game and Inland Fisheries, Lake Anna Civic Association, as well as Lake Anna Advisory Committee, and the River Association.

In this license renewal process we want to ensure that we continue on this path, and not do anything adversely impacting our future performance or relationships with these groups.

Dominion believes that our obligation to provide safe and reliable energy from nuclear power extends well beyond this license renewal milestone. Federal, state, and local oversight will continue to test and challenge, just as it does today, our standard of environmental excellence, and the conduct of our daily business.

We welcome all comments on the contents of this supplemental environmental impact statement, during the comment period, and we look forward to working positively and constructively with NRC staff. Thank you.

Mr. Cameron: Thank you, Jud. Next we are going to go to Lone Dusingberre, and then to Marione Cobb. And, Lone, would you mind coming up to the microphone for us?

Ms. Dusingberre: My name is Lone Dusingberre, I live in Louisa County, the Mineral district.

NAD-S

NAD-S-1 I particularly enjoyed hearing North Anna's mention of aging. The 20 years I've been here, so 20 years North Anna has been here. Pretend this is a tin can stress, stress, stress, stress. North Anna has undergone 20 years of stress.

What happens? Fatigue. I'm very fearful that we will have another Chernobyl here. Everywhere you go you hear, it couldn't happen here, it couldn't happen to me. All kinds of accidents, it wouldn't be me, couldn't be me.

NAD-S-2 North Anna has been a fantastic provider of safety. But what if we put the thousands of hours that you put in, what if we put it into alternative sources?

If we give a thought to something different, wouldn't we have a beautiful future?

Mr. Cameron: Ione, thank you very much. Marione, are you ready?

NAD-I Ms. Cobb: Good evening, I'm Marione Cobb, a semi-retired former social worker. I live, currently, here in Louisa County. And like Ione, I see the beauties of alternative energy compared with a life threatening continuation of the nuclear energy plant.

We've heard many people address this evening the, let's see, I'm just glancing through my notes, the 50 individuals, thousands of hours that have gone into studying the safety issues, and evaluating them, looking at the larger picture.

NAD-I-3 This is because there is a basic threat in the operation of this plant, here in our county, and anywhere, everywhere, in this country. If we had given the supports, the financial incentives to alternative energy that we've given to the nuclear industry, we would not be currently living with the threats that, for instance, the nuclear waste disposal brings, effectively to our doorstep if the North Anna plant is going to be transporting toxic waste.

And, of course, that is now before the Senate, there is the veto from the Governor of Nevada has been overridden in the House, and the Senate is now considering approving Yucca Mountain. And, of course, there seems to be little alternative.

NAD-I-4 Where else do we want this toxic waste to sit, as it is at North Anna, in the caskets, casks I should say, but maybe caskets is more appropriate, and be subject to the effects of weather, the effects of time, it is a sitting time bomb, in my estimation.

Again, I'm glancing at my notes. Louisa is -- gets -- has gotten ten million dollars in taxes. Mr. Root, I believe, stated that it has raised us from one of the poorest counties in Virginia, to our current standard of living here.

Appendix A

NAD-I-5 | We have good schools, we have good roads. This is a terrible choice for our Board of Supervisors, and other public servants, because they see the benefits of this money, they see the benefits of the philanthropy that the power plant employees have given to the county, and to our children.

NAD-I-6 | Nevertheless, as a concerned citizen I look at the larger picture, I believe, and see that the threat continues to exist. I think, as I already stated, that if we put the monies that we put into nuclear energy into alternative energy, we would not have to live with this threat.

NAD-I-7 | The cost of nuclear power is borne by taxpayers in general, as well as by rate payers. The nuclear waste costs are insufficient to be covered by funds set aside for disposal and decommissioning of plants. More waste, another 20 years, or however many years, means more taxes, perhaps hidden taxes.

NAD-I-8 | It is hidden from us, nuclear energy has in the past often called itself cheap, safe, economical. There are taxes going to support the plants, and to support the decommissioning, enormous amounts of money. Nuclear energy is not economical.

NAD-I-9 | I believe the facility was designed, it was stated that some systems in the facility were designed for the current licensing length. Mention has been made of the aging process issue. And the many attempts that have been, that are being made to address it. There is also repetition of a phrase, cost beneficial. So we are not going to have a new plant, we are going to look at the cost beneficial aspects in replacing older items.

As a former resident of New York state I'm sure, I remember and you, of course, undoubtedly remember the crash of, was it a Boeing 747, on Long Island? And they said, something must have aged, something must -- we didn't count on that, that was entirely unanticipated. It was not terrorists, it was an aging piece of equipment.

NAD-I-10 | We've seen, recently, at the Davis-Besse plant in Ohio, that aging parts can be a route to catastrophic failure, without warning. Extension of the license of this plant increases the danger to our community.

NAD-I-11 | And we are, of course, hearing about the churches, the schools, the homes, that the nuclear waste casks will pass by, if and when transported to Yucca Mountain. A constant threat to my, and I believe to your, well-being. Thank you.

Mr. Cameron: Thank you very much, Marione. And next we are going to go to Adriane Dellorco.

NAD-K Ms. Dellorco: Hi, I'm Adriane Dellorco. I'm an environmental studies student at Oberlin College in Ohio. And listening through the discussion of this environmental impact statement I see three things missing from this conversation.

NAD-K-3 One primary thing is that in all the analysis of the environmental impact that the shipping, and the toxic waste storage was never looked at, and I think that is a major piece of this puzzle, that we are basically shipping off our dangerous and threatening waste off to somewhere else, so that someone else can deal with it.

NAD-K-4 And we reap the benefits of having, you know, greater taxes in our area. And so I would like to think about what if we were the community where this waste was being shipped?

NAD-K-5 And the second part of this that I see is that the analysis said that other alternatives to nuclear power show moderate to some -- some alternatives show moderate to large impacts while the nuclear power shows small impacts.

But does it also point out that other impacts, do other alternatives do show probably even smaller impacts to the environment, such as wind, solar, and hydropower? That was also somewhat omitted from this conversation.

NAD-K-6 Third, most people that are supporting the nuclear power plant are touting the economic benefits to this community. And, to me, that just exemplifies an environmental injustice, in which communities of lower income have been historically placed as sites for nuclear power plants to create a dependency upon the nuclear power plants by providing it with money, and community service.

And so I would just like to point out that we are continuing this dependency that has already begun, and I think it is an unhealthy one.

Mr. Cameron: Adriane, thank you for those comments. We have two final speakers, or two remaining speakers, I should say. One is Mr. Gerald Root, who I would ask -- do you want to come down -- why don't you come down? That is good. And then we have Mr. Dick Clark, after Mr. Root.

NAD-J Mr. Root: I'm Gerald Root, I've been a permanent resident on cooling ponds for ten years. And during that ten year period we worked with a lot of different situations on the lake, addressing the problem that cropped up in the early 1990s, and seeking solutions for how to resolve that, studying the total watershed, working on a special area plan.

Appendix A

And in the course of that I went through the original environmental impact statement that was produced probably before the 1970s, at least before the plant existed.

And while there was a lot of good research in there, there was a degree of speculation because there were no facts. Let me give you one small example.

NAD-J-2 There was concern on the cooling ponds about the fish. And that slightly higher temperatures would have very adverse effects on them. Well, after 30 years of operation we now have facts. And I hope that they go into this environmental impact statement in a factual way.

NAD-J-3 I appreciate what these three ladies have said here. But it would be even stronger if it could be backed up by hard facts. How many people have died in the United States as a result of radiation from nuclear production?

Now, I know what happened over in Russia, but let's address it here in this country. Those kinds of facts, I think, would help people reach a more reasonable conclusion in terms of the course of which is the right direction to go.

NAD-J-4 I personally would favor relicensing for an additional 20 years. Thank you.

Mr. Cameron: Thank you very much, Mr. Root. And now we are going to hear from Mr. Dick Clark. Dick?

NAD-T Mr. Clark: It is good to see some familiar faces here. Where are some of the others from central Virginia, by the way, tonight here? Well, I guess they should have come.

Well, my name is Dick Clark, and I'm a resident here, just like Gerald. I'm also president of the Oak Ridge Civic Association, real active in the Lake Anna Civic Association, and particularly on the Water Quality Committee, where we are evaluating and assessing the water quality here in the lake and in the tributaries.

Well, first of all, my background. I think I have a little bit of experience in this, only 50 years in the nuclear field, frankly, as a nuclear engineer. I recently retired from the NRC, but long before that I was with the Atomic Energy Commission, before that I was designing production reactors. I was even one of the principal designers of a reactor you probably don't even know about, a 10 megawatt pressurized water reactor at Ft. Belvoir, which is still standing, the fuel has been removed, but it is still there.

I also worked on the design of the Nautilus. Again, I have been the senior project manager responsible for the issuing the construction permits for many of these plants, and the operating licenses for some of the early reactors, after NEPA came into effect.

Believe me, I prepared a good many final and draft environmental statements, and multi-million dollar statements, teams of 15, 20 terrestrial and aquatic ecologists, and what not.

I have a wee bit of a background, I think, in environmental science, and still working in that field. As I say, I was the senior project manager. I didn't actually license at North Anna. I did get involved in the environmental assessment that we issued for that.

I didn't bring a copy with me, but I have it with me. I've also, some of the more recent plants, as you know, like Limerick Unit 2, April 29th, 1989.

Now, you were talking about spent fuel, and that sort of thing. I was also one of the original environmental project managers assessing the storage of spent fuel on site, and testified at many hearings.

We started storing spent fuel, actually, out at spent fuel pools on-site back in 1975. And some of the real contested hearings we had were places like Vermont Yankee, and what not.

This spent fuel, after it has been stored for five years underwater, you can take it off-site and just store it in the air with just some shielding around it. And that is what we did, for instance, the Army had a plant at Ft. Greeley, Alaska.

And the spent fuel we just took out in the yard and put concrete culverts around it for radiation shielding. It is absolutely perfectly safe. These shipping casks you are so worried about, they are designed for fires, for dropping on hard concrete surfaces, on a pin. Try and destroy them, I defy you to try and destroy them.

Besides which that spent fuel, sure, it is radioactive. But you can't do anything with it, you can't get at it and what not. Really, actually, we figured back in the mid '70s, it was really just as safe to store the spent fuel at all the nuclear plants forever, outside in the yard, but Congress decided otherwise, decided to ship it out to Yucca Mountain, but that is their decision.

NAD-T-1

And the bottom line is, I won't take you up any more, Chip, but I strongly recommend it. I mean, I reviewed this, the environmental statement, I reviewed the procedure.

Appendix A

One other thing, too, back 10 years ago, back in 1992 we required all these plants, like North Anna, to prepare an environmental, individual plant examination. You are familiar with those, Andy, the IPEs.

I was in charge of reviewing those. I was shipped over to research to review those. And I specifically reviewed the North Anna one, among others. Believe me, the North Anna, you know their operating record, one of the safest plants insofar as operating, and management, and all that.

I will tell you one other thing. On these "what if" statements, the IPEs, and all that, we were evaluating everything that might possibly happen. Sure, it was steam generator break, and that, small break LOCA, you name it, a hurricane blowing a telephone pole in at 150 miles an hour.

NAD-T-2 North Anna is one of the best designed, safest plants in this country. And I will tell you that, I know, because I've done the reviews on it. It is really one of the safest and best designed plants in this country.

And I have reviewed just about all of them, under the IPEs. And I think I'm talking about some personal knowledge of what the design of this plant is. And believe me it is safe to operate for another 20 years, and I strongly urge the NRC to renew the operating license for another 20 years.

Chip, thanks very much for letting me, sorry to take up so much time on this. Good to see you again.

Mr. Cameron: It is nice to see you too, Dick, and thank you for those comments. It is always nice to see a former colleague.

Mr. Clark: These lawyers are always the nemesis --

(Laughter.)

Mr. Cameron: And there is going to be, there is going to be another meeting after this where Dick is going to tell us more about that.

But, seriously, thank you all for coming out tonight and talking to us. Eva, do you have one clarification for us?

Ms. Hickey: Yes, I'm sorry, I have to apologize. On the question about high level waste issues, I'm getting my projects confused. I've been working on another Generic Environmental Impact Statement.

In fact NUREG 1437 does evaluate the disposal and the transportation of spent fuel. And those were found to be category 1 issues. So we did look at those, and those are addressed in the uranium, in the fuel cycle, in chapter 6.

So I apologize for that.

Mr. Cameron: You had better tell us what NUREG 1437 is.

Ms. Hickey: That is the environmental impact statement.

Mr. Cameron: That is the Generic Environmental Impact Statement?

Ms. Hickey: For license renewal.

Mr. Cameron: That is the generic statement that this site specific draft is a supplement to that generic statement?

Ms. Hickey: Yes.

Mr. Cameron: Okay, good, I'm glad we got that on the record.

Ms. Hickey: I apologize for that.

Mr. Cameron: Well, thank you, thank you all. We are going to consider these, and evaluate these comments in preparing the final EIS.

And, please, NRC staff, you've heard some of the comments tonight, please -- and our expert consultants from the labs, please take some time to talk to some of the people, if they have time to stay, about some of these issues.

Thank you, all right, we are adjourned.

(Whereupon, at 8:50 p.m. the above-entitled matter was concluded.)

November 2002

Letter 1, page 1

Letter 2, page 1

NAD-U

From: David G. Schwartz [davidgs@ns.gemlink.com]
Sent: Saturday, July 27, 2002 12:18 PM
To: NorthAnnaEIS@nrc.gov
Subject: relicensing

NAD-U-1
NAD-U-2

NAD-U-3

I disapprove of the relicensing of the North Anna nuclear plant when the current license expires. We need to phase out all nuclear power plants because it is highly irresponsible for our generation to create the nuclear waste that generations thousands of years to come will have to continue to monitor long after our civilization has died out. This is playing God on a grand scale in an area where we have no business treading. Nuclear power is ethically untenable and morally reprehensible. We needed to have the technology for handling nuclear waste perfected decades ago, before the first plant was ever built. Most of the electrical energy we use is wasted. Strict conservation, wind, hydroelectric, solar, and geothermal could be adequate for our energy needs if we put a fraction of the financial resources into research for them that has been put into nuclear energy. Sincerely, David G. Schwartz, M.D.

VIRGINIA ELECTRIC AND
RICHMOND, VIRG

July 30,

Chief
Rules and Directives Branch
Mailstop T-6D 59
United States Nuclear Regulatory Commission
Washington, DC 20555-0001

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY (DOMINION)
NORTH ANNA POWER STATION UNITS 1 AND 2
LICENSE RENEWAL APPLICATION
RESPONSE TO REQUEST FOR COMMENT ON THE DRAFT PLANT-SPECIFIC
SUPPLEMENT 7 TO THE GENERIC ENVIRONMENTAL IMPACT STATEMENT

In a letter dated April 19, 2002, the NRC provided Virginia Electric and Power Company (Dominion) a draft supplement environmental impact statement (SEIS) regarding license renewal of North Anna Power Station, Units 1 and 2. This draft SEIS is the draft plant-specific Supplement 7 to NUREG-1437, Generic Environmental Impact Statement for License Renewal of Nuclear Plants and was provided for review and comment. Attached are our comments on the draft SEIS.

Dominion considers the draft SEIS to be an accurate and factual representation of the environmental conditions associated with plant operation during the license renewal period. Furthermore, we concur with the conclusions of the NRC that any environmental impacts associated with license renewal would be of small significance and that any adverse environmental impacts of license renewal would be smaller than those of other reasonable energy alternatives. Dominion specifically concurs with the NRC's topic discussions and conclusions presented in the draft SEIS.

Should you have any questions regarding this submittal, please contact Mr. J. E. Wroniewicz at (804) 273-2186.

Very truly yours,



Leslie N. Hartz
Vice President - Nuclear Engineering

Attachment

Commitments made in this letter: None

A-94

NUREG-1437, Supplement 7

Docket Nos. 50-338/339
Serial No.: 02-320
Attachment
Page 1 of 9

Attachment

**License Renewal – Response to Request for Comment
Draft Plant-Specific Supplement 7 to the GEIS
Serial No. 02-320**

**North Anna Power Station, Units 1 and 2
License Renewal Application**

**Virginia Electric and Power Company
(Dominion)**

Docket Nos. 50-338/339
Serial No.: 02-320
Attachment
Page 2 of 9

~~Comments~~

Section 1.5 Compliance and Consultations

Page 1-9, Line 8:

Draft GEIS Statement:

Table 1-1 indicates that the US Fish & Wildlife Service Migratory Bird Treaty Act Permit expired December 31, 2001.

Dominion Comment:

Depredation Permit Number MB705136-0 was renewed effective 4/22/02, and expires 3/31/03. It is suggested that this update be reflected in Table 1-1.

~~Comments~~

Section 2.1.5 Non-radioactive Waste Systems

Page 2-12, Line 34:

Draft GEIS Statement:

The statement is made that, "An onsite solvent shop recycles paint."

Dominion Comment:

The following correction is suggested as a replacement: "An onsite paint shop recycles solvent."

~~Comments~~

Section 2.1.5 Non-radioactive Waste Systems

Page 2-13, Line 2:

Draft GEIS Statement:

The statement is made that, "Non-radioactive liquid waste produced ... (e.g., water treatment activities, stormwater runoff, housekeeping wastes) are sampled and treated ..."

NAD-V-1

NAD-V-2

NAD-V-3

Dominion Comment:

The statement is not accurate without exception. It is suggested that "housekeeping wastes" be deleted from this statement since there are waste disposal processes in which not all "housekeeping wastes" are sampled.

~~Comments~~

Section 2.2.3 Water Quality

NAD-V-4 Page 2-17, Line 29:

Draft GEIS Statement:

It is stated that "The US EPA has authorized VDEQ to implement NPDES within the State."

Dominion Comment:

It is suggested that the statement read "The US EPA has **delegated** implementation of NPDES to VDEQ within the **Commonwealth of Virginia**," to reflect the actual federal-to-state relationship.

~~Comments~~

Section 2.2.4 Air Quality

NAD-V-5 Page 2-18, Line 14:

Draft GEIS Statement:

It is stated "... the annual average wind power rated as 1 on a scale of 1 to 7 (Elliott, et al. 1987).

Dominion Comment:

It is suggested that the following words be inserted "...on a scale of 1 to 7, with 1 being the lowest ..." prior to the reference callout.

~~Comments~~

Section 2.2.5 Aquatic Resources

NAD-V-6 Page 2-22, Lines 21-22, Table 2-2:

Draft GEIS Statement:

The slippershell mussel (*Alasmidonta viridis*) is given as a Federal-listed species.

Dominion Comment:

Based on a 2002 review of the Virginia Fish & Wildlife Information Service web site for the slippershell mussel, this species only occurs in the extreme western part of the Commonwealth of Virginia. It is not considered to occur in streams in counties adjacent to Lake Anna, immediately upstream or downstream North Anna River, or in counties crossed by North Anna transmission line corridors. Table 2-1 of the License Renewal Application Environmental Report does not list this species as a species of concern, and the description of this species within the SEIS implies it is of potential concern for the area in which North Anna Power Station is located. It is therefore requested that this species be deleted from the SEIS.

~~Comments~~

Section 2.2.6 Terrestrial Resources

NAD-V-7 Page 2-24, Table 2-3, and Page 2-25, Lines 4-7:

Draft GEIS Statement:

The sensitive joint-vetch is listed in Table 2-3 and discussed on Page 2-25, yet stated "It is not known to occur at North Anna or the transmission line rights-of-way."

Dominion Comment:

Based on a review of the Virginia Fish & Wildlife Information Service web site for the sensitive joint-vetch, this species is only located along tidally-influenced fresh waters. This is not the case for North Anna, near Lake Anna, nor for any transmission line corridors for North Anna Power Station. The description of this species within the SEIS implies it is of potential concern for the area in which North Anna Power Station is located. It is therefore requested that the listing and discussion of this species be deleted from the SEIS.

~~Comment 9:~~

Section 2.2.8.1 Housing

NAD-V-8

Page 2-28, Line 50:

Draft GEIS Statement:

It is stated that "Louisa County is currently updating its plan (VEP/Co 2001b)."

Dominion Comment:

Louisa County approved an updated Louisa County Comprehensive Plan in September 2001, referenced on Page 2-51, Lines 33-34. This statement should be updated accordingly.

~~Comment 10:~~

Section 2.2.8.1 Housing

NAD-V-9

Page 2-30, Table 2-7:

Draft GEIS Statement:

Table 2-7 is titled "Population Growth ... 1980-2010". Population data includes Richmond City & County.

Dominion Comment:

It is suggested the title read "Estimated Population Growth ...". Population data given in Table 2-7 varies from the License Renewal Application Environmental Report due to the inclusion of Richmond City & County. Richmond County is not located in the population zone for consideration.

~~Comment 10:~~

Section 2.2.8.2 Public Services, Water Supply

NAD-V-10

Page 2-30, Lines 21-22:

Draft GEIS Statement:

It is stated that Henrico County provides water to approximately 80,215 customers.

Dominion Comment:

The License Renewal Application Environmental Report stated 74,000 customers, and the Draft SEIS references the ER. We cannot substantiate the source of the SEIS number and suggest that the number be revised to reflect the LRA ER identified number of customers, or the source of the SEIS number specified.

~~Comment 11:~~

Section 2.2.8.2 Public Services, Water Supply

NAD-V-11

Page 2-30, Line 30:

Draft GEIS Statement:

It is stated that the maximum capacity of the City of Richmond is 128 MGD.

Dominion Comment:

The License Renewal Application Environmental Report stated the maximum capacity at 132 MGD. We cannot substantiate the source of the SEIS number and suggest that the number be revised to reflect the LRA ER number, or the source of the SEIS number specified.

~~Comment 12:~~

Section 4.6.1 Aquatic Species

NAD-V-12

Page 4-42, Line 23:

Draft GEIS Statement:

It has been determined that impacts "... would be SMALL, ..."

Dominion Comment:

It is requested that the following words be added to the above sentence to be consistent with Endangered Species Act wording and Surry Draft SEIS conclusion statements: "... would be SMALL and would not be adversely affected, ...".

~~Comment 32~~

Section 4.7.1 Evaluation of Potential New and Significant Information Received from the FWS Chesapeake Bay Field Office

NAD-V-13 Page 4-44, Lines 24-27:

Draft GEIS Statement:

It is written that the NRC staff will inform VEPCo of comments provided by FWS and recommend further dialogue.

Dominion Comment:

It is requested that this statement be changed to reflect recent discussions regarding this issue and the final course of action as determined by the NRC staff. We recommend that the April 30, 2002 correspondence from NRC to FWS be referenced for completeness.

~~Comment 34~~

Section 5.2.6.1 VEPCo Evaluation

NAD-V-14 Page 5-22, Line 32:

Draft GEIS Statement:

There is a "?" provided in the APE formula.

Dominion Comment:

The question mark "?" should be a "delta symbol" in the APE formula.

~~Comment 35~~

Section 5.2.6.1 VEPCo Evaluation

NAD-V-15 Page 5-23, Line16:

Draft GEIS Statement:

It is written that "This higher value is primarily due to the high frequency of SGTRs ...".

Dominion Comment:

It is requested that the words "frequency of" be replaced with "contribution to CDF from".

~~Comment 36~~

Section 8.2.3.1 Once-Through Cooling System

NAD-V-16 Page 8-35, Lines 24-35:

Draft GEIS Comment:

It is written that "Approximately 200 ha (500 ac) would be needed for the construction of the new plant."

Dominion Comment:

Since the initial Final Environmental Statement for North Anna Power Station was written for four units, it should be summarized that no additional land may be needed for construction of a new plant.

~~Comment 37~~

Section 9.1.2 Irreversible or Irretrievable Resource Commitments

NAD-V-17 Page 9-6, Lines 20-21:

Draft GEIS Statement:

It is written that "The most significant resource commitments related to operation during the renewal term are the fuel and the permanent storage space."

Dominion Comment:

Docket Nos. 50-338/339
 Serial No.: 02-320
 Attachment
 Page 9 of 9

It is our presumption that "permanent storage space" refers to a national repository. In light of recent federal government actions regarding spent fuel disposition, it is requested that this statement be changed to reflect federal direction, and add the word "offsite" to the phrase "permanent storage space" to be consistent with the phrase "permanent offsite storage space" in Line 18.

July 24, 2002

ER 02/407

Chief, Rules Review and Directives Branch
 U.S. Nuclear Regulatory Commission
 Mail Stop T6-D59
 Washington, D.C. 21555-0001

Attention: Andrew Kugler

Re: NUREG-1437, Draft Supplement 7 to the Generic Environmental Impact Statement for License Renewal of Nuclear Power Plants - North Anna Power Station, Units 1 and 2

Dear Sir:

The U.S. Department of the Interior (Department) has reviewed and offers the following comments on the referenced draft document. Please give these comments careful consideration in completing the final Supplement.

General Comments

The Department shares a common goal with the U.S. Nuclear Regulatory Commission (NRC) to bring the North Anna Nuclear Power Station into compliance with current environmental regulations. To this end, a representative of the U.S. Fish and Wildlife Service's (FWS) Chesapeake Bay Field Office visited the site on May 21, 2002, to help the NRC identify, assess, avoid, and mitigate any adverse environmental impacts. With the advances in human understanding of ecological relationships, it is appropriate and useful that Federal and state natural resource agencies periodically review site conditions in order to maintain the highest level of environmental protection. Since the North Anna Power Station came online in 1978, Dominion Energy Company (parent company of Virginia Electric and Power Company) and the NRC have initiated measures for the protection of the natural resources around the Power Station, lake, and river areas.

NAD-W-1 The FWS has determined that the North Anna operations and minor refurbishment may have potential to adversely affect area natural resources. The federally threatened bald eagle, *Haliaeetus leucocephalus*, does not appear to be affected, but a scientific approach should be maintained to evaluate and document any mortalities. Similar records for other migratory bird impacts should be maintained and any mortality reported to the FWS.

NAD-W-2 Regarding aquatic species, potential impacts include the cooling water intake, discharge, and dam that provide the impounded cooling water. The rotating screens of the cooling water intake at the Power Station provide nearly unimpeded water intake, but the biota are likely to incur high mortality as a result of entrainment and impingement. There is probably less mortality associated with the cooling water discharge, but the effects on fish behavior and ecology are potentially damaging. Another fisheries impact is the Lake Anna Dam. While downstream fish passage maybe acceptable, the blockage of upstream migrations of American eel, and possibly anadromous fish during high flow seasons, should be corrected during this relicensing. The FWS offers the following comments on topics where the environmental standards have improved and new information is available.

Specific Comments

NAD-W-3 The FWS agrees that the potential is low for the North Anna Power Station to adversely affect the bald eagle, a federally threatened species. Our primary concern is for the incidental mortality to migratory birds associated with the transmission lines. In the event of migratory bird mortality, Virginia Electric and Power Company should complete a Raptor Incident Report for the FWS and the appropriate state agencies.

NAD-W-4 The North Anna facility lacks a component of the cooling water intake system that Virginia Electric and Power Company has developed at the Surry Power Station. The traveling mesh screens at the Surry Power Station include a spray wash system that removes the biota from the screens and returns them to the James River. The North Anna facility utilizes a similar technology for the screens, but fails to provide the mechanism to return the biota unharmed back to the Lake. The traveling screens and wash system at Surry clearly minimize aquatic impacts more than the North Anna facility, which discards the impinged biota into a disposal bin. A similar process, such as at Surry, could be developed to minimize the aquatic impacts by returning the impinged biota safely back to the Lake. To further minimize the impacts, we recommend replacing worn or damaged screens with mesh less than or equal to one millimeter wide and adopting entrance velocities less than or equal to 0.5 feet per second (Gowan, C. and G. Garman 1999).

NAD-W-5 The cooling water discharge is an additional potential hazard to fish. Unlike the Surry Power Station that discharges to the mouth of the tidal James River, the North Anna Station discharges into a series of open canals that flow back to the Lake. While the thermal discharge is likely to have a greater effect in the colder months, the increased temperatures in the summer could also have an adverse effect on fish behavior and ecology in the Lake.

NAD-W-6 The Lake Anna Dam provides cooling water for the Power Station, but also blocks migratory fish moving upstream from the North Anna River. Anadromous, catadromous, and freshwater fish move upstream to spawn in the spring, and possibly need the habitat at other times of the year, when fish are searching for forage, refuge, or suitable habitats. American eel are well known for their migrations and are present downstream of the Dam. The Atlantic States Marine Fisheries Commission's plan recommends restoring eels to their historical habitat and increasing their abundance in habitats where they currently reside. River herring are likely to have historically ascended to the habitat upstream of the Dam during natural flow conditions. In addition to restoring fish to their historical or preferred habitats, freshwater mussel populations are distributed in a watershed by the movement of mussel host fish species common to the North Anna River. The mussels and host fish will both benefit from fish passage.

Summary Comments and Recommendations

The Department recommends that the NRC adopt the following recommendations in order to maintain optimum protection of fish and wildlife resources at North Anna Power Station:

1. Maintain an efficient recording and reporting system for migratory bird mortality at the North Anna Power Station;
2. Develop a method to return impinged fish, on the cooling water intake screens, back to the Lake. The intake screen should be replaced with mesh size of one millimeter or less wide with intake water velocities less than 0.5 feet per second;
3. Determine the impacts from the thermal discharges on fish distribution, spawning, and feeding. The specific study design should be developed with the North Anna Power Station staff, FWS, and other interested parties; and
4. Assess the upstream movement of fish to the Dam with continuous sampling of water quality, flow, and species composition from February 1 to November 30. The specific study design should be developed with the North Anna Power Station Staff, FWS, and other interested parties.

We appreciate the opportunity to review the draft environmental document and provide comment on natural resource protection. If you have any questions regarding these comments, please contact David W. Sutherland of the Service's Chesapeake Bay Field Office by phone at (410) 573-4535, or by e-mail at David_Sutherland@fws.gov.

Sincerely,

Michael T. Chezik

THE TOWN OF LOUISA
Incorporated 1873

Post Office Box 531
219 East Main Street
Louisa, Virginia 23093



Telephone: (540) 967-1400
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e-mail: info@leuistown.org

June 25, 2002

Mr. Andrew Kugler
United States Nuclear Regulatory Commission
Washington, DC 20555-0001

Dear Mr. Kugler:

I regret that I will be unable to attend the NRC's public meeting held today in Louisa County on the license renewal proposal for North Anna Nuclear Power Station, Units 1 and 2. Therefore, I am writing this letter to offer my support on behalf of their proposal.

NAD-Y-1
NAD-Y-2

Throughout Dominion Virginia Power's twenty year history in Central Virginia they have proven themselves good corporate citizens - financially as well as environmentally. Since 1966 Dominion Virginia Power has paid more than \$170 million in property taxes to Louisa County. In 2001 alone, they contributed \$10.99 million to the County's economy. Although it may seem like it, it is not the money alone that counts. North Anna employs 825 people from the surrounding communities. They demonstrate their commitment to the community through active and frequent involvement.

NAD-Y-3

NAS-Y-4

North Anna Power Station commitment to the environment is above reproach. Nuclear energy itself does not produce any of the air emissions associated with fossil-fueled generation plants, thus nuclear generation helps to protect the environment. The company's conservation efforts focus on protecting and enhancing fish populations as well as migratory birds through policies, procedures and permits obtained from the United States Fish and Wildlife Service. As good stewards to the environment Dominion biologist regularly monitor the health of fish populations with no harmful results found. As I perceive it, North Anna Nuclear Power Station is environmentally safe, environmentally sound and environmentally responsible.

NAD-Y-5

Dominion Virginia Power is committed to safety at North Anna Power Station. They plan it into all aspects of work activity. Safety work practices are reinforced through training and continuous improvement measures.

NAD-Y-6

North Anna Power Station plays an essential role in meeting the Commonwealth's energy needs. It produces approximately 17 percent of the electricity used by fellow Virginians, that is the equivalent to lighting up some 450 homes across the Old Dominion. For nine consecutive years North Anna Power Station has been recognized as among the lowest-cost producers of nuclear-generated electricity in the United States. The North Anna station plays a crucial role in

NAD-Y-7

"In the heart of it all"

providing low-cost energy that makes Virginia attractive to business. The continued operation of North Anna Power Station is critical to the development of a robust, competitive retail electric market in Virginia.

Thank you for allowing me the opportunity to provide these comments in support of the license renewal for Units 1 and 2 at North Anna Power Station. If you should have questions or comments please, do not hesitate to contact me at (540) 967-1400. I am

Respectfully,

George E. Morrison, III
Town Manager

cc: Mr. Philip L. Sparks
Senior Manager State & Local Affairs
Dominion

Appendix B

Contributors to the Supplement

Appendix B

Contributors to the Supplement

The overall responsibility for the preparation of this supplement was assigned to the Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission (NRC). The statement was prepared by members of the Office of Nuclear Reactor Regulation with assistance from other NRC organizations and Pacific Northwest National Laboratory, Lawrence Livermore National Laboratory, Los Alamos National Laboratory, and Argonne National Laboratory.

Name	Affiliation	Function or Expertise
NUCLEAR REGULATORY COMMISSION		
Andrew Kugler	Nuclear Reactor Regulation	Project Manager
John Tappert	Nuclear Reactor Regulation	Section Chief
Barry Zalczman	Nuclear Reactor Regulation	Technical Monitor
Jennifer Davis	Nuclear Reactor Regulation	General Scientist
Gregory Suber	Nuclear Reactor Regulation	Environmental Engineer
Robert Schaaf	Nuclear Reactor Regulation	Project Management
Michael Masnik	Nuclear Reactor Regulation	Project Management
James Wilson	Nuclear Reactor Regulation	Project Management
Robert Palla	Nuclear Reactor Regulation	Severe Accident Mitigation Alternatives
Duke Wheeler	Nuclear Reactor Regulation	Project Management
Antoinette Walker	Nuclear Reactor Regulation	Administrative Support
Jessie Correa	Nuclear Reactor Regulation	Administrative Support
Nina Barnett	Nuclear Reactor Regulation	Administrative Support
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William F. Sandusky		Air Quality
Eva Eckert Hickey		Decommissioning
Mary Ann Parkhurst		Radiation Protection
Duane Neitzel		Aquatic Ecology Shadow
John Jaksch		Socioeconomics, Alternatives
Paul Nickens		Cultural Resources
Lance Vail		Water Use, Hydrology
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(a) Pacific Northwest National Laboratory is operated for the U.S. Department of Energy by Battelle Memorial Institute.

Appendix B

Name	Affiliation	Function or Expertise
LAWRENCE LIVERMORE NATIONAL LABORATORY^(b)		
Tina Carlsen		Aquatic Ecology
LOS ALAMOS NATIONAL LABORATORY^(c)		
Ted Doerr		Terrestrial Ecology
ARGONNE NATIONAL LABORATORY^(d)		
Bill Metz		Land Use
Energy Research Incorporated		
Mohsen Khatib-Rahbar		Severe Accident Mitigation Alternatives
Michael Zavisca		Severe Accident Mitigation Alternatives
Information Systems Laboratory		
Kim Green		Severe Accident Mitigation Alternatives
Jim Meyer		Severe Accident Mitigation Alternatives
(b) Lawrence Livermore National Laboratory is operated for the U.S. Department of Energy by the University of California.		
(c) Los Alamos National Laboratory is operated for the U.S. Department of Energy by the University of California.		
(d) Argonne National Laboratory is operated for the U.S. Department of Energy by the University of Chicago.		

Appendix C

Chronology of NRC Staff Environmental Review Correspondence Related to Virginia Electric and Power Company's Application for License Renewal of North Anna Power Station, Units 1 and 2

Appendix C

Chronology of NRC Staff Environmental Review Correspondence Related to Virginia Electric and Power Company's Application for License Renewal of North Anna Power Station, Units 1 and 2

This appendix contains a chronological listing of correspondence between the U.S. Nuclear Regulatory Commission (NRC) and Virginia Electric and Power Company (VEPCo) and other correspondence related to the NRC staff's environmental review, under 10 CFR Part 51, of VEPCo's application for renewal of the North Anna Power Station, Units 1 and 2, operating licenses. All documents, with the exception of those containing proprietary information, have been placed in the Commission's Public Document Room, at One White Flint North, 11555 Rockville Pike (first floor), Rockville, MD, and are available electronically from the Public Electronic Reading Room found on the Internet at the following web address: <http://www.nrc.gov/reading-rm.html>. From this site, the public can gain access to the NRC's Agencywide Document Access and Management Systems (ADAMS), which provides text and image files of NRC's public documents in the Publicly Available Records (PARS) component of ADAMS. The ADAMS accession numbers for each document are included below.

- | | |
|-----------------|--|
| May 29, 2001 | Letter from NRC to Mr. Walter Newsome, Alderman Library, University of Virginia at Charlottesville, concerning the maintenance of reference material for the North Anna license renewal application (Accession No. ML011500106) |
| May 29, 2001 | Letter from Mr. David A. Christian, Virginia Electric Power Company (VEPCo) to the NRC, submitting the application for the renewal of the operating licenses for the Surry and North Anna Power Stations, Units 1 and 2 (Accession No. ML011500502) |
| August 6, 2001 | Letter from NRC to Ms. JoAnn Tetrault, Director, Louisa County Public Library, concerning the maintenance of reference material for the North Anna license renewal application (Accession No. ML012180137) |
| August 28, 2001 | Letter from NRC to Mr. David A. Christian, VEPCo, forwarding the Notice of Intent to prepare an environmental impact statement and conduct scoping process for license renewal for North Anna Power Station, Units 1 and 2 (Accession No. ML012220583) |

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- September 26, 2001 Notice of October 18, 2001, public meeting to discuss environmental scoping process for the North Anna Power Station, Units 1 and 2, license renewal application (Accession No. ML012690346)
- September 27, 2001 Letter from NRC to Ms. Reeva Tilley, Chairman, Virginia Council on Indians, inviting scoping comments (Accession No. ML012710136)
- October 12, 2001 Scoping comment letter from Hon. R. Edward Houck, Senate of Virginia (Accession No. ML012920545)
- October 17, 2001 NRC letter to Mr. David A. Christian, VEPCo, "Request for Additional Information Related to the Staff's Review of Severe Accident Mitigation Alternatives for the Surry and North Anna Power Stations, Units 1 and 2" (Accession No. ML012910292)
- October 25, 2001 Email from Mr. Jerry Rosenthal providing scoping comments on North Anna Power Station license renewal (Accession No. ML013460243)
- October 26, 2001 Letter to NRC from John P. Wolflin, U.S. Fish and Wildlife Service, providing scoping comments on North Anna Power Station license renewal (Accession No. ML013460246)
- November 1, 2001 Letter from Hon. Eric Cantor, U.S. Congress, providing scoping comments on North Anna Power Station license renewal (Accession No. ML013650011)
- November 6, 2001 Summary of October 18, 2001, public scoping meetings for the North Anna Power Station, Units 1 and 2, license renewal application (Accession No. ML013120266)
- December 10, 2001 Letter from Mr. David A. Christian, VEPCo, to NRC, responding to the October 17, 2001, Request for Additional Information Related to the Staff's Review of Severe Accident Mitigation Alternatives for the Surry and North Anna Power Stations, Units 1 and 2 (Accession No. ML013520484)
- December 26, 2001 Memo to file, socioeconomic and aquatic information provided by VEPCo (Accession No. ML013610514)

January 2, 2002	NRC letter to Mr. David A. Christian, VEPCo, "Issuance of Environmental Scoping Summary Report Associated with the Staff's Review of the Application by Dominion for Renewal of the Operating Licences for North Anna Power Station, Units 1 and 2" (Accession No. ML020160608)
January 3, 2002	NRC letter to Ms. Cara H. Metz, Virginia Department of Historic Resources, concerning the potential for license renewal at the Surry and North Anna Power Stations to affect historic resources (Accession No. ML020070569)
January 17, 2002	NRC note to file, information provided by VEPCo during the NRC site audits in relation to the license renewal applications for the Surry and North Anna Power Stations, Units 1 and 2 (Accession No. ML020180119)
January 23, 2002	NRC note to file, information provided by VEPCo in relation to severe accident mitigation alternatives in its license renewal application for the Surry Power Station, Units 1 and 2 (Accession No. ML020250545)
January 24, 2002	NRC letter to Ms. Karen Mayne of the U.S. Fish and Wildlife Service requesting a list of protected species within the area under evaluation for the Surry and North Anna Power Stations license renewal (Accession No. ML020250611)
February 1, 2002	NRC note to file, information provided by VEPCo in relation to severe accident mitigation alternatives in its license renewal application for the Surry Power Station, Units 1 and 2 (Accession No. ML020430372)
March 14, 2002	NRC letter to Mr. John P. Wolflin, U.S. Fish and Wildlife Service, responding to scoping comments regarding license renewal for the Surry and North Anna Power Stations (Accession Nos. ML020740498 and ML020230063)
April 19, 2002	NRC letter to Mr. David A. Christian, VEPCo, "Request for Comments on the Draft Plant-Specific Supplement 7 to the Generic Environmental Impact Statement Regarding North Anna Power Station, Units 1 and 2" (Accession No. ML021140439)

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- April 23, 2002 NRC letter to the U.S. Environmental Protection Agency, filing a copy of the supplemental environmental impact statement (NUREG-1437, Supplement 7) regarding license renewal for North Anna Power Station, Units 1 and 2 (Accession Nos. ML021140391 [letter] and ML021220674 [NUREG package])
- April 23, 2002 NRC letter to Mr. David A. Christian, VEPCo, "Notice of Availability of the Draft Plant-Specific Supplement to the Generic Environmental Impact Statement Regarding North Anna Power Station, Units 1 and 2" (Accession No. ML021140504)
- April 30, 2002 NRC letter to Mr. David A. Christian, VEPCo, "Issues Raised by the U.S. Fish and Wildlife Service Outside the Scope of License Renewal For North Anna Power Station, Units 1 and 2" (Accession No. ML021200364)
- May 22, 2002 Letter from Ms. Karen Mayne of the U.S. Fish and Wildlife Service to NRC providing a list of protected species within the area under evaluation for the Surry and North Anna Power Stations license renewal (Accession No. ML021560147)
- June 6, 2002 NRC Notice of Public Meeting to Discuss the Draft Environmental Impact Statement for the North Anna Power Station, Units 1 and 2, License Renewal (Accession No. ML021610474)
- July 19, 2002 Summary of June 25, 2002, public meetings held to discuss the Draft Environmental Impact Statement for the North Anna Power Station, Units 1 and 2 License Renewal (Accession Nos. Package ML022040286), Package includes meeting summary, transcripts, afternoon comment letter, and presentation slides from public meetings held June 25, 2002 (Summary ML022040206; ML022040226 [afternoon session]; ML021970254 comment letter; ML022040016 [evening session]; and ML021780410 slides)
- July 24, 2002 Letter from Michael T. Chezick, Regional Environmental Officer, U.S. Department of the Interior to NRC providing general comments to the Generic Environmental Impact Statement for the License Renewal of North Anna Power Station, Units 1 and 2 (Accession No. ML022130323)

July 29, 2002	E-mail from David G. Schwartz, M.D., regarding the Draft Supplemental Environmental Impact Statement for North Anna Power Station, Units 1 and 2, license renewal application (Accession No. ML022520047)
July 29, 2002	NRC letter to Chief Leo Henry, Mr. Neil Patterson, and Mr. Richard Hill, Tuscarora Nation, "Availability of Draft Plant-Specific Supplements 6 and 7 to the Generic Environmental Impact Statement Regarding the License Renewal for the Surry and North Anna Power Stations" (Accession No. ML022140548)
July 30, 2002	Comment letter from Leslie N. Hartz, VEPCo, regarding the Draft Supplemental Environmental Impact Statement for North Anna Power Station, Units 1 and 2, license renewal application (Accession No. ML022210143)
September 14, 2002	NRC letter to Dr. Oula Shehab, Virginia Department of Environmental Quality, "Draft Plant-Specific Supplements 6 and 7 to the Generic Environmental Impact Statement Regarding the License Renewal for the Surry and North Anna Power Stations" (Accession No. ML022610691)
October 21, 2002	NRC letter to Mr. David A. Christian, VEPCo, "Revision of Schedule For The Review of the North Anna, Units 1 and 2, and Surry, Units 1 and 2, License Renewal Applications" (Accession No. ML022950104)

Appendix D

Organizations Contacted

Appendix D

Organizations Contacted

During the course of the staff's independent review of environmental impacts from operations during the renewal term, the following Federal, State, regional, and local agencies were contacted:

U.S. Fish and Wildlife Service, Chesapeake Bay Field Office, Annapolis, Maryland

U.S. Fish and Wildlife Service, Virginia Field Office, Gloucester, Virginia

Virginia Department of Agriculture and Consumer Services (Plant Protection),
Richmond, Virginia

Virginia Department of Conservation and Recreation, Richmond, Virginia

Virginia Department of Conservation and Recreation (Division Of Natural Heritage),
Richmond, Virginia

Virginia Department of Environmental Quality, Richmond, Virginia

Virginia Department of Game and Inland Fisheries, Richmond, Virginia.

Virginia Department of Historic Resources, Richmond, Virginia

Assessor, Commissioner of Revenue, Louisa County, Virginia

Commissioner of Revenue, Louisa County, Virginia

County Administrator, Louisa County, Virginia

Department of Social Services, Louisa County, Virginia

Director of Finance, Louisa County, Virginia

Economic Development, Louisa County, Virginia

Farm Service Agency, Louisa County, Virginia

Louisa County, Director of Planning and Community Development, Louisa, Virginia

Town of Mineral, Town Manager, Mineral, Virginia

Chamber of Commerce, Louisa, Virginia

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Lake Anna Advisory Committee, Lake Anna, Virginia

Louisa County Historical Society, Louisa, Virginia

Treasurer's Office, Orange County, Virginia

| Tuscarora Nation, Lewiston, New York

Administrative Assistant for School Admissions, Spotsylvania Public Schools, Virginia,

Budget Manager, Spotsylvania County, Virginia

Lake Anna State Park, Spotsylvania, Virginia

Lloyd Real Estate, Louisa, Virginia

VEPCo, Reservoir Coordinator, Nuclear Site Services, North Anna Power Station, Virginia

Dominion Resource Services, Environmental Lead, License Renewal, Glenn Allen, Virginia

Duke Oil Company, Mineral, Virginia