

January 2, 2002

Mr. David A. Christian  
Senior Vice President- Nuclear  
Dominion Generation  
5000 Dominion Blvd.  
Glen Allen, Virginia 23060

SUBJECT: ISSUANCE OF ENVIRONMENTAL SCOPING SUMMARY REPORT  
ASSOCIATED WITH THE STAFF'S REVIEW OF THE APPLICATION BY  
VIRGINIA ELECTRIC AND POWER COMPANY FOR RENEWAL OF THE  
OPERATING LICENCES FOR NORTH ANNA POWER STATION,  
UNITS 1 AND 2 (TAC NOS. MB1994 AND MB1995)

Dear Mr. Christian:

From September 4 through November 5, 2001, the Nuclear Regulatory Commission (NRC) conducted a scoping process to determine the scope of the NRC staff's environmental review of the application for renewal of the operating licenses for the North Anna Power Station, Units 1 and 2, submitted by Virginia Electric and Power Company by letter dated May 29, 2001. As part of the scoping process, the NRC staff held two public environmental scoping meetings in Louisa County, Virginia, on October 18, 2001, to solicit public input regarding the scope of the review. The scoping process is the first step in the development of a plant-specific supplement to NUREG-1437, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants (GEIS)," for the North Anna Power Station.

The NRC staff has prepared the enclosed environmental scoping summary report identifying comments received at the October 18, 2001, license renewal environmental scoping meetings and by letter and email. In accordance with 10 CFR 51.29(b), you are being provided a copy of the scoping summary report. The transcripts of the meetings can be found as an attachment to the meeting summary. The meeting summary is available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS) under accession number ML013120266. ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm.html> (the Public Electronic Reading Room) (Note that the URL is case-sensitive).

The next step in the environmental review process is the issuance of a draft supplement to the GEIS scheduled for May 2002. Notice of the availability of the draft supplement to the GEIS

D. Christian

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and the procedures for providing comments will be published in an upcoming *Federal Register* notice. If you have any questions concerning this matter, you can call me at (301) 415-2828.

Sincerely,

**Original Signed By: AJKugler**

Andrew J. Kugler, Senior Project Manager  
License Renewal and Environmental Impacts Program  
Division of Regulatory Improvement Programs  
Office of Nuclear Reactor Regulation

Docket Nos. 50-338 and 50-339

Enclosure: As stated

cc w/encl: see next page

D. Christian

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**Accession no.: ML020160608**

Document Name:G:\Rgeb\North Anna-Surry\North Anna\Scoping\NAPS Scopg Rept & ltr.wpd

\* See previous concurrence

OFFICE	PM:RGEB	SC:RGEB	C:RGEB	C:RLSB	OGC
NAME	AKugler*	BZalcman*	CCarpenter*	CGrimes*	MO'Neill*
DATE	12/19/01	12/20/01	12/21/01	12/27/01	01/02/02

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## Introduction

On May 29, 2001, the Nuclear Regulatory Commission (NRC) received an application from Virginia Electric and Power Company (VEPCo, also referred to as Dominion Generation) dated May 2001, for renewal of the operating licenses of North Anna Power Station (NAPS), Units 1 and 2. The NAPS units are located in Louisa County, Virginia. As part of the application, VEPCo submitted an environmental report (ER) prepared in accordance with the requirements of 10 CFR Part 51. 10 CFR Part 51 contains the NRC requirements for implementing the National Environmental Policy Act (NEPA) of 1969 and the implementing regulations promulgated by the Council on Environmental Quality (CEQ). Section 51.53 outlines requirements for preparation and submittal of environmental reports to the NRC.

Section 51.53(c)(3) was based upon the findings documented in NUREG-1437, "Generic Environmental Impact Statement for License Renewal of Nuclear Power Plants," (GEIS). The GEIS, in which the staff identified and evaluated the environmental impacts associated with license renewal, was first issued as a draft for public comment. The staff received input from Federal and State agencies, public organizations, and private citizens before developing the final document. As a result of the assessments in the GEIS, a number of impacts were determined to be generic to all nuclear power plants. These were designated as Category 1 impacts. An applicant for license renewal may adopt the conclusions contained in the GEIS for Category 1 impacts, absent new and significant information that may cause the conclusions to fall outside those of the GEIS. Category 2 impacts are those impacts that have been determined to be plant-specific and are required to be evaluated in the applicant's ER.

The Commission determined that the NRC does not have a role in energy planning decision-making for existing plants, which should be left to State regulators and utility officials. Therefore, an applicant for license renewal need not provide an analysis of the need for power, or the economic costs and economic benefits of the proposed action. Additionally, the Commission determined that the ER need not discuss any aspect of storage of spent fuel for the facility that is within the scope of the generic determination in 10 CFR 51.23(a) and in accordance with 10 CFR 51.23(b). This determination was based on the Nuclear Waste Policy Act of 1982 and the Commission's Waste Confidence Rule, 10 CFR 51.23.

On September 4, 2001, the 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 GEIS to support the renewal application for the NAPS operating licenses. The plant-specific supplement to the GEIS will be prepared in accordance with NEPA, 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 the 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. The NRC announced the meetings in local newspapers (The Richmond Times-Dispatch, The Daily Progress, The Free Lance Star, The Central Virginian), issued press releases, and distributed flyers locally. Approximately 45 members of the public attended the meetings. Both sessions began with NRC staff members providing a brief overview of the license renewal process and the NEPA process. Following the NRC's prepared statements, the meetings were open for public comments. Eighteen (18) attendees

provided either oral comments or written statements that were recorded and transcribed by a certified court reporter. The transcripts of the meetings can be found as an attachment to the meeting summary, which was issued on November 6, 2001. The meeting summary is available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS) under accession number ML013120266. ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm.html> (the Public Electronic Reading Room) (Note that the URL is case-sensitive).

The scoping process provides an opportunity for public participation to identify issues to be addressed in the plant-specific supplement to the GEIS and highlight public concerns and issues. The Notice of Intent identified the following objectives of the scoping process:

- Define the proposed action
- Determine the scope of the supplement to the GEIS and identify significant issues to be analyzed in depth
- Identify and eliminate peripheral issues
- Identify any environmental assessments and other environmental impact statements being prepared that are related to the supplement to the GEIS
- Identify other environmental review and consultation requirements
- Indicate the schedule for preparation of the supplement to the GEIS
- Identify any cooperating agencies
- Describe how the supplement to the GEIS will be prepared

At the conclusion of the scoping period, the NRC staff and its contractor reviewed the transcripts and all written material received, and identified individual comments. Three letters containing comments were also received during the scoping period. All comments and suggestions received orally during the scoping meetings or in writing were considered. Each set of comments from a given commenter was given a unique alpha identifier (Commenter ID letter), allowing each set of comments from a commenter to be traced back to the transcript, letter, or email in which the comments were submitted. Several commenters submitted comments through multiple sources (e.g., afternoon and evening scoping meetings).

Table 1 identifies the individuals providing comments and the Commenter ID letter associated with each person's set(s) of comments. The Commenter ID letter is preceded by NAS (short for North Anna scoping). For oral comments, the individuals are listed in the order in which they spoke at the public meeting. Accession numbers indicate the location of the written comments in the ADAMS.

Comments were consolidated and categorized according to the topic within the proposed supplement to the GEIS or according to the general topic if outside the scope of the GEIS. Comments with similar specific objectives were combined to capture the common essential issues that had been raised in the source comments. Once comments were grouped according

to subject area, the staff and contractor determined the appropriate action for the comment. The staff made a determination on each comment that it was one of the following:

- a comment that was actually a question and introduces no new information.
- a comment that was either related to support or opposition of license renewal in general (or specifically, NAPS) or that makes a general statement about the licensing renewal process. It may make only a general statement regarding Category 1 and/or Category 2 issues. In addition, it provides no new information and does not pertain to 10 CFR Part 54.
- a comment about a Category 1 issue that
  - provided new information that required evaluation during the review, or
  - provided no new information
- a comment about a Category 2 issue that
  - provided information that required evaluation during the review, or
  - provided no such information
- a comment regarding Alternatives to the proposed action, or
- a comment that raised an environmental issue that was not addressed in the GEIS, or
- a comment outside the scope of license renewal (not related to 10 CFR Parts 51 or 54), which includes
  - a comment regarding the Need for Power
  - a comment on Safety issues pertaining to 10 CFR Part 54.

Each comment is summarized in the following pages. For reference, the unique identifier for each comment (Commenter ID letter listed in Table 1 plus the comment number) is provided. In those cases where no new information was provided by the commenter, no further evaluation will be performed.

The preparation of the plant-specific supplement to the GEIS (which is the SEIS) will take into account all the relevant issues raised during the scoping process. The SEIS will address both Category 1 and 2 issues, along with any new information identified as a result of scoping. The SEIS will rely on conclusions supported by information in the GEIS for Category 1 issues, and will include the analysis of Category 2 issues and any new and significant information. In addition, the NRC staff will be discussing with the U.S. Fish and Wildlife Service (FWS) the issues FWS raised concerning threatened and endangered species.

The draft plant-specific supplement to the GEIS will be made available for public comment. The comment period will offer the next opportunity for the applicant; interested Federal, State, and local government agencies; local organizations; and members of the public to provide input to the NRC's environmental review process. The comments received on the draft SEIS will be considered in the preparation of the final SEIS. The final SEIS, along with the staff's Safety Evaluation Report (SER), will provide much of the basis for the NRC's decision on the NAPS license renewal.

**TABLE 1 - Individuals Providing Comments During Scoping Comment Period**

<b>Commenters ID</b>	<b>Commenter</b>	<b>Affiliation (If Stated)</b>	<b>Comment Source and ADAMS Accession Number<sup>(a)</sup></b>
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 Wolflin	U.S. Fish and Wildlife Service	Letter (ML013460246)
NAS-AB	R. Edward Houck	Senate of Virginia	Letter (ML012920545)
NAS-AC	Hon. Eric Cantor	U.S. Congress	Letter (ML013650011)

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

**North Anna Power Station (NAPS), Units 1 and 2  
Public Scoping Meeting  
Comments and Responses**

The following pages summarize the comments and suggestions received as part of the scoping process, and discuss their disposition. Parenthetical numbers after each comment refer to the Commenters ID letter and the comment number. Comments can be tracked to the commenter and the source document through the ID letter and comment number listed in Table 1. Comments are grouped by category. The categories are as follows:

1. General Comments in Support of License Renewal and its Processes
2. General Comments in Opposition to License Renewal and its Processes
3. Comments in Support of License Renewal at North Anna Power Station, Units 1 and 2
4. Comments in Opposition to License Renewal at North Anna Power Station, Units 1 and 2
5. Comments Concerning Category 1 Socioeconomic Issues
6. Comments Concerning Category 1 Air Quality Issues
7. Comments Concerning Category 1 Human Health Issues
8. Comments Concerning Aquatic Ecology Issues
9. Comments Concerning Terrestrial Resource Issues
10. Comments Concerning Postulated Accident Issues
11. Comments Concerning Category 1 Uranium Fuel Cycle and Waste Management Issues
12. Comments Concerning Category 2 Socioeconomic Issues
13. Comments Concerning Category 2 Aquatic Ecology Issues
14. Comments Concerning Category 2 Threatened and Endangered Species Issues
15. Comments Concerning Issues Outside the Scope of License Renewal: Operational Safety, Aging Management, Need for Power, and Other Issues.



## Comments

### 1. General Comments in Support of License Renewal and its Processes

**Comment:** I'm excited about license renewal. (NAS-J-1)

**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.

### 2. General Comments in Opposition to License Renewal and its Processes

**Comment:** Public Citizen opposes the relicensing of nuclear power plants, and I want to locate that comment not only in the context of North Anna Power Plant, but actually within the broader context of the energy policy debate that's going on nationally. (NAS-H-1)

**Comment:** We're talking about relicensing nuclear power plants; our longstanding concerns with nuclear power, those being that it's unsafe, unclean, and expensive. Nuclear power operates at the extremes of technology, at the extremes of safety, and unfortunately we have had demonstrated most notably with the Chernobyl accident. (NAS-H-2)

**Comment:** Nuclear power has never existed without heavy government subsidies which continue, and as a consumer advocacy organization, we believe and we're convinced that it's really time to, after 50 years of nuclear power, it's time to end the subsidies and to begin the transition to a sustainable energy future. (NAS-H-7)

**Comment:** I oppose the relicensing of nuclear power plants across the country. (NAS-V-2)

**Comment:** There's no reason to rush into an uninformed decision that could have negative and dangerous consequences for people that don't at this point have the opportunity to participate in the decision making process. (NAS-V-4)

**Response:** The comments are noted. These comments oppose license renewal and its processes in general, but do not provide new information. The Commission has established a process, by rule, for the environmental and safety reviews to be conducted to review a license renewal application. While the comments listed above criticize the process, they do not raise any issues within the scope of this license renewal review. Therefore, the comments regarding opposition to license renewal and its processes will not be evaluated further.

### 3. Comments in Support of License Renewal at North Anna Power Station, Units 1 and 2

**Comment:** They [Dominion] work very closely with the Sheriff's Department and with our emergency services personnel and keep the county personnel advised of all unusual and usual incidents [that] take place there. (NAS-A-3)

**Comment:** North Anna is profoundly good for Louisa. Louisa needs, wants, and welcomes the North Anna Power Station. (NAS-B-3)

**Comment:** I have nothing but praise for its safety record and environment and its efficient operation. (NAS-D-1)

**Comment:** I would like to see that the license be renewed and Virginia Power continues because it helps so many civic organizations. (NAS-E-1)

**Comment:** The personnel at the North Anna Power Station provided us with the environmental data that they had collected over a 20-year period. (NAS-F-2)

**Comment:** The North Anna Power Plant works closely with us on all of our activities. (NAS-F-3)

**Comment:** They [Dominion] run a very safe facility, and we have all grown very comfortable with having them as neighbors. (NAS-F-5)

**Comment:** Utility Data Institute collects data for the most efficient plants in the country. North Anna has been rated number one for the last decade on a three-year average. (NAS-J-7)

**Comment:** North Anna, when it was last rated, was number five lowest cost producer out of 850 plants in the United States and the lowest cost nuclear plant of all the plants. (NAS-J-8)

**Comment:** Environmental considerations are a very important aspect in the design and placement of all of our [Dominion] power stations. (NAS-K-1)

**Comment:** While all Dominion power stations maintain strict compliance with state and Federal environmental regulations, the company frequently endeavors to raise the bar on environmental stewardship. (NAS-K-3)

**Comment:** In our [North Anna] environmental assessment, we performed a review of these same issues, and our assessment concurred with the NRC conclusions. Some of the more site specific issues include aquatic biology, terrestrial biology, demographics, and transmission line impacts. (NAS-K-5)

**Comment:** North Anna included waste heat, water withdrawal, and threatened and endangered species. The term "waste heat" refers to heat that is transferred to water as it passes through the station to cool the steam during the electrical generation process. (NAS-K-6)

**Comment:** For every issue we [North Anna] examined, it was determined that the continued operation of electricity or generation of electricity from North Anna Power Station benefits our customers and the community, while at the same time minimizing the environmental impact. North Anna Power Station has a history of excellent environmental stewardship. (NAS-K-14)

**Comment:** So that the security of Virginia Power is awesome. They do their job. That's what they were trained to do, and that's what they did. And I praised them for the job they're doing there. (NAS-L-1)

**Comment:** And I'm here tonight in support of our Nuclear Regulatory Commission granting the North Anna Power Station a permit to operate here in Louisa County an additional 20 years after the expiration of its present permit. (NAS-M-1)

**Comment:** And lastly, North Anna is a good neighbor. (NAS-M-9)

**Comment:** Mineral is a small town, and if we don't have Virginia Power, we don't have anything. (NAS-N-1)

**Comment:** So please don't take Dominion Power away. Please renew theirs (license). We need it in Mineral. (NAS-N-4)

**Comment:** I'd like to begin this evening by stating that I am here to support the license renewal of Dominion Virginia Power's North Anna Nuclear Power Plant. (NAS-P-1)

**Comment:** Some of the issues that I was concerned about have already been mentioned, that being safety, economic development, and services to the citizens of the Town and County of Louisa. (NAS-P-2)

**Comment:** I would like to support Dominion Virginia Power in their request to acquire a license renewal for the North Anna Power Station and encourage the Nuclear Regulatory Commission to grant this request. (NAS-P-10)

**Comment:** So I throw my hat in as an endorsement and support for the request. (NAS-Q-5)

**Comment:** I hope that you will approve the additional time period for their licensing. (NAS-S-3)

**Comment:** Dominion Power has played a tremendous role in Louisa County since their arrival many years ago. (NAS-U-1)

**Comment:** While all Dominion power stations maintain strict compliance to state and Federal environmental regulations, the company always endeavors to raise the bar on environmental stewardship. (NAS-X-1)

**Comment:** In our [North Anna] environmental assessment, we performed a review of these same issues, and our assessment concurred with the NRC conclusions. (NAS-X-5)

**Comment:** Some of the issues [North Anna reviewed], the environmental issues, in particular, are site specific for each facility and must, therefore, be addressed accordingly. Some of the issue categories include aquatic biology, terrestrial biology, demographics, and transmission line impacts. (NAS-X-6)

**Comment:** For example, at North Anna issues we looked at included waste heat, water withdrawal, and threatened and endangered species. The term "waste heat" refers to heat that is transferred to water as it passes through the station to cool the steam during the electrical generation process. (NAS-X-7)

**Comment:** I'm in favor of relicensing in case you were wondering. (NAS-Y-1)

**Comment:** I am writing to express my unqualified support for the license renewal application for Dominion Resources North Anna Power Station. North Anna Power Station has been a good and valuable neighbor employer within our area. (NAS-AB-1)

**Comment:** These [Dominion] employees are proud to be involved in providing a reliable domestic power source for America's energy needs. (NAS-AB-3)

**Comment:** With regards to environmental concerns about the operation, radiological monitoring programs have shown virtually no environmental impact from the operation of the North Anna Power Station. Plant and marine life in Lake Anna is numerous and healthy. Lake Anna is a major recreational area and one of Virginia's outstanding freshwater fishing spots. (NAS-AB-6)

**Comment:** I am happy to endorse the North Anna Power Station, and look forward to many more years of safe, successful operation not only as an energy source, but as a valued employer and community member as well. (NAS-AB-7)

**Comment:** We [North Anna] are a low cost producer of electricity. (NAS-W-2)

**Comment:** I am writing to express my full support for Dominion Resource's application to renew the license of the North Anna Power Station. North Anna has a history of safe and efficient electricity production and is important to Virginia's economy. (NAS-AC-1)

**Comment:** North Anna Power Station is one of the largest employers in the rural portion of my district. The 850 employees who work at the North Anna station are dedicated workers who are proud to provide safe and reliable electricity to approximately 17 percent of Dominion Resources' customers in Virginia. (NAS-AC-2)

**Comment:** The North Anna Power Station stands firmly behind its impressive environmental record. Radiological monitoring programs have indicated that operations at North Anna have had virtually no environmental impact. (NAS-AC-5)

**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, the comments will not be evaluated further.

#### **4. Comments in Opposition to License Renewal at North Anna Power Station, Units 1 and 2**

**Comment:** The licenses at the North Anna Power Plant don't expire until 2018 and 2020. Certainly the situation is going to change within the next two decades, and it would be much more logical to be having a scoping -- a conversation about environmental scoping closer, when we know more about the actual environment that would be affected a few decades from now. (NAS-H-8)

**Comment:** Since there have been no commercial plants which have operated more than 35 years, any speculation on how or what might happen is just that -- speculation. Again, since there is no rush (the licenses do not expire for over 15 years), why speculate and take chances

when waiting five or seven years will not threaten electrical supply or the utility in any way. In fact, Dominion (owner of VA Power and North Anna) is aggressively building gas fired plants (as they own natural gas companies doing exploration, production and transportation). They currently have enough excess electrical generating capacity to withstand the complete shutdown. The question arises, why rush when there is no need? (NAS-Z-3)

**Comment:** There currently exists a national debate on overall energy policy. Why extend the life of these plants if the debate results in a decision that there are better, safer, more economical ways to generate or conserve energy? Why the rush now? (NAS-Z-5)

**Response:** The comments are noted. The comments address the license renewal process with regard to the timing of license renewal and the potential need for power at the time the license will expire. 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. Therefore, the comments will not be evaluated further.

**Comment:** We have other issues where 24, 23 years ago they were absolutely going to build Units 3 and 4. Yes, we're going to build 3 and 4. Yes, we're going to build 3 and 4. No, we're not. (NAS-G-15)

**Comment:** We're confronted frequently with a utility whose primary purpose is profit, and they are willing to say lots of things, but we have to as a community, and the larger community of being the government, look at the long range issues about what is happening and not rely exclusively on Virginia Power. (NAS-G-16)

**Comment:** Public Citizen urges the NRC to take into account in this environmental impact -- supplemental environmental impact assessment the noncompliance reality of the North Anna Power Plant. It's not very useful to have an environmental impact assessment that assumes that this plant will operate in compliance at all times. We know that that is not the case. (NAS-H-11)

**Comment:** There are so many things that are out there that I believe the NRC should take its time and at this point say no to the relicensing and take it under advisement and consider this over a longer period of time. (NAS-R-11)

**Comment:** Public Citizen is opposed to the relicensing of the North Anna Nuclear Power Plants, and the North Anna plants are really the latest in a wave of plants across the country that are going through this process. (NAS-T-1)

**Comment:** Relicensing the North Anna Power Plant points us in the wrong direction in terms of the transition that needs to be made for a safe and secure energy future. (NAS-H-10)

**Response:** The comments are noted. The comments oppose license renewal at North Anna Power Station, Units 1 and 2, and do not provide new information. These comments are not within 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.

## **5. Comments Concerning Category 1 Socioeconomic Issues**

As stated in 10 CFR Part 51, Subpart A, Appendix B, 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)
- 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 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.

## **6. Comments Concerning Category 1 Air Quality Issues**

As stated in 10 CFR Part 51, Subpart A, Appendix B, 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.

## **7. Comments Concerning Category 1 Human Health Issues**

As stated in 10 CFR Part 51, Subpart A, Appendix B, 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)

**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 with 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 forth in 10 CFR Part 51 and Part 54. Therefore, they will not be evaluated further.

## **8. Comments Concerning Aquatic Ecology 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 Chapter 2 and Chapter 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:** P. 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 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, 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.

## **9. 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 [U.S. Fish and Wildlife Service]. (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.

## **10. 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 its environmental analysis. The comment provides no new information and will not be evaluated further in the context of the environmental review.

## **11. Comments Concerning Category 1 Uranium Fuel Cycle and Waste Management Issues**

As stated in 10 CFR Part 51, Subpart A, Appendix B, 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
- On-site 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)

**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 a long-term storage of spent fuel onsite has been evaluated by the NRC and, as set forth in the Waste Confidence Rule, 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 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 Dominion 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 Dominion 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 in 10 CFR Part 51 and Part 54 and will not be considered further.

## **12. Comments Concerning Category 2 Socioeconomic Issues**

As stated in 10 CFR Part 51, Subpart A, Appendix B, 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)

**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 nine hundred 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.

### **13. Comments Concerning Category 2 Aquatic Ecology Issues**

As stated in 10 CFR Part 51, Subpart A, Appendix B, 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 effects 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)

**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.

#### **14. Comments Concerning Category 2 Threatened and Endangered Species Issues**

As stated in 10 CFR Part 51, Subpart A, Appendix B, 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 federally-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 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 federally-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.

#### **15. Comments Concerning Issues Outside the Scope of License Renewal: Operational Safety, Aging Management, Need for Power, and Other Issues.**

##### **Operational Safety, Security and Emergency Preparedness**

**Comment:** But the true issues on this application are safety issues, issues that certainly impact. (NAS-U-4)

**Comment:** Their [Dominion] safety and security concerns and personnel are excellent. (NAS-A-2)

**Comment:** We have a long history of safe and efficient operation. (NAS-J-2)

**Comment:** We [North Anna] do have a very strong safety record. (NAS-J-3)

**Comment:** The Institute of Nuclear Power Operations has given us excellent marks for more than a decade now at North Anna. (NAS-J-4)

**Comment:** The NRC, in their systematic assessment of licensee performance process and more recently in the reactor oversight process, has given us high marks as well. (NAS-J-5)

**Comment:** We're also partially owned by an independent cooperative, Old Dominion Electric Co-op, which owns part of North Anna, and they send independent people in to review our operations several times a year, and they also give us high marks for our performance. (NAS-J-6)

**Comment:** North Anna has always had very high levels of security. (NAS-J-9)

**Comment:** We [North Anna] appreciate the help from our local law enforcement, from State Police, from the Federal government in providing intelligence to us. (NAS-J-10)

**Comment:** There are many reasons why this plant should continue to operate. First and foremost is safety. North Anna Power Plant has a history of a safe and reliable operation, and the NRC and the Institute of Nuclear Power Operations have recognized its safety performance. (NAS-M-3)

**Comment:** This period of time has encompassed the entire operating life of the North Anna nuclear plant. At no time have I or my family felt threatened with the existence of North Anna in Louisa. (NAS-P-3)

**Comment:** As to the activities on September the 11th, 2001, and insinuations of nuclear power plants being a target for terrorist, the fact that this is known in itself is and makes for a far safer situation. (NAS-P-4)

**Comment:** Also, to the overall safety of the plant, I feel reports available to the public support the safe environment of the plant and the surrounding areas. (NAS-P-5)

**Comment:** I certainly think of North Anna as a very safe plant. (NAS-Q-1)

**Comment:** The number one issue here is safety. (NAS-R-1)

**Comment:** We've been an excellent power plant in the INPO's rating for the last 12 years. (NAS-W-4)

**Comment:** The NRC used to have a systematic assessment of licensee performance, a self-rating. They rated you on a scale of one to three, one being the best. North Anna was a one for a number of years. (NAS-W-5)

**Comment:** Safety is the most important thing that we do. (NAS-W-6)

**Comment:** North Anna, contrary to what has been said here tonight, is specifically designed for this type of threat [September 11 terrorist attacks]. (NAS-W-7)

**Comment:** The dry cask storage facility, the same thing is true. Not a big issue. So not a very big target, if you will. (NAS-W-8)

**Comment:** We have raised security to a very, very high level. (NAS-W-9)

**Comment:** Well organized emergency and security plans ensure effective direction and control in emergency situations. These plans have been continually tested and updated, especially in light of recent events, with local government involved in all aspects. (NAS-AB-5)

**Comment:** The North Anna Power Station has a strong and well-organized emergency security plan to assure the health and safety of its employees and the public. These programs, which function with the support and participation of state and local authorities, are tested periodically and are continually improved and updated. (NAS-AC-4)



**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. 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 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.

### **Operational Safety - Safeguards and Security**

**Comment:** What happens if a terrorist got into the dry cask facility and hit the cask with a rocket grenade? How would they feel when Lake Anna has got all sorts of plutonium in there? (NAS-G-3)

**Comment:** I spoke about the dry cask situation being at the lake, that it is vulnerable to terrorists not just to steal the material, but that they could blow the cask apart and have material thrown out into the lake. (NAS-R-2)

**Comment:** We have sitting there on the flight path from Dulles. Less than seven minutes with a jet from Dulles that's in the air, it could be at North Anna. What would happen if that jet crashed into the plant? (NAS-G-1)

**Comment:** We need to investigate multiple terrorists coming at the plant, not one terrorist, not one group. (NAS-G-2)

**Comment:** When we talk about security, we're talking about security around the lake. What about security at the dam? What about a boat riding up to the dam just full of explosives? (NAS-G-14)

**Comment:** The events of September 11th have brought into relief some of the very real security concerns that exist around nuclear power plants. The Nuclear Regulatory Commission, Congress, and other government agencies dealing with nuclear projects really need to take time at this moment to pause and to demand a full and thorough, independent investigation of the security situation at the nation's nuclear power plants and what would be prudent in terms of how to move forward, keeping in mind what we now know to be not just a hypothetical threat, but a real threat. (NAS-H-9)

**Comment:** Security has not been set up to deal with multiple terrorist groups. It has not been set up to deal with an airplane coming into the containment. (NAS-R-5)

**Comment:** We need to deal with the fact that it's less than 70 miles or 60 miles from Dulles Airport and on the flight path out of Dulles. (NAS-R-6)

**Comment:** NRC must consider the vulnerability of nuclear plants to attacks before permitting them to run for an additional 20 years. (NAS-T-8)

**Comment:** A terrorist attack as happened in New York, God forbid it would happen in Louisa County, but certainly that needs to be considered, and I would hope that the NRC would look at additional regulations. (NAS-U-5)

**Comment:** I think the events of the recent month, tragic events of the recent month, have really brought into focus the fact that nuclear power plants are inherently dangerous, and that the security risk that these plants pose not just to Louisa, but to the country overall, the 103 operating nuclear power plants has just been highlighted in a way that nobody ever wanted to see. The reality is that nuclear power plants are not designed to meet that kind of attack. (NAS-V-1)

**Comment:** The Nuclear Regulatory Commission should really put this proposal on hold until a thorough and independent study of nuclear power plant security requirements can be completed and an accurate assessment of nuclear power plant safety in light of what we now know to be a real threat can be determined. (NAS-V-3)

**Comment:** Other generic issues involve safety, and if and when there is an accident or terrorist attack, exactly what would be the environmental effect of a release. (NAS-Z-6)

**Comment:** Any environmental study must include the possibilities of a substantial release of radioactivity due to: 1) large commercial or military airplane smashing into the concrete dome and cracking it, pouring burning jet fuel into the containment building; or the plane crashing into the control room; or the plane crashing into the storage pools or the dry cask facility; 2) multiple terrorist groups attacking the facility from land, lake, and/or the air; suicide terrorists; and 4) internal sabotage. How well prepared is Louisa or Virginia to handle an accident? Will we lose hundreds of volunteer fire and rescue workers and plant workers like Chernobyl? Will our land and water be turned into a radioactive isolation zone? (NAS-Z-7)

**Comment:** The tragic events of September 11, 2001 are directly related to this license renewal. It is clear that terrorists (domestic as well as foreign) have the capability, knowledge, resources, and skills to carry out large scale attacks on specific targets. It is well known that nuclear power plants are an ideal target -- they are large and visible, and any significant damage could have catastrophic results. (NAS-Z-9)

**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. Operational safety matters are outside the scope of this environmental review. An NRC safety review for the license renewal period is conducted separately. In addition, each nuclear plant must have approved emergency and safeguards contingency plans, per 10 CFR Part 50, that are revised periodically. Emergency and safeguards planning are part of the current operating license and are outside the scope of the environmental analysis for license renewal. Any required changes to emergency and safeguards contingency plans related to terrorist events will be incorporated and reviewed under the operating license.

Although a topic may not be within the scope of review for license renewal, the NRC is always concerned with protecting 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 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 under this review. However, a copy of these comments will be provided to the project manager who oversees current operating and licensing activities for consideration.

**Comment:** What would happen if a plane hit the dry casks? What about dynamite in a truck blowing up in the ISFSA (Independent Spent Fuel Storage Area)? How is security there compared to the operations area? What would happen if a cask were cracked and dumped into the Lake? (NAS-Z-14)

**Response:** The comment is noted. The ISFSI is outside the scope of license renewal. However, appropriate security and emergency preparedness measures have been incorporated into the site security and emergency preparedness plans. The comment provides no new information, and does not pertain to the scope of license renewal as set in 10 CFR Part 51 and Part 54. Therefore, it will not be evaluated further.

### **Aging Management**

**Comment:** Were the pools built to last this long? With how much fuel in them (the amount of the stored fuel has quadrupled, at least)? (NAS-Z-24)

**Comment:** We need complete analysis of the concrete and lining going through heat chemical heating cycles, stuff like that. (NAS-G-9)

**Comment:** This environmental impact assessment needs to take into account the impacts of aging reactor components. (NAS-H-12)

**Comment:** Nuclear reactors operate under very intense conditions to do with temperature, radiation, and corrosive environments, and this, of course, as expected takes a toll on the various components of nuclear power plants. (NAS-H-13)

**Comment:** Issues of embrittlement with the reactor vessel and issues of degradation of other aspects of the power plant, particularly related to the cooling system, need to be taken into account in this environmental impact assessment. (NAS-H-14)

**Comment:** According to the Nuclear Energy Institute, it is technically feasible for safe and reliable operation of nuclear power plants to continue operations up to 70 years. (NAS-M-2)

**Comment:** U.S. nuclear reactors were not designed to operate safely beyond their original 40-year period, and safety risks increase as reactor components age. Extreme temperatures, corrosive chemical environment, and intense radiation bombardment within operating nuclear reactors can cause reactor components to thin and crack, compromising their structural integrity. (NAS-T-2)

**Comment:** Reactor pressure vessel can become brittle over time, increasing the risk of a catastrophic explosion. Steam generator tubes, part of the cooling system, also cause concern because when they deteriorate, dangerous radiation leaks can occur. (NAS-T-3)

**Comment:** In fact, earlier this year, the North Anna Unit 2 was shut down due to excessive leaking from the reactor coolant system. The owner attributed this failure to aging. (NAS-T4)

**Comment:** Because North Anna has already had problems with aging wires (prompting a recent shutdown), every internal structure, both fixed and operational, should be carefully examined. Please compare with all plants over 40 years old, or are there any? (NAS-Z-10)

**Comment:** What are the effects of aging, heat, and radioactivity on the general structure, on the concrete, on the active and passive systems? (NAS-Z-12)

**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 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 generates 1,800 million watts of power. That's 17 percent of the power that's used in the State of Virginia on an annual basis. (NAS-J-13)

**Comment:** If we didn't operate North Anna, where would that power come from? That's the question you have to answer here. That's one aspect of the license renewal process. That's enough power for about 450,000 homes, to put it in perspective. (NAS-J-14)

**Comment:** I say to you, ladies and gentlemen, tonight I would like to see that the license be restored for Virginia Power because of the fact if it wasn't for Virginia Power, where would we get our current [power]? (NAS-L-2)

**Comment:** Secondly, it produces 17 percent of all electricity used in Virginia, and it generates at one of the lowest producing costs of any generating plant in the United States. (NAS-M-4)

**Comment:** North Anna Power Station generates about 17 percent of the electricity used by Virginians, which results in more competitive prices for each and every one of us that use electricity. (NAS-P-8)

**Comment:** North Anna and Surry combined, [account for] about a third of the power in the State of Virginia on an average. (NAS-W-1)

**Comment:** We generate 1,800 million watts of electricity, and that's a hard number to even fathom how big that is. It's enough power for about 450,000 homes just at North Anna. (NAS-W-10)

**Comment:** In order to not extend the license, you'd have to come up with generation to offset that or some kind of way to reduce power, and the fact is this country is using more and more energy, not less and less energy. Each year it grows three, three and a half percent in this service territory alone. (NAS-W-11)

**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 are interpreted as expressing support for license renewal at North Anna Power Station; however, they provide no new information and, therefore, will not be evaluated further.

### **Other Issues**

**Comment:** The NRC itself closed the Web site for security reasons and yet left open all of the nuclear power plants. It's just something for us to think about. (NAS-G-17)

**Comment:** I want to add a comment about the NRC's Web site being down. Public Citizen and, I know, many other organizations had requested that the NRC postpone all public meetings that had been announced and extend the public comment periods on the various rulemakings that are underway in consideration of the fact that from October 11th through yesterday no information at all was available on the NRC's Web site, including the calendar of public meetings. (NAS-H-16)

**Comment:** The continued lack of access to NRC's full Web site raises a bigger issue related to the safety of nuclear power plants. (NAS-H-17)

**Comment:** My closing comment would just be that this is an indication that the kinds of protections that are necessary -- I put that in quotations, "necessary" -- to protect nuclear power seem incompatible with basic civil liberties and the democratic principles that we uphold in this society. (NAS-H-18)

**Comment:** We're pretty disheartened with the NRC for not responding to requests that public meetings and rulemakings be postponed since the agency last week blocked access to its Web site after citing security concerns. (NAS-T-9)

**Comment:** The failure of the NRC to maintain its Website in light of Sept. 11 is a significant issue, both in terms of public access and information, and in that if a web site is a potential problem, how much more so is a nuclear plant! (NAS-Z-22)

**Response:** The comments are noted. Although it is recognized by the staff as being inconvenient, the disabling of the website is not within scope of license renewal. 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. Therefore they will not be evaluated further.

**Comment:** I also want to talk about nuclear proliferation. (NAS-R-8)

**Comment:** Nuclear proliferation is a crucial generic issue. How much plutonium will this plant produce in an additional 20 years of operation? (NAS-Z-4)

**Response:** The comments relate to nuclear proliferation and plutonium production, issues that are not within the scope of the license renewal environmental review. The environmental impacts of high-level waste (e.g., spent fuel) during the license renewal period are addressed in the GEIS as Category 1 issues. The comments provide no new information and will not be evaluated further.

**Comment:** The sale of the plant. What if DOE takes over the waste there? How does that affect the NRC and what is going on? (NAS-R-10)

**Comment:** There is an ongoing consolidation in the nuclear industry. Again, rushing into license renewal on the assumption that this plant will be operated by this utility is not logical. Perhaps the license renewal could be contingent on this utility continuing its ownership and operations, and if there were a sale, the new owner must apply for extended operations. (NAS-Z-17)

**Response:** The comments are noted. The transfer of ownership of licenses for commercial nuclear power plants is addressed in 10 CFR 50.80 and is not considered to be within the scope of license renewal as set forth in 10 CFR Part 51 and Part 54. Therefore, the comments will not be evaluated further.

**Comment:** We also have an issue that Virginia Power is starting to push pebble bed. Are they thinking of putting a pebble bed at North Anna? What effect is this going to have? (NAS-G-8)

**Comment:** There has been talk already that Dominion is interested in putting a pebble bed reactor at North Anna. This matter should be considered (and hopefully rejected) in any possible license renewal of the existing Westinghouse reactors. (NAS-Z-20)

**Response:** The comments are noted. Use of the North Anna site for any additional siting of reactors is beyond the scope of license renewal. In the event that VEPCo were to decide to site another reactor at North Anna, it would be required to go through all of the necessary licensing processes. At that time, if the North Anna Units 1 and 2 licenses have been renewed, the impact from license renewal will be considered in the appropriate environmental siting analysis. The comments provide no new information. Therefore, they will not be evaluated further.

**Comment:** Public Citizen and other organizations oppose the Yucca Mountain project because of concerns about transporting waste to the site and the potential for environmental disaster and radioactive release at the dump. (NAS-T-7)

**Comment:** A study should be completed to show the composition of the workers at North Anna in comparison to the general population. Some parameters -- race, income, age, gender, education, place of birth -- and compare this with the top 10% of the income bracket at the plant and with the top 25% and with the entire contingent of workers and to the population (Louisa, Spotsylvania) as a whole. This information will be most informative. (NAS-Z-21)

**Response:** The comments are noted. The comments are outside the scope of license renewal. The comments provide no new information and, therefore, will not be evaluated further.

### **Summary**

The preparation of the plant-specific supplement to the GEIS (called a SEIS) for North Anna Power Station, Units 1 and 2, will take into account all the relevant environmental issues raised during the scoping process that are described above. The draft SEIS will be made available for public comment. Interested Federal, State, and local government agencies, local organizations, and members of the public will be given the opportunity to provide comments to be considered during the development of the final SEIS. Concerns identified that are outside the scope of the staff's environmental review have been or will be forwarded to the appropriate NRC program manager for consideration.