

**Environmental Impact Statement
Scoping Process**

Summary Report

**North Anna Combined License
Louisa County, Virginia**

September 2008



**U.S. Nuclear Regulatory Commission
Rockville, Maryland**

Introduction

On November 27, 2007, the U.S. Nuclear Regulatory Commission (NRC) received an application from Virginia Electric and Power Company doing business as Dominion Virginia Power and Old Dominion Electric Cooperative (applicants) for a combined operating license (COL) for North Anna Power Station Unit 3 (NAPS or North Anna). The new Unit 3 will be adjacent to and generally west of the existing nuclear Units 1 and 2 at NAPS. The NAPS site is located in Louisa County, Virginia, approximately 40 miles north-northwest of Richmond.

On November 27, 2007, the NRC issued ESP-003 to Dominion Nuclear North Anna, LLC for the North Anna ESP Site (the site of proposed Unit 3). An early site permit (ESP) is an NRC approval of a site as suitable for construction and operation of one or more new nuclear units. The NRC's detailed review of the environmental impacts of constructing and operating new units at the North Anna ESP Site is documented in NUREG-1811, *Environmental Impact Statement for an Early Site Permit (ESP) at the NAPS ESP Site*, published in December 2006. For a COL application that references an ESP, the NRC staff, pursuant to Title 10 of the Code of Federal Regulations (CFR) Part 51.75(c), prepares a supplement to the ESP Final EIS (FEIS) in accordance with 10 CFR 51.92(e).

As part of the application, the applicants submitted an environmental report (ER) prepared in accordance with the requirements of 10 CFR 51. NRC regulations implementing the National Environmental Policy Act (NEPA) of 1969, as amended, are contained in 10 CFR Part 51, Subpart A. In addition, the NRC follows the Council on Environmental Quality regulations to the extent set forth in 10 CFR 51.10 and 10 CFR 51.14(b). NRC regulations related to the environmental review of COL applications are contained in 10 CFR Part 51 and 10 CFR 52, Subpart C. Pursuant to NRC regulations in 10 CFR 51.50(c)(1), a COL applicant referencing an ESP need not submit information or analyses regarding environmental issues that were resolved in the ESP FEIS, except to the extent the COL applicant has identified new and significant information regarding such issues. In addition, pursuant to 10 CFR 52.39, matters resolved in the ESP proceedings are considered to be resolved in any subsequent proceedings, absent identification of new and significant information.

The NRC staff is preparing a supplemental environmental impact statement (SEIS) to NUREG-1811, the ESP FEIS, in support of the COL application for Unit 3 at the NAPS ESP site. In addition, the staff is conducting a safety review of the applicants' combined license application in accordance with NUREG-0800, *Standard Review Plans for the Review of Safety Analysis for Nuclear Power Plants*, and the environmental review in accordance with NUREG-1555, *Standard Review Plans for Environmental Reviews for Nuclear Power Plants*.

On March 13, 2008, in accordance with 10 CFR 51.26, the NRC initiated the scoping process by publishing a Notice of Intent to Prepare an Environmental Impact Statement and Conduct Scoping Process in the *Federal Register* (73 FR 9604). The Notice of Intent notified the public of the staff's intent to prepare an SEIS and conduct scoping for the COL application. Through the notice, the NRC also invited the applicants; Federal, Tribal, State, and local government agencies; local organizations; and individuals to participate in the scoping process by providing oral comments at the public meetings and/or submitting written suggestions and comments no later than May 16, 2008. On July 17, 2008, a Correction and Supplement to the previously published Notice of Intent was published in the *Federal Register* (73 FR 41132). The scoping

period was reopened for 30 days, allowing for comments to be received until no later than August 15, 2008.

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

- Define the proposed action that is to be the subject of the SEIS.
- Determine the scope of the SEIS and identify issues related to the construction and operation of the facility that were not resolved in the ESP proceeding.
- Identify and eliminate from detailed study issues that relate to construction and operation that were resolved in the ESP proceeding but where new and significant information exists.
- Identify any environmental assessments and other EISs that are being prepared or will be prepared that are related to, but not part of, the scope of the SEIS being considered.
- Identify other environmental review and consultation requirements related to the proposed action.
- Indicate the relationship between the timing of the preparation of the environmental analyses and the Commission's tentative planning and decision-making schedule.
- Identify any cooperating agencies.
- Describe how the SEIS will be prepared, and identify any contractor assistance to be used.

At the conclusion of the scoping period, the NRC staff and its contractor reviewed the transcript of the scoping meeting and all written material received, and identified individual comments. The transcript can be found under accession number ML081220353 in the NRC's Agencywide Document Access and Management System (ADAMS), which is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room) (Note that the URL is case-sensitive). In addition, four letters, 19 e-mails, and 13 public meeting written documents containing comments were received during the scoping period. Of the 36 total pieces of correspondence received, eight were duplicates and were eliminated from consideration. The total number of correspondence that was considered, including the transcript, was 29. All comments and suggestions received orally or in writing during the scoping meeting were considered by the NRC staff.

The public scoping meeting was held at the Louisa County High School Auditorium in Mineral, Virginia, on April 16, 2008. The NRC announced the meeting in local newspapers (*The Richmond Times-Dispatch* [Richmond], *The Daily Progress* [Charlottesville], *The Free-Lance Star* [Fredericksburg], and *The Central Virginian* [Louisa]), issued press releases, and distributed flyers locally. Approximately 250 members of the public attended the meeting, which began with NRC staff members providing a brief overview of the COL process and NEPA

process. Following the NRC's prepared statements, the meeting was opened for public comments. Forty-four (44) attendees representing 46 individuals (one speaker provided comments for herself and two other individuals) provided oral comments that were recorded and transcribed by a certified court reporter. Fourteen (14) individuals also submitted written statements at the meeting. The meeting transcript can be found as an attachment to the meeting summary, which was issued on May 12, 2008. The meeting summary and transcript are available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of ADAMS under accession numbers ML081220488 (meeting summary) and ML081220353 (meeting transcript). Table 1 of this report provides an alphabetically ordered list the individuals who provided comments in, their affiliation (if given), and the ADAMS accession number that can be used to locate the correspondence. Accession numbers indicate the location of the written comments in ADAMS.

Comments were consolidated and categorized according to topic within the proposed SEIS or according to the general topic if outside the scope of the SEIS. Comments with similar specific objectives were combined to capture the common essential issues that were raised in the source comments. Once comments were grouped according to subject area, the staff determined the appropriate response for the comment. The comment categories are listed in Table 2 in the order that they are presented in this document.

Table 3 lists the comment categories in alphabetical order and commenter names and numbers for comments that were binned into each category. The rest of this document presents the comments with NRC staff responses organized by topic category.

Table 1. Individuals Providing Comments During the Comment Period

Commenter	Affiliation (if stated)	Comment Source and ADAMS Accession #
Amidon, Eleanor	Charlottesville Center for Peace and Justice	Meeting Transcript (ML081220353)
AuClair-Valdez, Miguel	Peoples Alliance for Clean Energy (PACE)	Letter (ML081130725) Email (ML081510225)
Ball, Kenneth	Virginia Tech	Email (ML081510213)
Beament, Peter	Dominion (retired)	Meeting Transcript (ML081220353)
Black, Betty	Piedmont Group of the Sierra Club	Letter (ML081130725)
Brown, Eugene F.	Virginia Tech	Email (ML081130725)
Bryan, James	Self	Meeting Transcript (ML081220353)
Burns, Mecca	Self	Email (ML081510229)
Cherry, Pratt	Nuclear Advocacy Network	Meeting Transcript (ML081220353)
Crawford, Barbara	Self	Email (ML081510232)
Day, Elena	Peoples Alliance for Clean Energy (PACE)	Email (ML081130725) Email (ML081510218)
DuBois, Paul and Linda	Self	Email (ML081510220)
Ellis, Larry	Dominion (retired)	Meeting Transcript (ML081220353)
Ewing, Amy	VDGIF	Email (ML081630141)
Farmer, John	Virginia Power (retired)	Meeting Transcript (ML081220353)
Fawls, Rebecca	North American Young Generation in Nuclear	Meeting Transcript (ML081220353)
Fisher, Allison	Public Citizen	Meeting Transcript (ML081220353)
Gibson, Bob	Louisa County	Meeting Transcript (ML081220353)
Goldsmith, Aviv	Spotsylvania, VA	Email (ML082261539)
Grecheck, Eugene	Dominion	Letter (ML081130725)
Gunter, Paul	Nuclear Policy Research Institute	Meeting Transcript (ML081220353)
Harper, Willy	Louisa County Board of Supervisors	Meeting Transcript (ML081220353)
Harte, Vicky	Women in Nuclear Global	Meeting Transcript (ML081220353)
Hayo, Dennis	Self	Email (ML081510235)
Heino, George and Gerry	Self	Letter (ML081130725) Letter (ML081510240)
Irons, Ellie	VDEQ	Email (ML082270674)
Jones, Dale	Lake Anna Boating and Recreation Association	Meeting Transcript (ML081220353)
Kirchen, Roger	Virginia Department of Historic Resources	Letter (ML0812904901) Letter (ML081510228)

Table 1. (contd)

Commenter	Affiliation (if stated)	Comment Source and ADAMS Accession #
Lintecum, Lee	Louisa County	Letter (ML081130725)
Manzari, Jack	Louisa County Chamber of Commerce	Meeting Transcript (ML081220353)
Marshall, Burton	Dominion (retired)	Meeting Transcript (ML081220353)
Montague, Joe	Self	Meeting Transcript (ML081220353)
Moore, Kenneth	Virginia Power (retired)	Meeting Transcript (ML081220353)
Murphey, Bill	Louisa County, Lake Anna Civic Association (LACA)	Letter (ML081130725)
Nguyen, Vanthi	Peoples Alliance for Clean Energy (PACE)	Meeting Transcript (ML081220353)
O'Hanlon, Jim	Dominion	Meeting Transcript (ML081220353)
Pierson, Mark	Virginia Tech	Email (ML081510213) Email (ML081510217) Email (ML081510223)
Remmers, Ken	Waterside Property Owners Association, Lake Anna Civic Association (LACA)	Letter (ML081130725) Email (ML081510210) Email (ML082261540)
Richmond, Michelle	Clean and Safe Energy Coalition	Meeting Transcript (ML081220353)
Rigali, Tony	Virginia State Building Construction Trades Council	Meeting Transcript (ML081220353)
Romano, John	Self	Email (ML081510224)
Rosenthal, Jerry	Concerned Citizens of Louisa County	Meeting Transcript (ML081220353)
Ruth, Harry	Friends of Lake Anna (FOLA)	Letter (ML081440463) Email (ML081580556)
Schaible, Dennis	Self	Meeting Transcript (ML081220353)
Smith, Doug	Lake Anna Civic Association (LACA)	Meeting Transcript (ML081220353)
Stiles, Lisa	International Youth Nuclear Congress	Meeting Transcript (ML081220353)
Stuart, Michael	Self	Letter (ML081130725)
Taylor, Kelly	Self	Meeting Transcript (ML081220353)
Tolbert, J.R.	Environment America	Meeting Transcript (ML081220353)
Tribble, Charles	Virgina Power (retired)	Meeting Transcript (ML081220353)
Watkins, John	Senator, Virginia Legislature	Meeting Transcript (ML081220353)
Wright, Jack	Louisa County Board of Supervisors	Meeting Transcript (ML081220353)
Zeller, Lou	Blue Ridge Environmental Defense League (BREDL)	Letter (ML081500318)

Table 2. Comment Categories in Order as Presented in this Report

1	Comments Concerning the ESP-COL Process
2	Comments Concerning Process – NEPA
3	Comments Concerning Site Layout and Design
4	Comments Concerning Meteorology and Air Quality
5	Comments Concerning Geology
6	Comments Concerning Hydrology – Surface Water
7	Comments Concerning Hydrology – Groundwater
8	Comments Concerning Ecology – Terrestrial
9	Comments Concerning Ecology – Aquatic
10	Comments Concerning Socioeconomics
11	Comments Concerning Historic and Cultural Resources
12	Comments Concerning Environmental Justice
13	Comments Concerning Health – Nonradiological
14	Comments Concerning Health – Radiological
15	Comments Concerning Accidents – Design Basis
16	Comments Concerning Accidents – Severe
17	Comments Concerning the Uranium Fuel Cycle
18	Comments Concerning Transportation
19	Comments Concerning Decommissioning
20	Comments Concerning Cumulative Impacts
21	Comments Concerning the Need for Power
22	Comments Concerning Alternatives – Energy
23	Comments Concerning Alternatives – System Design
24	Comments Concerning Alternatives – Sites
25	Comments Concerning Benefit – Cost Balance
26	General Comments in Support of the Licensing Action
27	General Comments in Support of the Licensing Process
28	General Comments of Support of Nuclear Power
29	General Comments in Support of the Existing Plant
30	General Comments in Opposition to the Licensing Action
31	General Comments in Opposition to the Hearing Process
32	General Comments in Opposition to Nuclear Power
33	Comments Concerning Issues Out of Scope – Emergency Preparedness
34	Comments Concerning Issues Out of Scope – Miscellaneous
35	Comments Concerning Out of Scope – NRC Oversight
36	Comments Concerning Issues Out of Scope – Safety
37	Comments Concerning Issues Out of Scope – Security and Terrorism

Table 3. Comment Categories Alphabetically with Associated Commenters and Comments

Comment Category	Commenter (Comment ID)
Accidents-Design Basis	AuClair-Valdez, Miguel (0026-4) Goldsmith, Aviv (0035-31) (0035-32)
Accidents-Severe	AuClair-Valdez, Miguel (0026-9) Bryan, James (0034-69) (0034-70) (0034-71) Goldsmith, Aviv (0035-34) (0035-35) (0035-36) (0035-39) Stiles, Lisa (0034-172)
Alternatives-Energy	AuClair-Valdez, Miguel (0026-1) Day, Donal (0034-134) (0034-135) Day, Elena (0017-2) (0017-2) Day, Elena (0034-146) Fisher, Allison (0034-94) (0034-95) Goldsmith, Aviv (0035-40) Nguyen, Vanthi (0034-99) Pierson, Mark (0021-2) (0021-2) (0021-2) (0021-3) (0021-3) (0021-3) Pierson, Mark (0034-121) (0034-122) Stiles, Lisa (0034-167) (0034-168) Tolbert, J.R. (0034-211) Zeller, Lou (0024-7)
Alternatives-Sites	Zeller, Lou (0024-2) (0024-4) (0024-5)
Alternatives-System Design	Goldsmith, Aviv (0035-15) (0035-16) (0035-41) Hayo, Dennis (0010-3) Heino, George and Gerry (0012-6) (0012-6) Heino, George and Gerry (0034-196) Jones, Dale (0034-178) Remmers, Ken (0016-2) (0016-3) Remmers, Ken (0034-32) (0034-35) Ruth, Harry (0028-2) (0028-4) (0028-13) (0028-27) (0028-35) Ruth, Harry (0033-17) (0033-28) (0033-29) (0033-31) (0033-32) (0033-33) (0033-86) Zeller, Lou (0024-12)
Benefit-Cost Balance	AuClair-Valdez, Miguel (0026-2) Fawls, Rebecca (0034-79) (0034-82) Fisher, Allison (0034-92) (0034-96) Goldsmith, Aviv (0035-4) Gunter, Paul (0034-43) Pierson, Mark (0021-5) (0021-5) (0021-5) Pierson, Mark (0034-124) Rosenthal, Jerry (0034-40) Stiles, Lisa (0034-171) Taylor, Kelly (0034-72) Tolbert, J.R. (0034-209) (0034-212)

Table 3. (contd)

Comment Category	Commenter (Comment ID)
Cumulative Impacts	AuClair-Valdez, Miguel (0026-11) Remmers, Ken (0034-33)
Decommissioning	Goldsmith, Aviv (0035-38)
Ecology-Aquatic	Black, Betty (0023-6) Black, Betty (0034-152) Crawford, Barbara (0031-11) Ewing, Amy (0032-2) Goldsmith, Aviv (0035-27) (0035-28) Heino, George and Gerry (0034-194) Ruth, Harry (0028-8) (0028-16) (0028-21) (0028-22) (0028-40) (0028-50) (0028-61) Ruth, Harry (0033-6) (0033-24) (0033-25) (0033-26) (0033-48) (0033-59) (0033-70) Smith, Doug (0034-185)
Ecology-Terrestrial	Ewing, Amy (0032-1) Goldsmith, Aviv (0035-13) (0035-18)
Environmental Justice	Zeller, Lou (0024-9) (0024-10)
Geology	Zeller, Lou (0034-89)
Health-Non-Radiological	Black, Betty (0023-4) (0023-5) Black, Betty (0034-150) (0034-151) Ruth, Harry (0028-15) (0028-17) (0028-18) (0028-20) (0028-39) (0028-44) (0028-49) (0028-52) (0028-59) (0028-65) (0028-66) (0028-67) (0028-68) (0028-69) (0028-71) (0028-72) (0028-74) Ruth, Harry (0033-7) (0033-8) (0033-21) (0033-22) (0033-23) (0033-42) (0033-47) (0033-52) (0033-58) (0033-61) (0033-68) (0033-74) (0033-75) (0033-76) (0033-77) (0033-80) (0033-81) (0033-83)
Health-Radiological	AuClair-Valdez, Miguel (0026-8) Day, Elena (0017-8) Day, Elena (0034-141) Goldsmith, Aviv (0035-6) (0035-30) Ruth, Harry (0033-27) Zeller, Lou (0034-87)
Historic and Cultural Resources	Kirchen, Roger (0001-1) (0001-2) (0001-2)
Hydrology-Groundwater	Zeller, Lou (0034-88)
Hydrology-Surface Water	AuClair-Valdez, Miguel (0008-1) AuClair-Valdez, Miguel (0026-14) (0026-15) (0034-157) AuClair-Valdez, Miguel (0034-158) (0034-159) Black, Betty (0023-3) (0023-7) Black, Betty (0034-149) (0034-153) Burns, Mecca (0009-1) Crawford, Barbara (0031-3) (0031-4) (0031-5) (0031-9)

Table 3. (contd)

Comment Category	Commenter (Comment ID)
	Crawford, Barbara (0034-201) (0034-203)
	Day, Elena (0017-9)
	Day, Elena (0034-142)
	Goldsmith, Aviv (0035-1) (0035-2) (0035-17) (0035-21) (0035-22) (0035-23) (0035-24) (0035-25) (0035-26) (0035-29) (0035-48)
	Heino, George and Gerry (0012-1) (0012-1) (0012-3) (0012-3)
	Heino, George and Gerry (0034-190) (0034-192)
	Jones, Dale (0034-174) (0034-176) (0034-177)
	Lintecum, Lee (0015-7)
	Marshall, Burton (0034-103)
	Murphey, Bill (0014-2) (0014-3) (0014-4) (0014-5) (0014-6) (0014-7) (0014-8) (0014-9) (0014-10) (0014-11)
	Murphey, Bill (0034-223)
	O'Hanlon, Jim (0034-51)
	Remmers, Ken (0016-1) (0016-4) (0016-5) (0016-6)
	Remmers, Ken (0018-1)
	Remmers, Ken (0034-31) (0034-34) (0034-36) (0034-37) (0034-38)
	Remmers, Ken (0036-1) (0036-2) (0036-3) (0036-4) (0028-5) (0028-6) (0028-9)
	Ruth, Harry (0028-11) (0028-14) (0028-23) (0028-24) (0028-26) (0028-42) (0028-45) (0028-54) (0028-55) (0028-60) (0028-62) (0028-63) (0028-64) (0028-70) (0028-73)
	Ruth, Harry (0033-2) (0033-3) (0033-9) (0033-11) (0033-12) (0033-13) (0033-14) (0033-15) (0033-16) (0033-19) (0033-20) (0033-34) (0033-43) (0033-50) (0033-54) (0033-63) (0033-64) (0033-69) (0033-71) (0033-72) (0033-73) (0033-78) (0033-79) (0033-82) (0033-84) (0033-85)
	Schaible, Dennis (0034-222)
	Smith, Doug (0027-2) (0027-3) (0027-4) (0027-5) (0027-6) (0027-7)
	Smith, Doug (0034-182) (0034-183) (0034-184) (0034-186) (0034-188) (0034-189)
	Stiles, Lisa (0034-166)
	Taylor, Kelly (0034-74)
	Watkins, John (0034-7)
	Zeller, Lou (0024-11)
Meteorology and Air Quality	Goldsmith, Aviv (0035-11) (0035-12) (0035-45) (0035-47)
	Ruth, Harry (0028-33)
	Ruth, Harry (0033-41)
Need for Power	Beament, Peter (0034-109)
	Brown, Eugene F. (0019-1)
	Brown, Eugene F. (0034-116)
	Ellis, Larry (0034-66)
	Farmer, John (0034-106)
	Fawls, Rebecca (0034-80)
	Grecheck, Eugene (0013-1) (0013-2)
	Manzari, Jack (0034-27)
	Marshall, Burton (0034-101)

Table 3. (contd)

Comment Category	Commenter (Comment ID)
	Moore, Kenneth (0034-60)
	Pierson, Mark (0021-4)
	Pierson, Mark (0034-123)
	Stiles, Lisa (0034-163)
	Stuart, Michael (0025-1) (0025-2)
	Stuart, Michael (0034-84)
	Tribble, Charles (0034-56)
	Watkins, John (0034-2) (0034-5)
	Wright, Jack (0034-15)
Opposition-Licensing Action	AuClair-Valdez, Miguel (0034-160)
	Black, Betty (0023-1) (0023-9)
	Black, Betty (0034-147) (0034-155)
	Day, Donal (0034-127)
	Day, Elena (0017-10)
Opposition-Hearing Process	Day, Elena (0017-1) (0017-13)
Opposition-Nuclear Power	AuClair-Valdez, Miguel (0034-156)
	Day, Donal (0034-132) (0034-133)
	Nguyen, Vanthi (0034-98)
Out of Scope-Emergency Preparedness	AuClair-Valdez, Miguel (0026-12) (0026-13)
	Crawford, Barbara (0031-13)
	Crawford, Barbara (0034-199) (0034-200) (0034-207)
	Goldsmith, Aviv (0035-14)
	Gunter, Paul (0034-45)
	Rosenthal, Jerry (0034-42)
	Ruth, Harry (0033-39)
Out of Scope-Miscellaneous	Crawford, Barbara (0031-14)
	Day, Donal (0034-131)
	Goldsmith, Aviv (0035-43)
	Rosenthal, Jerry (0034-39)
	Ruth, Harry (0033-10)
	Tolbert, J.R. (0034-208)
Out of Scope-NRC Oversight	Black, Betty (0023-8) (0034-154)
	Crawford, Barbara (0034-202)
	Day, Donal (0034-128) (0034-130)
	Rosenthal, Jerry (0034-41)
	Ruth, Harry (0033-87)
Out of Scope-Safety	Crawford, Barbara (0031-2)
	Watkins, John (0034-3)
	Wright, Jack (0034-16)
	Zeller, Lou (0034-86)

Table 3. (contd)

Comment Category	Commenter (Comment ID)
Out of Scope-Security and terrorism	AuClair-Valdez, Miguel (0026-10)
	Crawford, Barbara (0034-198)
	Day, Donal (0034-129)
	Day, Elena (0017-7)
	Day, Elena (0034-140)
	Goldsmith, Aviv (0035-7) (0035-33)
	Gunter, Paul (0034-46)
Process-ESP-COL	Ruth, Harry (0028-7) (0028-25)
	Ruth, Harry (0033-35) (0033-88)
	Zeller, Lou (0024-3) (0024-8)
Process-NEPA	Goldsmith, Aviv (0035-8) (0035-9) (0035-10)
	Irons, Ellie (0037-1) (0037-2) (0037-3)
	Ruth, Harry (0028-19)
	Ruth, Harry (0033-18) (0024-1) (0024-6) (0024-13)
	Zeller, Lou (0024-1) (0024-6) (0024-13)
	Zeller, Lou (0034-90)
Site Layout and Design	Goldsmith, Aviv (0035-42)
	Tolbert, J.R. (0034-210)
Socioeconomics	Crawford, Barbara (0031-6) (0031-7) (0031-8) (0031-10) (0031-12)
	Crawford, Barbara (0034-204) (0034-205) (0034-206)
	Fawls, Rebecca (0034-78) (0034-81)
	Gibson, Bob (0034-22) (0034-23) (0034-24)
	Goldsmith, Aviv (0035-3) (0035-5) (0035-19) (0035-20) (0035-44) (0035-44) (0035-46) (0035-49)
	Hayo, Dennis (0010-2)
	Heino, George and Gerry (0012-2) (0012-4) (0012-4) (0012-5) (0012-5)
	Heino, George and Gerry (0034-191) (0034-193) (0034-195)
	Jones, Dale (0034-173) (0034-175) (0034-179)
	Lintecum, Lee (0015-2) (0015-3) (0015-4) (0015-5) (0015-6)
	Lintecum, Lee (0034-11) (0034-12) (0034-13)
	Manzari, Jack (0034-29)
	Rigali, Tony (0034-19) (0034-20)
	Ruth, Harry (0028-12) (0028-28) (0028-29) (0028-30) (0028-31) (0028-34) (0028-36) (0028-37) (0028-38) (0028-41) (0028-43) (0028-46) (0028-47) (0028-48) (0028-51) (0028-53) (0028-56) (0028-57) (0028-58)
	Ruth, Harry (0033-4) (0033-5) (0033-36) (0033-37) (0033-38) (0033-44) (0033-45) (0033-46) (0033-49) (0033-51) (0033-53) (0033-55) (0033-56) (0033-57) (0033-60) (0033-62) (0033-65) (0033-66) (0033-67)
	Smith, Doug (0034-181)
	Tribble, Charles (0034-55)
Support-Licensing Action	Ball, Kenneth (0020-5) (0020-5)

Table 3. (contd)

Comment Category	Commenter (Comment ID)
	Ball, Kenneth (0034-114)
	Beament, Peter (0034-108)
	Brown, Eugene F. (0019-4)
	Brown, Eugene F. (0034-119)
	Cherry, Pratt (0034-214)
	Ellis, Larry (0034-65) (0034-68)
	Farmer, John (0034-107)
	Gibson, Bob (0034-25)
	Harper, Willy (0034-9)
	Harte, Vicky (0034-218)
	Hayo, Dennis (0010-1)
	Lintecum, Lee (0015-1) (0015-8)
	Lintecum, Lee (0034-10) (0034-14)
	Manzari, Jack (0034-26) (0034-30)
	Marshall, Burton (0034-100) (0034-105)
	Montague, Joe (0034-221)
	Moore, Kenneth (0034-59) (0034-62) (0034-64)
	Murphey, Bill (0014-1)
	O'Hanlon, Jim (0034-47) (0034-50) (0034-53)
	Pierson, Mark (0021-1) (0021-7)
	Pierson, Mark (0034-120) (0034-126)
	Rigali, Tony (0034-18) (0034-21)
	Ruth, Harry (0028-1) (0028-3)
	Ruth, Harry (0033-1)
	Smith, Doug (0027-1)
	Smith, Doug (0034-180) (0034-187)
	Stiles, Lisa (0034-161)
	Stuart, Michael (0025-3)
	Stuart, Michael (0034-85)
	Taylor, Kelly (0034-75)
	Tribble, Charles (0034-54)
	Watkins, John (0034-8)
	Wright, Jack (0034-17)
Support-Licensing Process	DuBois, Paul and Linda (0006-2)
	Grecheck, Eugene (0013-5) (0013-6) (0013-7)
	Moore, Kenneth (0034-61)
	O'Hanlon, Jim (0034-52)
	Richmond, Michelle (0034-217)
	Stiles, Lisa (0034-162) (0034-164)
Support-Nuclear Power	Ball, Kenneth (0020-1) (0020-2) (0020-3) (0020-4) (0020-6)
	Ball, Kenneth (0034-110) (0034-111) (0034-112) (0034-113) (0034-115)
	Brown, Eugene F. (0019-2) (0019-3)

Table 3. (contd)

Comment Category	Commenter (Comment ID)
	Brown, Eugene F. (0034-117) (0034-118)
	Cherry, Pratt (0034-213)
	DuBois, Paul and Linda (0006-1)
	Ellis, Larry (0034-67)
	Fawls, Rebecca (0034-83)
	Grecheck, Eugene (0013-3) (0013-4)
	Harte, Vicky (0034-219) (0034-220)
	Moore, Kenneth (0034-63)
	O'Hanlon, Jim (0034-48)
	Pierson, Mark (0021-6)
	Pierson, Mark (0034-125)
	Richmond, Michelle (0034-215)
	Romano, John (0011-4)
	Stiles, Lisa (0034-165) (0034-169) (0034-170)
	Taylor, Kelly (0034-73) (0034-76)
	Tribble, Charles (0034-57) (0034-58)
	Watkins, John (0034-1) (0034-4) (0034-6)
Support-Plant	Manzari, Jack (0034-28)
	Marshall, Burton (0034-102) (0034-104)
	O'Hanlon, Jim (0034-49)
	Richmond, Michelle (0034-216)
	Romano, John (0011-1) (0011-2) (0011-3)
	Taylor, Kelly (0034-77)
Transportation	AuClair-Valdez, Miguel (0026-6)
	Day, Elena (0017-6)
	Day, Elena (0034-139)
Uranium Fuel Cycle	Amidon, Eleanor (0034-97)
	AuClair-Valdez, Miguel (0026-3) (0026-5) (0026-7)
	Black, Betty (0023-2)
	Black, Betty (0034-148)
	Burns, Mecca (0009-2)
	Crawford, Barbara (0031-1)
	Crawford, Barbara (0034-197)
	Day, Elena (0017-4) (0017-5) (0017-11) (0017-12) (0017-13)
	Day, Elena (0034-136) (0034-137) (0034-138) (0034-143) (0034-144) (0034-145)
	Fisher, Allison (0034-91) (0034-93)
	Goldsmith, Aviv (0035-37)
	Gunter, Paul (0034-44)
	Ruth, Harry (0028-32)
	Ruth, Harry (0033-40)

North Anna Combined License Public Scoping Comments and Responses

The comments and suggestions received as part of the scoping process are summarized and discussed below. Parenthetical numbers after each comment refer to the Comment Identification (ID) number (document number-comment number) and the commenter name. Comments are grouped by category.

The draft SEIS will take into account the relevant issues raised during the scoping process, and it will be made available for public comment.

The comment period for the draft SEIS will offer the next opportunity for the applicants; interested Federal, Tribal, 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 be considered in the NRC's decision on Dominion's COL application for the NAPS site.

1. Comments Concerning the ESP – COL Process

Comment: Although the ESP was approved by the Commission in November, its order contained the seed of poor judgment. The Commission may have perfected the record but it failed to perfect the permit when it sidestepped the issues raised by Judge Karlin in his dissent. In fact, the Commission admitted to the self same errors of judgment in its Memorandum and Order approving the ESP: (0024-3 (Zeller, Lou))

Response: *This issue is related to the Atomic Safety and Licensing Board and Commission approval of the ESP application for up to two additional units to be constructed at the NAPS site. The NRC staff addressed the issues raised by Judge Karlin in supplemental information that was presented to the Commission. The NRC issued to Dominion the NAPS ESP (ESP-003) in November 2007. This comment provides no new and significant information and will not be evaluated further.*

Comment: Both VDEQ and DGIF, in conjunction with Dominion Resources are currently conducting an Instream Flow Incremental Methodology (IFIM) study on Lake Anna and the North Anna River and Pamunkey Rivers downstream to determine the effects of the reduced water flow on recreation, wildlife, aquatic life and fish as part of the conditional certification for the 3rd reactor Early Site Permit (ESP). This IFIM study must also address all of the comments made by the VA. Dept of Conservation and Recreation (DCR). This IFIM study should be completed before any Draft Environmental Impact Statement for the COL is issued by the NRC so all the results of the IFIM study can be reviewed and commented on by the public. Otherwise the results from this important study will cause much re-work later by the NRC, Virginia and the public and waste much time. Currently there is no public participation in the study plan or results. (0028-7 (Ruth, Harry))

Comment: We also request public participation in each step/review of the Instream Flow Incremental Methodology (IFIM) study for Lake Anna and the North Anna River being conducted as part of Virginia and the U.S. North Anna Early Site Permit (ESP) approval process. (0033-88 (Ruth, Harry))

Response: *Under conditions of the NAPS ESP permit (ESP-003), Dominion is required to conduct an Instream Flow Incremental Methodology (IFIM) study that is designed and monitored in cooperation and consultation with the Virginia Department of Game and Inland Fisheries (VDGIF) and the Virginia Department of Environmental Quality (VDEQ) to address potential impacts of the proposed units on the fishes and other aquatic resources of Lake Anna and downstream waters. This study must be completed prior to issuance of a COL for any new units at NAPS. Dominion agreed to consult both with VDGIF and VDEQ regarding surface water management, release, and instream flow conditions prescribed by VDGIF and VDEQ as implemented through appropriate state or Federal permits or licenses. Public involvement in the study plan and review of the results is the responsibility of the VDGIF and VDEQ, not the NRC. NRC staff, however, will monitor the progress related to completion of the study and results obtained. Any information that is available regarding the IFIM study at the time the SEIS is prepared will be included in the SEIS as part of Section 2.7.*

Comment: As part of the earlier ESP process, Dominion continued to make revisions to issues as they were identified and analyzed. Hence our review of the DEIS became a moving target, without the NRC extending the time for the public to respond. It is requested that each time that Dominion makes a change to a previously submitted document that impacts the DEIS, that the NRC automatically extends the public comment period and the COL schedule as well to give the public sufficient time to review the changes and make comments. Hardcopies of the original documents and changes should also be supplied to the persons who sign up to request them, as trying to keep up with thousands of pages and changes on a home computer and ink-jet printer is next to impossible. The home printing cost for thousands of pages is prohibitive for most of the public and prevents them from participating in the public process. Also, without having a hard copy to find all the references that are made throughout the documents and requests for information (ROI's) it also a very impossible task to participate in the public process. (0028-25, 0033-35 (Ruth, Harry))

Response: *These comments express general opposition to the NRC licensing process and provide no specific information related to the environmental review. Up-to-date information regarding the NAPS Unit 3 COL application can be found at www.nrc.gov.*

These comments also are outside the scope of 10 CFR 51 and 52, which describe the NRC's environmental review process for a COL. Therefore, the comments will not be evaluated further.

Comment: The outstanding questions [related to alternative sites] are: 1) Upon what basis did the Commission rule that the NRC staff's omission conveys an "inaccurate" impression (2) In terms of equity, what may interested members of the public expect from the Commissions directive to the staff to "include a similar level of detail in future FEIS analyses of alternative sites" Similar to what? 3) Will future applicants for COLs be allowed to provide a prescriptive list of alternate sites which are then reviewed by the staff? 4) If the existing ESRP did not provide sufficient authority for the staff to require Dominion to do a better job in this case, how will the Commission's directive in this matter be implemented? (0024-8 (Zeller, Lou))

Response: *This comment expresses general opposition to the NRC's COL evaluation process. The NRC addressed the issues of site selection and alternative sites in the North Anna final ESP FEIS (NUREG-1811). The NRC issued Dominion the North Anna ESP (ESP-003) in November 2007. As required by NRC regulation in 10 CFR 51.92(e)(3), the Supplement to the ESP EIS, which is prepared for a combined license application, must contain no separate discussion of alternative sites. The issue is considered closed. Accordingly, the SEIS will not revisit the analysis of alternative sites.*

2. Comments Concerning Process – NEPA

Comment: Further, the NRC must consider environmental impacts which are "reasonably foreseeable" and which have "catastrophic consequences," even if their probability of occurrence is low." However, the Commission has failed to comply with NEPA to the fullest extent possible; instead, it has taken unacceptable short-cuts and made end-runs around its own best counsel. The Commission could begin to rectify these failures during the current scoping process. We recommend the NRC take this opportunity. (0024-1 (Zeller, Lou))

Comment: The NRC should take steps to ensure that the requirements of NEPA are fully implemented within both the letter and the spirit of the law. I plan to submit further remarks up to the issuance of the draft EIS. (0024-13 (Zeller, Lou))

Comment: The final environmental impact statement (FEIS) does not show that the staff's alternative site review at the candidate site level was sufficiently detailed. The Staff witness conceded as much. The Staff reviewed only the sites proposed by Dominion. In light of these admissions, the Commission's conclusion is all the more stunning. "But our own examination of the entire administrative record leads us to conclude that the Staff's underlying review was sufficiently detailed to qualify as 'reasonable' and a 'hard look' under NEPA--even if the Staff's description of that review in the FEIS was not." (0024-6 (Zeller, Lou))

Response: *These comments relate to how the NRC implements the requirements set forth within NEPA. They provide no specific information related to the current licensing action related to the proposed NAPS Unit 3 and will not be evaluated further.*

Comment: Since there are significant incremental surface water impacts that will be caused by the proposed Unit 3 (cooling method using up to 24 million gallons per day), the system design alternatives should include the alternative of imposing some form of water saving measures on the two nuclear reactors that already exist on the site, as a form of offset to the impacts of the proposed new reactors. These unit 1 & 2 offsets are necessary under the National Environmental Policy Act (NEPA) where the applicant and its affiliates seek to add a nuclear reactor at the same location of existing nuclear operations. The unit 1 & 2 water conservation measures should mitigate against the significant and adverse incremental impacts that will be caused by the proposed Unit 3 cooling method. (0028-19 (Ruth, Harry))

Comment: In the ESP EIS, unit 3 was considered in a standalone condition and no consideration was made for the alternative of installing additional water conservation measure on the existing nuclear power reactors Units 1 and 2 to compensate or mitigate against the significant and adverse incremental impacts that will be caused by unit 3. Judge Karlin (ALSBP) stated that some of the once-through cooling water from units 1 and 2 could be diverted to the

cooling tower used for unit 3. While this diversion would be small, it would offset some of the impacts of unit 3. He rejected the NRC staff's position that such an offset is per se unreasonable under NEPA. He stated there is no dispute that the NEPA alternative analysis (is the heart of the environmental impact statement) When a company operates an existing facility that emits pollution and/or has adverse environmental impacts, it is common for a regulator to at least consider, and sometime impose, additional environmental controls on the existing units as trade-off for obtaining approval to construct additional units.

Judge Karlin stated "It seems to me that creative nuclear engineers and environmental scientists, if properly motivated, might very well propose realistic offsets or mitigation measure that could be applied to the pre-existing reactors on the same site." This is significant new information that needs to be addressed. (0033-18 (Ruth, Harry))

Response: *All environmental issues related to the ESP application from Dominion have been identified, evaluated, and resolved or proposed mitigation actions have been identified. Dominion was issued an ESP (ESP-003) in November 2007 for the construction of up to two units at the NAPS site under the specifications contained in that permit. These comments provide no new and significant information and will not be evaluated further.*

Comment: I guess more important and also relevant in this matter is the Fifth Amendment to the Constitution of the United States, which says that no person shall be deprived of life, liberty, or property without due process of law. I would submit to you that an accident caused by a foreseeable event cannot be construed as due process. (0034-90 (Zeller, Lou))

Response: *The environmental impacts of postulated accidents were discussed in Chapter 5.10 of NUREG-1811 (ESP FEIS). Environmental impacts of postulated accidents were resolved in NUREG-1811. The analysis for the North Anna Unit 3 SEIS will address only new and significant information to determine whether the impact level has changed. Any new and significant information identified since the ESP will be evaluated in Chapter 5 of the COL SEIS.*

Comment: Throughout the ESL [ESP] process, the applicant and NRC stated that additional analyses and data would be presented in the COL process. The public is counting on this approach being adhered to. (0035-8 [Goldsmith, Aviv])

Response: *This comment provides no new information relevant to the environmental review of the COL application and, therefore, will not be evaluated further. The NRC will use all necessary means to evaluate information regarding all new and significant information identified or information submitted in relationship to any unresolved issues identified in the ESP FEIS.*

Comment: Public meetings should be held at other locations and times around the region so that interested parties are given the opportunity to be educated and voice their input in a public forum. This would facilitate public participation (which is one of the goals of the NEPA process). (0035-9 [Goldsmith, Aviv])

Response: *Although NEPA does require Federal agencies to initiate a scoping process, the decision of how to implement scoping is left to the agencies' discretion. It is the policy of the NRC to involve the public in the Commission's decision-making process; therefore, it elects to conduct open public scoping meetings in association with its environmental review process.*

Meetings are generally held in a location accessible by the largest population that will experience the most direct environmental impact as a result of the proposed action. In the case of the proposed NAPS Unit 3, this population is located in the area of Louisa County, Virginia. The scoping period was open for 60 days, and during that time, the public and other agencies were welcome to also submit written comments. The NRC will hold additional public meetings after the draft SEIS is published. Separate meetings will be held by the NRC in association with the safety review process.

Comment: It seems that the ESL [ESP] SDEIS, was not performed by an unbiased interdisciplinary team as is required by NEPA. For example, Page 1-6 states that "Dominion did not or was unable to provide information and analysis for certain issues sufficient to allow the NRC staff to complete its independent analysis." Thus the issues "are not resolved." The NRC should commission independent sources to develop the required data at this time. (0035-10 [Goldsmith, Aviv])

Response: *All identified issues not resolved during the ESP process will be evaluated as part of the evaluation of the COL application. Those specific issues that were not resolved are listed in Appendix J of the ESP FEIS (NUREG-1811, Volume 1) that was issued by the NRC in December 2006.*

Comment: The following discussion pertains to the NRC's decision to prepare a supplemental EIS in support of the COL instead of an EIS. Inasmuch as a COL is a major federal action, a supplemental EIS would not provide the rigorous environmental analysis necessary to guide decision makers on a COL application. The NRC has repeatedly stated that "to construct and operate a nuclear power plant, an ESP holder must obtain a CP and OL, or a COL, which are separate major federal actions which require their own environmental review in accordance with 10 CFR Part 51" (references: ESP Final EIS, page 1-2, ESP Supplemental EIS, Executive Summary, page xviii, and ESP, DEIS, Executive Summary page xxi). The recent decision (published on July 17, 2008) to prepare a supplement to the Final ESP EIS to support the COL instead of another EIS for the COL is also inconsistent with the NRC's earlier position as reflected in Mr. William D. Beckner's July 6, 2005 letter responding to Mr. Adrian Heymer at the Nuclear Energy Institute. In that letter, Mr. Beckner stated "We believe that a portion of the underlying basis for industry's view is not consistent with the NRC's regulations and the applicable case law interpreting the National Environmental Policy Act of 1969, as amended (NEPA). In particular, inasmuch as an ESP and a COL are major federal actions, an environmental assessment is not a sufficient environmental inquiry on which to base an action on an ESP or COL application. Accordingly, pursuant to 10 CFR 51.20, both actions require the preparation of an EIS."

While we understand that the NRC's current rules implementing NEPA (10 CFR 51.92) allow the NRC to prepare a supplement to the ESP EIS to support the COL, over the past five years (since 2003 until March 13, 2008) the NRC has consistently maintained that an EIS would be prepared to support the COL. It was with this understanding that the Commonwealth reviewed and commented on the Draft EIS (March 3, 2005) and Supplemental EIS (September 8, 2006) for the ESP. During the ESP review process several environmental impact considerations were deferred to the COL stage of the licensing process. Following the 2006 amendments to the NRC rules, the Final ESP EIS which was published in December 2007 continued to assert that the ESP and COL are separate major federal actions requiring their own environmental review. Therefore, the Commonwealth had no reason to anticipate the NRC's recent change in its

position on the type of NEPA document which would be prepared for the COL process. (0037-1 [Irons, Ellie])

Response: *As outlined in a Federal Register Notice of August 28, 2007 (72 FRN 49429), the NRC agrees that granting an ESP and a COL are major Federal actions significantly affecting the quality of the human environment and that each action would require the preparation of an EIS. However, 10 CFR part 52 does provide finality for previously resolved issues. Thus, the environmental review conducted by the NRC at the COL stage is informed by the EIS prepared at the ESP stage, and information can be incorporated by reference in the COL SEIS. This COL SEIS for the proposed NAPS Unit 3 will focus on new and significant information identified after issuance of the ESP FEIS, resolve significant environmental issues not addressed in the ESP proceedings, and ensure that all environmental terms and conditions included in the ESP will be satisfied by the date of issuance of the COL SEIS.*

Comment: Environmental Review

The following state and local Virginia agencies are likely to be included in the coordinated review of submitted environmental documents (note: starred [*] agencies administer one or more of the Enforceable Policies of the Virginia Coastal Resources Management Program.

Department of Environmental Quality:
Office of Environmental Impact Review
Tidewater Regional Office*
Water Division
Air Division*
Waste Division

Department of Game and Inland Fisheries*
Department of Conservation and Recreation:
Division of Chesapeake Bay Local Assistance*
Division of Soil and Water Conservation*
Division of Planning and Recreation Resources
Department of Health*
Marine Resources Commission*
Department of Historic Resources
Virginia Institute of Marine Science
Department of Mines, Minerals, and Energy
Department of Agriculture and Consumer Services
U.S. Nuclear Regulatory Commission
Department of Forestry
Department of Transportation
Hampton Roads Planning District Commission
Affected Locality (ies)

In order to ensure an effective coordinated review of the EIS and the consistency certification, we will require about 24 copies of each document (6 hard copies and 18 CDs) when it is published. The document should include one or more U.S. Geological Survey topographic maps as part of its information. We recommend, as well, that project details be adequately described and analyzed. While this Office does not participate in scoping efforts beyond the advice given herein, other agencies may independently provide scoping comments to you concerning the preparation of the NEPA document for the proposed project. (0037-3 [Irons, Ellie])

Response: An ample number of draft SEIS documents will be made available for review by the Commonwealth agencies that have been identified. Any comments from these agencies will be considered if they are submitted during the open scoping period.

Comment: Pursuant to the CZMA, federal licensing or permit activities affecting Virginia's coastal resources or coastal uses must be consistent with the enforceable policies of the Virginia Coastal Resources Management Program (VCP) (also called the Virginia Coastal Zone Management Program) (see Federal Consistency Regulations, 15 CFR Part 930, sub-part D, Consistency for Activities Requiring a License or Permit). DEQ must be provided with a federal consistency certification which involves an analysis of the activities in light of the enforceable policies of the VCP (first enclosure), and a commitment to comply with the enforceable policies. In addition, we invite your attention to the advisory policies of the VCP (second enclosure).

Sections 930.57 and 930.58 of the Federal Consistency Regulations and Virginia's Federal Consistency Information Package available on DEQ's web site at <http://www.deq.virginia.gov/eir/federal.html>, give content requirements for a consistency certification. We recommend that the submission of the federal consistency certification follows the completion of the NEPA review process to facilitate the resolution of issues before embarking on the consistency review. We believe that this approach will prevent unnecessary delays in the consistency review process which could result from changes made during the NEPA review. (0037-2 [Irons, Ellie])

Response: This issue will be addressed in Section 2.2.1 of the COL SEIS. Dominion is required to provide a Coastal Zone Management Act certification to the Commonwealth of Virginia for the proposed NAPS Unit 3. Dominion has documented the need for preparing the consistency determination in Chapter 1 of the environmental report (ER) that was submitted with the COL application. The COL ER for the proposed NAPS Unit 3 is a publicly available record from the NRC Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible at <http://www.nrc.gov/reading-rm/adams.html>. The ADAMS accession number for the NAPS Unit 3 ER is ML073321238.

3. Comments Concerning Site Layout and Design

Comment: I know that someone has stood up here and said that there don't have to be any changes to the transmission line, but listening to our introduction this evening, I heard that Dominion has said that we will have to change the transmission line. So that's something that needs to be considered. (0034-210 (Tolbert, J.R.))

Response: A description of the new transmission lines will be included in Chapter 3 of the SEIS. The environmental impacts associated with transmission lines from the proposed Unit 3 are considered new and significant information and will be addressed in Chapter 4 and 5 of the SEIS.

Comment: Since Chapter 8 should address system design alternatives (page 1-10, line 38) the COL SDEIS should include consideration in section 8.2 for locating potentially vulnerable facilities (such as fuel and waste storage) underground to mitigate against terrorist attack or aviation accident. (0035-42 [Goldsmith, Aviv])

Response: Comments related to security and terrorism are safety issues that are not within the scope of the staff's environmental review. The NRC is devoting substantial time and attention to terrorism-related matters, including coordination with the U.S. Department of Homeland Security. As part of its mission to protect public health and safety and the common defense and security pursuant to the Atomic Energy Act, the NRC staff is conducting vulnerability assessments for the domestic utilization of radioactive material. Since the events of September 11, 2001, the NRC has identified the need for license holders to implement precautionary measures and has issued several orders to license holders imposing enhanced security requirements.

Finally, the NRC has taken actions to ensure that applicants and license holders maintain vigilance and a high degree of security awareness. Consequently, the NRC will continue to consider measures to prevent and mitigate the consequences of acts of terrorism in fulfilling its safety mission. Additional information about the NRC staff's actions regarding physical security since September 11, 2001, can be found on the NRC's public web site <http://www.nrc.gov>. The Federal Aviation Administration has a general Notice to Air Mariners (NOTAM) in place that reads: "In the interest of national security and to the extent practicable, pilots are strongly advised to avoid the airspace above, or in proximity to such sites as power plants (nuclear, hydro-electric, or coal), dams, refineries, industrial complexes, military facilities and other similar facilities. Pilots should not circle as to loiter in the vicinity over these types of facilities." The NOTAM goes on to identify specific facilities and their coordinates for pilot reference. The Federal government will continue to assess the need to restrict airspace above or near critical infrastructure, including nuclear power plants. In addition, should conditions warrant, procedures and processes are in place for the immediate closure of certain airspace and interdiction by Federal response elements.

4. Comments Concerning Meteorology and Air Quality

Comment: Impact of additional fog and icing from wet cooling towers on local roadways and surrounding residential homes and communities. (0028-33 (Ruth, Harry))

Comment: Impact of additional fog and icing from wet cooling towers on local roadways and surrounding residential homes and communities. (0033-41 (Ruth, Harry))

Response: Fog and icing from cooling towers was previously discussed in the ESP FEIS (NUREG-1811). The analysis for the NAPS Unit 3 SEIS will address only new and significant information to determine if the impact level has changed.

Comment: The impacts to traffic from increased fog occurrence should be addressed. (0035-12 [Goldsmith, Aviv])

Response: Fog and icing from cooling towers was previously discussed in the ESP FEIS (NUREG-1811). The analysis for the NAPS Unit 3 SEIS will address only new and significant information to determine if the impact level has changed.

Comment: The same limited three-year climatological data set that was used in the DEIS was used for the SDEIS (page 2-7 line 3). Is this the same data referred to in Page 5-14 line 22? This may be insufficient to accurately predict ground fog impacts from the project. Furthermore,

this data sent is inconsistent with other reporting periods (see DEIS section 5-58 line 38 e.g.) used elsewhere in the document. (0035-11 [Goldsmith, Aviv])

Response: *This comment refers to information in the NAPS draft ESP EIS that was superseded by the ESP FEIS (NUREG-1811), which was published by NRC in December 2006. NUREG-1811 was revised to incorporate numerous public comments (see NUREG-1811, Appendix E). Dominion was issued an ESP permit (ESP-003) in November 2007 for two units at the NAPS site under the specifications contained in that permit. Environmental issues related to the ESP application from Dominion were identified, evaluated, and resolved, or proposed mitigation actions were identified. The impacts related to ground fog impacts were discussed and resolved in Chapter 5 of the ESP FEIS (NUREG-1811).*

Comment: The cooling tower will shift much of the thermal load from Lake Anna to the atmosphere. Shouldn't mitigation be required to minimize heat island and climate change impacts? Such mitigation could include tree planting and similar regional measures. (0035-47 [Goldsmith, Aviv])

Response: *This comment refers to information in the NAPS draft ESP EIS that was superseded by the ESP FEIS (NUREG-1811), which was published by the NRC in December 2006. The ESP FEIS incorporated and resolved numerous public comments on the draft ESP EIS (see NUREG-1811, Appendix E). Dominion was issued an ESP permit (ESP-003) in November 2007 for two new units at the NAPS site under the specifications contained in that permit. Environmental issues related to the ESP application from Dominion were identified, evaluated, and resolved, or proposed mitigation actions were identified. The information related to atmospheric moisture and cooling towers was discussed and resolved in Chapter 2 of the ESP FEIS (NUREG-1811). Staff will evaluate new and significant information relating to cooling towers in Chapter 5 of the COL SEIS to determine whether the impact level has changed.*

Comment: Overall, the mitigations listed in Section 10 are insufficient. Items such as "consider" plume abatement measures are just one example. Plume abatement should be implemented. (0035-45 [Goldsmith, Aviv])

Response: *This comment refers to information in the NAPS draft ESP EIS that was superseded by the ESP FEIS (NUREG-1811), which was published by NRC in December 2006. The ESP FEIS (NUREG-1811) incorporated and resolved numerous public comments (see NUREG-1811, Appendix E). Dominion was issued an ESP permit (ESP-003) in November 2007 for two units at the NAPS site under the specifications contained in that permit. Environmental issues related to the ESP application from Dominion were identified, evaluated, and resolved, or proposed mitigation actions were identified. The impacts related to plume abatement were discussed and resolved in Chapter 10.2 of the ESP EIS (NUREG-1811).*

5. Comments Concerning Geology

Comment: Regarding seismicity, vibratory ground motion, the variance requested says, Unit 3 does not fall within the ESP and the site safety analysis report. The data show the top of competent rock under unit 3, seismic category 1 structures is higher than assumed for the ESP. The Nuclear Regulatory Commission has responsibility in this matter under 10 CFR 51.105, also under appendix A to part 100, which describes the type of inquiry necessary for the Nuclear

Regulatory Commission to determine site suitability with regard to geologic stability and seismicity. (0034-89 (Zeller, Lou))

Response: *Seismic hazards are outside the scope of the environmental review. As part of the NRC's site safety review, the staff considers whether, taking into consideration the site criteria in 10 CFR Part 100 and information provided by the applicant, such a reactor or reactors can be constructed and operated without undue risk to the health and safety of the public. This comment provides no new and significant information and will not be evaluated further.*

6. Comments Concerning Hydrology – Surface Water

Comment: I am opposed to this partly because of concern for global warming and associated drought issues in the region. It has been shown that this site is not capable of sustaining any more reactors. (0009-1 (Burns, Mecca))

Comment: A major problem for improvement of the conservation and use of Lake water is that there are so many independent entities that have power over any change. LACA is appealing to all these entities to modify their positions so all of us can benefit from improved conservation and water use. (0014-3 (Murphey, Bill))

Comment: We ask that Dominion Resources, Louisa County, Fluvanna County, and the James River Authority all cooperate to enlarge the James River-Zions Cross Road water pipe (to about 60 MGD) and extend the pipe through the town of Louisa to the North Anna Power Plant to permit the use of James River waster for make-up water for the third unit. (0014-5 (Murphey, Bill))

Comment: We ask the NRC to actively work with the other entities to achieve improved water conservation and use. (0014-8 (Murphey, Bill))

Comment: We ask specifically for NRC support to obtain third unit make-up water from the James River. (0014-9 (Murphey, Bill))

Comment: The Lake Anna region has been designated a growth area in the County's Comprehensive Plan. In view of the annual low water level in Lake Anna and potential needs for water sources in the immediate future, Louisa County has recently begun a study to identify potential water supplies for our citizens. Lake Anna and its tributaries have been identified as potential water resources for this ever-growing population center of our County. (0015-7 (Lintecum, Lee))

Comment: Lake Anna is the smallest body of water in the eastern United States that provides water for cooling a nuclear power plant. The two operating reactors are putting a tremendous strain on the water resources of central Virginia, particularly during times of draught. Additional reactors will threaten the water that Virginians use for drinking, agriculture, and recreation. They will put increasing pressure on the ecosystem of the York River Watershed. (0023-7, 0034-153 (Black, Betty))

Comment: The addition of North Anna Unit 3 at North Anna will have a large negative impact on water supply during that timeframe and would, as such, be a major factor in the water control plan. In response to drought conditions in Virginia and in accordance with 9 VAC25-780, the Town of Louisa has entered into a long-term regional water planning process with a completion due date of November 2, 2011.

Unit 3 is to utilize a closed-cycle dry and wet tower cooling system which is expected to have an evaporation rate of 8,707 gallons per minute and a minimum make-up flow rate of 15,376 gpm in Maximum Water Conservation mode. Therefore, Unit 3 alone would have an annual consumptive use of over 8 billion gallons in water conservation mode. Thermoelectric power plants require huge amounts of water and the Surry and North Anna nuclear stations are the two top water users in Virginia. Together, they accounted for 44% of statewide surface water withdrawals; in 2001 the North Anna Power Station alone used 56% more surface water than all of Virginia's agricultural, commercial, manufacturing, mining and public water supply users combined. (0024-11 (Zeller, Lou))

Comment: The NRC needs to stop passing the buck to the state of Virginia and ignoring the water crisis. The previous EIS gave this issue short shrift, stating that it's Virginia's problem and that our DEQ (Dept of Environmental Quality) can simply order Dominion to shut down one or more reactors in the event of low water! Does it make sense to build yet another reactor? What are the chances that all 3 reactors will even be able to operate at the same time? (0031-4 (Crawford, Barbara))

Comment: The previous EIS stated that there were no new or anticipated residential, business, or commercial demands on the watershed near the plant. This is incorrect. It was known, or should have been known based on documentation submitted to you, that there are 3 significant residential developments in the works, including Cutalong which is building a golf course that will require significant water withdrawals from Contrary Creek, one of the feeder streams for the power plant. Note that the DEQ has recommended this permit be granted.

In addition, there are at least 3 businesses, that I know of, near the plant that require significant water use: Argonaut, Martin Marietta, and a shopping center with supermarket at Cutalong, all of which require water in order to operate. Again, the new EIS needs to look closely at these competing demands for water in an area that has very little of it. The new EIS needs to reevaluate the availability of water for a 3rd reactor. (0031-9 (Crawford, Barbara))

Comment: Electric power generation accounts for only about three percent of freshwater consumption in the U.S. The largest portion, 80 percent, is used for irrigation. And the next largest consumption is for residential use, at seven percent. There is nothing unique to nuclear power plants about the possibility of reducing electricity production because of decreased water levels in a drought or a severe heat wave. Whether this happens depends on what is constrained in local, state, and federal permits and the assumption of flow rates, temperatures, and water levels used in the safety analyses. (0034-166 (Stiles, Lisa))

Comment: Central Virginia and especially Louisa County is notoriously drought-prone and water-poor. And Lake Anna is already struggling to sustain reactors 1 and 2 and protect those who live, work, and recreate on and around the lake. Dominion based its location of the power plant on the assumption that there will be drought every 20 years or so. In fact, we have had three major droughts in the past nine years. We are currently experiencing a drought that

began last May that is now 11 months old and shows no sign of abating. There are predictions from the weather experts that this drought will continue throughout the spring and summer. Lake Anna's lake level has dropped in excess of two feet in five of the past years. This fact alone suggests that the environmental impact statement needs to be revisited. (0031-3, 0034-201 (Crawford, Barbara))

Comment: One of the problems has been the idea of the low level of the lake and the small input into the lake. One of the solutions lies in what Louisa County is already doing. That is getting water from the James River and bringing it over to Zion Crossroads. What we would like to do is recommend that NRC work with the many other entities that are involved in the water and have the makeup water for the third unit piped over from the James River. Pipes are going to go all the way to Zion Crossroads. Already have heard about one of the county commissioners bringing water up into the center of the county. What we are saying is for Dominion and Louisa County, Fluvanna County, and the James River Authority, along with NRC, work to have the water makeup brought in from the James River. (0034-223 (Murphey, Bill))

Response: *The comments will be considered in the staff's review of new and significant information related to water use and water availability of the Lake Anna Reservoir.*

Water resource management incorporates the uncertainty of projections of the future supply and demand for water resulting from natural climate variability (e.g., droughts) and man-made demands. The Commonwealth of Virginia (VDEQ), the U.S. Environmental Protection Agency (EPA), and the U.S. Army Corps of Engineers (USACE) have jurisdiction for regulating water use and water quality through Federal and State laws.

Comment: Virginia has been in drought conditions. This has been true at Lake Anna where water levels have been down from 2 to 5 feet in 5 of the past 8 years (3.5 ft this year). (0012-1, 0034-190 (Heino, George and Gerry))

Comment: Dominion is now proposing Unit 3 which per their documentation will double the drought cycle and increase its length from 21 to 40 days (of course this occurs when the lake is most used in the summer months), (up to 24 million gallons a day will be extracted from the Lake). (0012-3, 0034-192 (Heino, George and Gerry))

Comment: We ask that the NRC review the estimates of water inflow to the Lake in relation to the uses proposed for the third unit. This review is in light of what appears to be a climate change in the amount of rainfall. The change in rainfall is shown by the occurrence two 20 year droughts in the past 5 years and by the fact that the Lake release has had to be reduced to the 20 cfs rate 5 times in the past 8 years. (0014-7 (Murphey, Bill))

Comment: The current proposed cooling is a combination dry and wet cooling tower which introduces significant evaporation of water in the Lake Anna reservoir (up to 16.6MGD water in the Maximum Water Conservation Mode). (0016-1 (Remmers, Ken))

Comment: Report on the North Anna Early Site Permit Water Budget Model (Lake WBT) for Lake Anna by Cook et al. January 2005 is insufficient and significant new information can come from an updated water budget model. This study was performed before the change in cooling technique to wet-dry hybrid system and only looked at once pass through and totally wet

cooling. This study should be redone and include a hybrid and totally dry cooling systems. Once again travel time for the water to circulate from the discharge back to the input of the plant was not available for this study. It should be collected at least in the WHTF so that accurate predictions can be made. (0016-4 (Remmers, Ken))

Comment: The study does not address temperature. In response to a question by the NRC, Dominion stated "On a long term basis the average temperature of the cooling lake due to the reduced lake level from Unit 3 has been estimated to be less than 0.1 degrees F." The so called long term effect is not where the problem exists. The hot summer months needs to be evaluated for temperature change. No calculations were provided by Dominion. It was only estimated. The calculations for the summer time periods should be performed by Dominion and independent calculations done by NRC. Units 1 and 2 will heat the water faster and return time for recycling will be increased during the problematic hot summer months. This temperature needs to be investigated more carefully. (0016-5 (Remmers, Ken))

Comment: I am working on getting a knot meter to measure the currents on the hot side. I would expect that we would measure the flow pattern i.e., the two canals, dikes 1,2,3 and exit to the power plant. Question on the temperature increase due to the third reactor. What volume of water do you assume the 100F blowdown is influencing? Where would the temperature be 0.1F higher? Or is there a gradient from plant output (hot side) to plant intake (cold side)? If you use the entire volume of the lake in this calculation, this would be inaccurate. My LACA measurements indicate the temperature of the reservoir at dike three even at 3 meters depth is cooler than that measured temperature at the dam up to 3 meters. Can you provide the calculations that back up this 0.1F increase? Can you assure me that this will be considered as significant new information in the North Anna COLA DEIS? (0018-1 (Remmers, Ken))

Comment: Drought conditions this past summer decreased lake levels as well as downstream flows. Another reactor would increase the amount of water needed to cool the reactors. More hot water released into the Lake would increase evaporation, and further decrease lake levels as well as downstream flows into the North Anna and Pamunkey Rivers. Our water resources need to be protected, not wasted on inefficient and consumptive new and old nuclear units. (0026-15 (AuClair-Valdez, Miguel))

Comment: Low water levels on Lake Anna expose safety hazards to the thousands of recreational users of the Lake, create increased erosion along the entire shoreline, and damage wetlands and other aquatic life. Every effort to mitigate these impacts should be carefully considered. We would like the NRC to focus its attention in the COL Environmental Impact Statement on the impact of low water levels on the Lake, its users, and its ecosystems. (0027-4, 0034-183 (Smith, Doug))

Comment: The third unit will consume 16 million gallons per day even while running in water conservation mode, resulting in the loss of up to 1.4 inches of lake level per month. If the third unit were operating this past year the lake would now be 15 inches lower. Its low point last fall would have been an additional 9 inches -about 4 feet below normal. The existing environmental impact statement assumes one drought every 20 years. We have had two official droughts and reached drought conditions of 248 feet on the lake in 5 of the last 8 years. The ESP EIS estimates that wetlands impact is small because as much wetland is created as is destroyed, but is silent about the impact of what appears to be an almost annual reduction to the 248' level. We ask the NRC to review the water level modeling done in the ESP EIS to incorporate actual

data and do further analysis of deviations from averages. Annual averages do not give accurate indications of summer lake level impacts and 20 year averages have not been consistent with actual experience. Additionally, inflow assumptions have not been field verified and should be reviewed: In dry weather conditions, the already small Lake Anna watershed is significantly reduced by the impoundments caused by Lake Louisa, Lake Orange, and the hundreds of farm ponds and small lakes that impede the transmittal of water to the Lake. Dominion has developed new data including actual surveys of a portion of the wetlands on the Lake. We ask the NRC to carefully review and use this new data to determine if it alters its earlier impact assessments. (0027-5 (Smith, Doug))

Comment: We are concerned about the impact of low water levels. We believe new information is available to better estimate low water level impacts and that there are steps that can be taken to mitigate those impacts. We urge the NRC to focus its new efforts particularly on the modeling and assumptions made in the estimates on water levels, further analysis of impacts on the lake, and potential mitigation efforts. (0027-7, 0034-189 (Smith, Doug))

Comment: The Lake Anna Lake Level Task Force consisting of members from the Friends of Lake Anna, Lake Anna Civic Association and the Lake Anna Boating and Recreation Association have identified the following impacts that will be caused as a result of declining lake water levels. Each of these issues should be reviewed during the DEIS of the COL for the 3rd reactor:

- The creation of many boating hazards with previously submerged items (rocks, stumps, sandbars, etc.) are exposed creating major safety hazards for recreational users when their boats hit these submerged items;
- The water will get hotter faster in the summer months to unsafe water temperatures causing negative health impacts to humans, fish, wildlife, aquatic life, clams and mussels;
- There will be major fire safety hazards for lake homes/communities by making the dry fire hydrants unusable due to the lack of water at the lake intake caused by the decreasing lake water level.
- There will be shoreline stabilization problems and
- There will be negative impacts on many lake businesses as people go elsewhere to recreate and live.

(0028-11 (Ruth, Harry))

Comment: The previous NRC Lake Model in the ESP EIS also provided no details on how the assessment was made when it concluded that the lake water temperature would not rise any more than 0.1F with decreased water levels, and the addition of the proposed reactor 3 wet/dry cooling method. It appears that the EIS lake model did not take into consideration that Lake Anna is unique for providing cooling water for nuclear power plants. Most nuclear power plants receive cooling water from robust fast flowing rivers or oceans with the heated water flowing downstream and is quickly cooled. Lake Anna is unique in that 99% of the water is re-circulated between the power plant and the dam, while only 1% of the water flows over the dam and downstream. As a result, 99% of the recirculated water gets hotter and hotter over the summer months. The NRC lake model for the COL DEIS should be updated to reflect the continuous re-circulation of Lake Anna water and the cumulative effects of Units 1, 2, and 3 operating at the same time, with results being published in the COL DEIS. The projected cumulative impacts of

global warming should also be included in these lake water temperature calculations. (0028-14 (Ruth, Harry))

Comment: The DEIS should examine what is the actual water flow into Lake Anna from all feeder streams during times of drought. Apparently all lake level predictions are based on computer models only and no one has ever taken actual water measurements on water flow from all the feeder streams to Lake Anna during drought conditions. Since Lake Anna is in a very small watershed and outflow over the dam is based on the Lake water level (and the outflow fluctuates during a drought), it is extremely important to know how much water is coming in the lake. The lake has experienced drought conditions during 5 of the past 8 years, so the accurate measure should easily be achieved. It is widely acknowledged that the water sources for Lake Anna are not nearly as substantial or robust as was originally planned. (0028-23, 0033-19 (Ruth, Harry))

Comment: Recreational boaters will find more hazards throughout the lake, with stumps, rocks, sandbars, etc. causing lower units to hit them which in turn could necessitate major repairs or replacement of propellers, other engine components and boat hulls. In addition, the safety of all aboard the boats is severely jeopardized when the boats run into these newly emergent and changing boating hazards when the lake level is below 250 MSL and continues to decrease during drought cycles. Note: Per Dominion and the NRC, these drought cycles will be doubled with the proposed type of 3rd reactor wet/dry cooling method. These increased droughts will result in many human safety risks increasing dramatically. (0028-42, 0033-50 (Ruth, Harry))

Comment: Any substantial change to the lake water level will cause further erosion, as current bulkheads and rip rap and are installed for protecting the shoreline at the 250 MSL lake level. These installed shoreline stabilization techniques coupled with the natural shoreline weeds and tree roots have created the current shoreline stabilization throughout the 13,000 acre lake. If the lake level decreases, then the wave action will cause erosion to occur at a different water level. This increased erosion may create muddy water and the current shoreline stabilization techniques may need to be changed. (0028-45, 0033-54 (Ruth, Harry))

Comment: Dominion has acknowledged that the wet/dry cooling method for the 3rd reactor will use up to an additional 24 million gallons of Lake Anna water each day in the Energy Conservation Mode and up to 16.6 million gallons per day in the Maximum Water Conservation Mode. (0028-5 (Ruth, Harry))

Comment: When boating, the lake users will find more hazards throughout the lake, with stumps, rocks, sandbars, etc. causing lower units to hit them which in turn could necessitate major repairs or replacement of propellers, other engine components and boat hulls. In addition, the safety of all aboard the boats is severely jeopardized when the boats run into these newly emergent and changing boating hazards when the lake level is below 250 MSL and continues to decrease during drought cycles. Note: Dominion and the NRC state these drought cycles will be doubled with the proposed type of 3rd reactor wet/dry cooling method. The doubling of the drought cycle will increase the human safety risks dramatically. (0028-54, 0033-63 (Ruth, Harry))

Comment: Any substantial change to the lake water level will cause further erosion, as current bulkheads and rip rap and are installed for protecting the shoreline at the 250 MSL lake level.

These installed shoreline stabilization techniques coupled with the natural shoreline weeds and tree roots have created the current shoreline stabilization throughout the 13,000 acre lake. If the lake level decreases, then the wave action will cause erosion to occur at a different water level. This increased erosion may create muddy water and the current shoreline stabilization techniques may need to be changed, which will increase the cost to the homeowner to modify their existing stabilization technique. (0028-55, 0033-64 (Ruth, Harry))

Comment: The Virginia Dept of Environmental Quality (VDEQ) Dept of Water Resources and the Dept of Game & Inland Fisheries (DGIF) have previously indicated that the North Anna watershed is too small to allow large water withdrawals. These could adversely affect the beneficial users of the North Anna and Pamunkey River which eventually flows into the Chesapeake Bay and the Atlantic Ocean. The DGIF & VDEQ analyses and Dominion acknowledges that the 3rd reactor would increase the drought cycle and cause decreased water flows during March, April; May; June, July, August and September (7 months) of each year. Dominion has stated that the drought cycle will double with the addition of the 3rd reactor wet/dry cooling method. The proposed cooling method will cause the average drought period to increase from 21 to over 40 days per year (most likely during the summer months). Note that lake levels have decreased below 248 MSL in five out of the last eight years. Dominion has stated that with the addition of reactor 3 that a drought would only occur each 10 years. Our current drought started in May 2007 when the lake level fell below 250 MSL. The DEIS should explore facts versus Dominion predictions with lake levels decreasing below 250 MSL and related impacts to the public, fish, clams/mussels, and wildlife. (0028-6 (Ruth, Harry))

Comment: We (Friends of Lake Anna) are very concerned that that the declining water levels caused by natural drought cycles, global warming and water release rates to downstream users will be exasperated by the addition of a 3rd nuclear reactor with wet/dry cooling towers that will cause an additional evaporation rate of up to 28 million gallons per day and doubling of the drought cycle that will cause the water to decline further and the water to get hotter faster. (0028-60, 0033-69 (Ruth, Harry))

Comment: Water level decrease. - According to the Nuclear Regulatory Commission Environmental Report (See Page 5.12) says: Because the Unit 3 Cooling tower would consume water (up to 28 Million Gallons per day (see section 3.2), the volume of water in Lake Anna would be reduced (compared to operation of only Units 1 and 2 alone) when the lake level elevation is below 250 ft MSL. Assuming the heat rejection rate from operations of Units 1 and 2 remains constant, the reduced volume of water in the lake caused by Unit 3 operation would result in a faster increase of lake water temperature (See Page 5.12). (0028-63 (Ruth, Harry))

Comment: The Va. Dept of Water Resources estimated that with the 3rd unit operating, the lake would decline at an additional rate of approximately 1.1 inches per month and the current drought started in May 2007. When the lake was recently down about 30 inches, with the 3rd reactor wet/dry cooling method operating it would have been down about another 12 inches for a total of about a 42 inch drop in water level. Dominion states that when the lake is down to 242 ft., the reactors must be shut down. If the 3rd reactor as proposed with wet/dry cooling towers is operational, one wonders whether Lake Anna can sustain three reactors running simultaneously, with the possibility of an 8 foot drop in water levels. (0028-64, 0033-73 (Ruth, Harry))

Comment: The previous NRC Lake Model in the ESP EIS has compared the once through cooling method (used by units 1 & 2) with total wet cooling only and also used 20 year averages to compute modeling results. This lake model should be updated to the current proposed unit 3 wet/dry cooling method and use median results for the past 20 years, so all the highs & lows are defined, including the most recent and current drought levels. VDEQ's Dept of Water Resources has estimated that the lake levels will decline approximately 1.1 inches per month during a drought. During the current that started in May 2007, this would translate into decreased water level of over 1 foot today. (0028-9 (Ruth, Harry))

Comment: The proposed 3rd reactor will contribute to further low levels at the lake, contrary to Dominion's statements that the hybrid cooling system will not use additional water. According to Dominion's own numbers, the proposed cooling system will cause up to 24 million gallons of water to evaporate every day. Again, given that Lake Anna is struggling to sustain 2 reactors and that the ongoing low water levels are causing a myriad of problems for the people who live and work at the lake as well as the many people of the county and beyond who use Lake Anna for boating, fishing, swimming, etc., does it really make sense to build another reactor there? (0031-5, 0034-203 (Crawford, Barbara))

Comment: The previous NRC Lake Model in the ESP EIS also provided no details on how the assessment was made when it concluded that the lake water temperature would not rise any more than 0.1F with decreased water levels, and the addition of the proposed reactor 3 wet/dry cooling method. It appears that the EIS lake model used averaging that may have masked temperature maximums in the summer months and did not take into consideration that Lake Anna is unique for providing cooling water for nuclear power plants. Most nuclear power plants receive cooling water from robust fast flowing rivers or oceans with the heated water flowing downstream and is quickly cooled. Lake Anna is unique in that 99% of the water is recirculated between the power plant and the dam, while only 1% of the water flows over the dam and downstream. As a result, 99% of the re-circulated water gets hotter and hotter over the summer months. Note that with only Units 1 & 2 operating, water temperatures have previously been recorded at over 104F in the cooling lagoons and over 93F on the main reservoir. The hot water is where humans recreate and where fish, wildlife, clams/mussels, and aquatic life share the water in what appears to be unsafe conditions. We request an upper water temperature limit in Fahrenheit degrees on the discharge of the water. (0033-11 (Ruth, Harry))

Comment: The NRC's lake model should also be updated to the current proposed unit 3 wet/dry cooling method and use accurate results for the past 20 years, so all the high's & low's are defined (not 20 year averages), including the most recent and current drought levels. It also does not include all relevant data for the current proposed wet/dry cooling method. The previous NRC Lake Model in the ESP EIS has compared the once through cooling method (used by units 1 & 2) with total wet cooling only and also used 20 year averages to compute modeling results. The model apparently does not take into consideration the various times of the year, particularly the high water temperatures (over 104F) during the hot summer months when the environmental impact is the greatest for the public, fish and wildlife. The lake model should be updated to the current proposed unit 3 wet/dry cooling method and use actual high temperatures in the summer and low temperatures in the winter for the past 20 years, so all the high's & low's are defined, including the most recent and current drought levels. VDEQ's Dept of Water Resources has estimated that the lake levels will decline approximately 1.1 inches per month during a drought, while others have estimated 1.4 inches. During the current drought

that started in May 2007, this would translate into an additional decreased water level of between 13 to 17 inches by April 08. (0033-12 (Ruth, Harry))

Comment: The NRC's Report on the North Anna Early Site Permit Water Budget Model (Lake WBT) for Lake Anna by Cook Et al January 2005 is insufficient and significant new information will come from an updated water budget model. This study was performed before the change in cooling technique for unit 3 to a combination wet-dry hybrid system and only looked at once pass through and totally wet cooling. This study should be redone and include a hybrid and totally dry cooling systems. The old study indicated that travel time for the water to circulate from the discharge back to the input of the plant was not available. This is critical information and it should be collected at least in the WHTF (cooling lagoons) so that accurate predictions can be made. The study does not address water temperature. In response to a question by the NRC, Dominion stated On a long term basis the average temperature of the cooling lake due to the reduced lake level from Unit 3 has been estimated to be less then 0.1 degrees F. The so call long term effect is not where the problem exists. The hot summer months needs to be evaluated separately for temperature change. No calculations were provided by Dominion. It was only estimated. The calculations for the summer time periods should be performed by Dominion and the NRC should also perform its own independent calculations to verify the data. Units 1 and 2 will heat the less water caused by unit 3 evaporation much faster and the return time for recycling will be shortened during the problematic hot summer months. This heated water temperature needs to be investigated more carefully, as it is the root cause for many of the public, fish and wildlife concerns. Annual averages do not give accurate indications of summer lake level impacts and 20 year averages have not been consistent with actual experience. (0033-13 (Ruth, Harry))

Comment: Impacts of Declining Water Levels in Lake Anna. Dominion has acknowledged that the wet/dry cooling method for the 3rP reactor will use up to an additional 24 million gallons of Lake Anna water each day in the Energy Conservation Mode and up to 16.6 million gallons per day in the Maximum Water Conservation Mode. Both of these methods will cause Lake Anna to have declining water levels, particularly during the summer months. The accumulative environmental issues as defined in subparagraphs (a) through (o) below caused by the projected annual low water levels in Lake Anna as a result of the 3rd reactor cooling method is LARGE and therefore mitigation efforts for alternative cooling methods are required. (0033-2 (Ruth, Harry))

Comment: The NRC should look at the impact to the public, fish, clams/mussels and wildlife as a result of increased droughts caused by the proposed wet/dry cooling method proposed. The Virginia Dept of Environmental Quality (VDEQ) Dept of Water Resources and the Dept of Game & Inland Fisheries (DGIF) have previously indicated that the North Anna watershed is too small to allow large water withdrawals. These could adversely affect the beneficial users of the North Anna and Pamunkey River which eventually flows into the Chesapeake Bay and the Atlantic Ocean. The DGIF & VDEQ analyses and Dominion acknowledges that the 3d reactor would increase the drought cycle and cause decreased water flows during March, April; May; June, July, August and September (7 months) of each year. Dominion has stated that the drought cycle will double with the addition of the 3rd reactor wet/dry cooling method. The proposed cooling method will cause the average drought period to increase from 21 to over 40 days per year (most likely during the summer months). Note that lake levels have decreased below 248 MSL in five out of the last eight years. Dominion has stated that with the addition of reactor 3 that a drought would only occur each 10 years. Our current drought started in May 2007 when

the lake level fell below 250 MSL and did not increase to 250 MSL for 1 year in April 2008. The DEIS should explore facts versus Dominion predictions with lake levels decreasing below 250 MSL and related impacts to the public, fish, clams/mussels, and wildlife. (0033-20 (Ruth, Harry))

Comment: The Lake Anna Lake Level Task Force consisting of members from the Friends of Lake Anna, Lake Anna Civic Association and the Lake Anna Boating and Recreation Association have identified the following impacts that will be caused as a result of declining lake water levels.

- The creation of many safe boating hazards when previously submerged items (rocks, stumps, sandbars, etc.) are exposed creating major safety hazards for recreational users when their boats hit these submerged items.
- The water will get hotter faster in the summer months to unsafe water temperatures causing negative health impact to humans, fish, wildlife, aquatic life, clams and mussels.

(0033-3 (Ruth, Harry))

Comment: The accumulative environmental impacts caused by the projected annual low water levels in Lake Anna as a result of the 3 reactor cooling method are LARGE and therefore mitigation efforts for alternative cooling methods are required. (0033-43 (Ruth, Harry))

Comment: We the undersigned persons who recreate on the 13,000 acre Lake Anna Virginia and/or own property adjacent to the main reservoir and/or cooling lagoons of the lake or nearby areas and/or own-or manage businesses that are affected by Lake Anna are very concerned about the declining water levels, increased water temperatures during the summer months and associated impacts to all forms of recreation in/on Lake Anna. We are also concerned that these declining water levels will:

- (a) create many boating hazards with previously submerged items (rocks, sandbars, etc.), and create major safety hazards for recreational users when their boats hit these submerged items;
- (b) cause the water to get hotter faster in the summer months to unsafe-water temperatures causing negative impacts to humans, fish, wildlife, aquatic life, clams and mussels;
- (c) create a major fire safety hazard for lake homes/communities by making the dry fire hydrants unusable;
- (d) increase shoreline stabilization problems and
- (e) negatively impact many lake businesses with loss of customers.

(0033-84 (Ruth, Harry))

Comment: Dominion states the addition of the 3 rd nuclear reactor, will cause up to an additional 24 million gallons per day to be evaporated from the lake causing a doubling of the drought cycle and further lake level declines. (0033-85 (Ruth, Harry))

Comment: The NRC lake model for the COL DEIS should be updated to reflect the continuous re-circulation of Lake Anna water and the cumulative effects of Units 1, 2 & 3 operating at the same time, with results being published in the COL DEIS. (0033-9 (Ruth, Harry))

Comment: And the drought conditions in the past summer decreased the level, the lake levels, as well as downstream flow. Another reactor would simply increase the need for cooling water.

More hot water will be released in the lake, which will increase evaporation and further decrease lake levels as well as downstream flow into the North Anna and Pamunkey Rivers. (0034-159 (AuClair-Valdez, Miguel))

Comment: Lake Anna has hundreds of stumps and boulders that were not removed prior to the hurricane filling the lake. When the lake level starts to decline below the 250-foot level, many hazardous conditions are created. The reduced water level has already caused numerous boating accidents on the lake and from these submerged objects. (0034-174 (Jones, Dale))

Comment: According to Dominion Resources, a proposed wet/dry cooling system will remove up to million additional gallons of water from the lake per day except when they are in the water conservation mode. In the conservation mode, they will evaporate 16 million gallons of water a day. This would cause the lake water level to drop more than 12 inches of water annually. During the past ten years, we experienced several periods of drought that reduce the lake levels from the requisite 250 to below 245 feet level. During the drought in 2007, the lake level dropped and a half feet. Further adding to the problem is a requirement of dumping a minimum of 26 million gallons of water per day from the lake to supply the businesses located below in Hanover County. (0034-176 (Jones, Dale))

Comment: Presently there are over 40 million gallons of water being removed daily from the lake over the dam. And the lake is still below 250 feet. A comprehensive study should be completed to evaluate the amount of water that is flowing into the lake when drought conditions prevail. Obviously for the last years, there has been insufficient water flow to maintain the 250-foot level during the critical summer months. (0034-177 (Jones, Dale))

Comment: The third unit will consume 16 million gallons a day in the water conservation mode, resulting in the loss of 1.4 inches of lake level per month. If the third unit were operating this last year, the lake would currently be 15 inches lower. Its low point last fall would have been an additional nine inches, making this more than four feet below normal. The existing environmental impact statement assumes one drought every 20 years. We have had 2 official droughts and reached the drought condition of 248-foot level on the lake in 5 of the last 8 years. Clearly the water level modeling is suspect. (0034-184 (Smith, Doug))

Comment: The ESP EIS claims that wetlands impact is small because as much wetland is created as is destroyed, but is silent about the impact of what appears to be an almost annual reduction to the 248-foot level. The NRC should review modeling done in the environmental impact statement to incorporate new actual data and do further analysis of deviations from the 20-year averages. Additionally, inflow assumptions have not been field-verified and should be reviewed. Dominion has developed new data, including actual surveys of a portion of the wetlands on the lake. We ask that NRC carefully review and use this new data to determine if it alters its earlier impact assessment. Additional steps can and should be taken to mitigate low water level impact on safety, erosion, and ecosystems on the lake. (0034-186 (Smith, Doug))

Comment: NRC's report on the North Anna early site permit water budget model, lake WHTS, for Lake Anna in January of 2005 is insufficient, and significant new information can come from an update water budget model. This study was performed before the change in the cooling technique to wet/dry cooling hybrid systems, and only looked at once passthrough and totally wet cooling. The study should be redone to include hybrid and totally dry cooling systems.

Once again, this study indicated that the travel time for the water to circulate from the discharge, all the way back to the intake of the plant, was not available for this study. This critical information should be collected at least in the waste heat treatment facility, so that accurate predictions can be made on that study. (0034-36 (Remmers, Ken))

Comment: The study does not address temperature. In response to a question by NRC, Dominion stated on a long-term basis the average temperature of the cooling lake, due to the reduced lake level from Unit 3, has been estimated to be less than one-tenth of a degree Fahrenheit. The so-called long-term effect is not where the problem exists. The hot summer months need to be evaluated for temperature change. No calculations were provided by Dominion. It was only estimated. The calculation for the summertime period should be performed by Dominion, and independent calculations done by NRC. Unit 1 and 2 will heat the water, less amounts -- less amounts of water faster, and return time for recycling will be shortened during the problematic hot summer months. This temperature needs to be investigated more carefully. (0034-37 (Remmers, Ken))

Comment: Water level changes will be heightened during the period July -September. Since this coincides with increased summer recreational use of the lake, even minor changes could have MODERATE or HIGH impacts. (0035-21 [Goldsmith, Aviv])

Response: *The NRC staff will evaluate new information relating to inputs to the water budget model and any resulting changes to impacts of plant operation on Lake Anna reservoir lake level and discharge to the North Anna River. Inputs to the water budget model include plant water use, plant discharges, meteorology (precipitation), and stream-flow information. Lake-level and thermal impacts were previously addressed in the ESP FEIS (NUREG-1811); therefore, the COL SEIS analysis will focus on new and significant information that might change the original impact level. Water-related impacts of plant operation will be addressed in Section 5.3 of the COL SEIS. The results of the lake-level elevation and discharge evaluation will also be used to evaluate ecological, socioeconomic, and human health impacts of plant operation, which will be addressed in Sections 5.4, 5.5, and 5.8, respectively, of the COL SEIS.*

Comment: A problem with Lake water quality is caused by the discharge of sewage plant effluent into the Lake. We understand that as part of the third unit, Dominion is planning to build an additional sewage treatment plant. They plan to discharge more sewage effluent into the Lake. This is environmentally bad. There is so little inflow to the Lake and thus so little flow-through. The small flow-through means that the sewage effluent accumulated over time to unacceptable levels. (0014-10 (Murphey, Bill))

Comment: We request that there be no discharge of sewage effluent into the Lake. We request that Dominion follow the example of the Cutalong Project and use the sewage effluent as irrigation water or holding pond water on their own site. We request that the NRC support this reduction in environmental impact of the third unit. (0014-11 (Murphey, Bill))

Comment: Dominion has proposed a new Waste Treatment Facility for unit 3. This is new and significant information. The effluent would be discharged into the WHTF of Lake Anna. There current waste treatment facility for unit 1 and 2 already discharges in the lake and we would oppose a new discharge. Why can't the current treatment plant support the new unit 3? Is it up to capacity? Is the size of the proposed plant larger than needed or would it replace the unit 1 and 2 treatment plant? (0016-6 (Remmers, Ken))

Comment: In order to support the operation of a new unit and the 750 workers hired to operate and maintain it, Dominion plans to build a second waste treatment plant to locally process human and other waste. The treated effluent of that plant, like the effluent from the existing waste treatment facility, would be dumped into Lake Anna at the discharge canal. Lake Anna is not a free flowing stream. The added nutrients from the effluent will remain in the lake and accumulate over years. The buildup of nitrates can produce algae blooms that produce fish kills and encourage plant growth such as hydrilla that can choke entire bays. (0027-2 (Smith, Doug))

Comment: An alternative [sanitary waste treatment] system that would store the effluent and use it to water grass or wooded areas is available. It is currently in place in the town of Louisa and is planned for the golf community called Cutalong on Lake Anna. The ESP EIS listed impact on water quality as unresolved. Due to the lack of information about the impact of these other waste streams flowing into the WHTF (Sec 5.3). We ask the NRC to review the cumulative impact of dumping sewage effluent into Lake Anna. We would like for Dominion to consider an alternative method and include the existing sewage treatment facility effluent so that no effluent is dumped into the lake at all. (0027-3 (Smith, Doug))

Comment: We [Lake Anna Civic Association] are concerned about the dumping of sewage effluent into the lake and the impact of low water conditions on safety, erosion, and aquatic life. We encourage the consideration of a new alternative to preclude the dumping of effluent. (0027-6 (Smith, Doug))

Comment: The DEIS should examine the effects of adding additional treated sewage effluent from the requested expansion of the Dominion sewage treatment plant as needed for the influx of new workers who will be hired to construct the new reactor at Lake Anna. This sewage effluent will then be dumped into Lake Anna water and re-circulated throughout the lake with the current re-circulation flow. Note that 99% of the lake water is currently re-circulated between the power plant and the dam and only 1% runs over the dam. This water is heated by the power plant, which increases the risk to humans who swim and recreate in the water to increased biological risks from the sewage effluent. See attachment 2 for potential health risks from hotter water in Lake Anna. (0028-24 (Ruth, Harry))

Comment: The NRC in its DEIS should examine the effects of the new and significant information of Dominion requesting to put additional treated sewage effluent from the requested expansion of the Dominion sewage treatment plant as needed for the influx of new workers who will be hired to construct and/or operate the new reactor at Lake Anna. The NRC must look at the accumulative affect of dumping sewage effluent into the lake. This treated sewage effluent will then be discharged into the cooling lagoons (WHTF) of Lake Anna water and heated up to 104 degrees during the summer months. While effluent may meet standards set for sewage discharge, nitrates in the water can accumulate and cause runaway plant growth that clogs streams and impedes navigation. In addition, the sewage effluent being heated to high temperature (over 100 degrees F) offers the opportunity for an increased proliferation of bacteria in the water where people swim and recreate on a routine basis. This water is then re-circulated throughout the main reservoir backup to the power plant with the current re-circulation flow where many other people recreate. Note that 99% of the lake water is currently re-circulated between the power plant and the dam and only 1% runs over the dam. See Attachment B for Potential Human Health Impacts. (0033-14 (Ruth, Harry))

Comment: We are opposed to any additional sewage effluent being discharged into Lake Anna. Why can't the current treatment plant support the new unit 3? Is the current plant up to capacity? Why can't innovative techniques be used to preclude putting the effluent into the lake and not create potential serious health hazards and runaway aquatic plant growth?
(0033-15 (Ruth, Harry))

Comment: Dominion plans to build a second waste treatment plant to locally process human and other wastes. The treated effluent of that plant, like the effluent from the existing waste treatment facility, would be dumped into Lake Anna at the discharge canal. Lake Anna is not a free-flowing stream. The added nutrients from the effluent will remain in the lake and accumulate over the years. The build-up of nitrates can produce algae blooms that produce fish kills and encourage plant growth, such as Hydrilla, that can choke entire bays. An alternative system that would store the effluent and use it to water grass or wooded areas is available. It is currently in place in the Town of Louisa and is planned for the golf community called Cutalong on Lake Anna. We ask the NRC to review the cumulative impact of dumping sewage effluent into Lake Anna. This is legitimate because it is an unresolved issue in supplement number 1. And, as far as I can tell, we have never looked at the accumulated effect of the dumping of the sewage effluent. We would like Dominion to consider an alternative method and include the existing sewage treatment facility effluent so that no effluent is dumped into the lake at all.
(0034-182 (Smith, Doug))

Comment: We are concerned about the dumping of sewage effluent into the lake and the impact of low water conditions on safety, erosion, and aquatic life. We ask the NRC to review long-term impact, and we ask Dominion to consider a new alternative to include the dumping of effluent. (0034-188 (Smith, Doug))

Comment: Dominion has proposed a new waste heat treatment facility for Unit 3. This is new and significant information. The effluent would be discharged into the waste heat treatment facility of Lake Anna. The current waste treatment facility for Units 1 and 2 already discharge into the lake, and we would oppose a new discharge. Why can't the current treatment plant support the new Unit 3? Is it up to capacity already? Is the size of the proposed new waste treatment plant larger than needed? Or would it replace the Units 1 and 2 treatment plant? Why can't new techniques be used where the effluent is not dumped into the lake?
(0034-38 (Remmers, Ken))

Comment: When you talk about opposing a new discharge effluent path into the lake, that you don't want to put the water back in the lake, it seems to me contradictory if you're going to say that and then talk about water balanced studies, and so on and so forth. If you're not going to put the water back in the lake, what are you going to do for it? What are you going to do with it? You're going to increase how much water you're taking out of the lake. And if the water is clean enough and meets the government's standards and the EPA standards and the state standards, in all the studies that are done, why wouldn't you put the water back in the lake so that we can use it for the water table, so we can use it for the downstream effluence? Why would you just randomly say, no, don't put this water back in the lake, and somebody else figure out what to do with it. (0034-74 (Taylor, Kelly))

Response: *The NAPS Unit 3 COL application contains new information regarding a proposed sanitary treatment plant that will discharge effluent at the same location as other plant effluent*

discharges. This information will be evaluated by NRC staff to determine impacts to water quality, which will be addressed in Section 5.3 of the COL SEIS. The NRC does not have the authority to set water quality limits; plant effluent discharges will continue to be regulated by the VDEQ. Related ecological and human health impacts will be addressed in Sections 5.4 and 5.8, respectively, of the COL SEIS.

Comment: We ask that the seasonally adjusted level of the Lake to be increased to 250 feet 3 inches above MSL (mean seal level). This will conserve water for use during low water times. (0014-4 (Murphey, Bill))

Comment: We ask that the dam release requirement be reduced to 20 cfs at a Lake level of 250 feet 3 inches. The below dam inflow study will show that the contribution of the Lake is not essential to the downstream user needs. This change will conserve water for dry time use. (0014-6 (Murphey, Bill))

Comment: For example, the lake levels should not be raised which could cause property damage to lake owners in order unduly to quarantine more water so that it can be released later to satisfy the downstream users at different times of the year. Likewise the consumptive use of water and increased needs for water caused by population growth by downstream users should not cause the lake levels to be dropped so more water flow could be released to downstream users and then create mud flats throughout the lake. (0028-26 (Ruth, Harry))

Comment: For example, the lake levels should not be raised greater then 3 inches, which could cause property damage to lake owners in order unduly to quarantine more water so that it can be released later to satisfy the downstream users at different times of the year. Likewise the consumptive use of water and increased needs for water caused by population growth by downstream users should not cause the lake levels to be dropped so more water flow could be released to downstream users and then create mud flats throughout the lake during droughts. (0033-34 (Ruth, Harry))

Comment: North Anna is supplied by one of the smallest bodies of water supporting a nuclear power plant. And if we add an additional more than 50 percent, unless Dominion has figured a way to suspend the laws of physics and chemistry, we are going to have hotter water, we are going to have less water, and we are going to have lower levels in the lake. Now, a lot of this can be mitigated by keeping the water levels higher, allowing less water to go out over the dam, et cetera, and I would recommend that the NRC require Dominion to come up with proven solutions to the low water conditions before the permits are issued. (0034-222 (Schaible, Dennis))

Comment: It is our understanding that when the MWC mode is in effect, it will stay there until the water level of the reservoir goes above 250 ft msl. Why on page 2-134 of the FSAR does Dominion say While in the MWC mode, the dry tower fans may be turned off to provide additional electrical output during hours of peak demand? This is totally against the idea of conserving water and the MWC mode. (0036-2 [Remmers, Ken])

Response: *The NRC staff will evaluate new and significant information relating to impacts of plant operation on Lake Anna reservoir lake level and discharge to the North Anna River below the dam. Water-related impacts of plant operation will be addressed in Section 5.3 of the COL SEIS; however, adjustments to reservoir operations are under the authority of the Commonwealth of Virginia, not the NRC.*

Comment: In light of the NRC concern with the environmental impact of the third unit, these requests are to reduce the environmental impact of the construction and operation of the third unit. We want to improve the conservation of the quantity and quality of water in Lake Anna. (0014-2 (Murphey, Bill))

Comment: I want to emphasize again my outrage that Dominion continues to discharge water without an upper temperature limit into Lake Anna's cooling lagoons. Dominion's activities are not in compliance with the federal Clean Water Act which protects surface waters of the U.S. The ill effects of high water temperatures in Lake Anna have been well documented. (0017-9 (Day, Elena))

Comment: Water temperatures have reached as high as 106 degrees F in the Lake Anna cooling lagoons and 93 degrees in the main lake. There are no limits on these water temperatures. (0023-3 (Black, Betty))

Comment: Last Oct. the VA Dept. of Environmental Quality reissued the 316A variance to Dominion which permits the utility to continue to dump water used to cool the nuclear generating units into Lake Anna without an upper temperature limit. (Last summer temperatures in the so called cooling lagoons reached 106 F), This is illegal according to the Clean Water Act since the waters of Lake Anna and the streams that feed into the lake are recognized as surface waters of the U.S. Currently People's Alliance for Clean Energy and Blue Ridge Environmental Defense League as well as three Louisa County residents are appealing this decision of VADEQ. (0026-14 (AuClair-Valdez, Miguel))

Comment: The U.S. Clean Water Act appears to have more safeguards for fish, wildlife, aquatic life, clams and mussels than for the protection of humans and recreation. VDEQ assumes that if the fish are o.k. then everything else must be o.k. There are currently no water temperature limits in Fahrenheit imposed in the current Water Discharge permit and its 316A Variance for the North Anna plant for the current 2 reactors that can be measured by the public. Dominion can currently heat the entire lake to any temperature it desires with no penalties. (0028-62 (Ruth, Harry))

Comment: Lake Anna has currently experienced water temperatures exceeding 104 degrees F in some areas in the cooling lagoons and over 93F on the main reservoir with just two nuclear reactors operating. The NRC says (1) With the addition of the proposed 3rd reactor cooling method (a combination air and water cooling system), that the lake water will evaporate at a rate of up to 24 millions gallons per day and (2) the water temperature will get hotter faster as the water level declines. The VDEQ Water Resources Dept says the water level will decline at an additional rate of about 1.1 inches per month when the 3rd unit is operating and the water level is below 250 MSL. (0028-70, 0033-79 (Ruth, Harry))

Comment: Question? -- Can we take the chance that one of our loved ones will get sick or die because the water temperatures in Lake Anna which are currently at high levels in the summer months and will be increased further because of the up to 24 million gallons a day additional evaporation from the 3rd reactor cooling method than what they currently are from the existing two reactors?? Why? Because the water level will decline and there will be less water to cool the heat from the two current reactors causing the water to get hotter starting earlier in the summer and increasing temperatures throughout the summer and extending further into the fall.

A simple analogy for the heating of water faster can be made with the fact that heating a cup of coffee will occur much faster than for heating a whole cup of coffee. If Dominion changed its proposed 3rd reactor cooling method to dry cooling (which they proposed for unit 4 and is currently used in many places throughout the world), then the 3rd reactor cooling method would not further impact the hot water temperatures during the summer months in Lake Anna. (0028-73, 0033-82 (Ruth, Harry))

Comment: The NRC in its DEIS should evaluate the new significant information from other U.S. states and governing bodies regarding national trends to reduce the water temperatures and the use of water from power plants to protect humans, fish and wildlife. West Virginia in 2008 issued a draft permit for Mt. Storm in the future (which is similar to Lake Anna) that imposed different water temperature restrictions measured in Fahrenheit degrees depending on the time of year. (In winter 1 Dec -30 Apr -a maximum discharge water temperature of 73 degrees F (with a 5 degree differential between input and output, while in the summer (1 May - 30 Nov) a maximum discharge water temperature of 87 degrees F, with no more than a 5 degree temperature differential between input and output. Likewise New York is permitting only dry cooling on any new power plants on the Hudson River to insure that no additional heat is introduced to the Hudson River. Arizona and California are also imposing very strict restrictions on the use of water and adding heat to the water. Since the 3rd unit at North Anna will be in existence for probably the next 40 to 50 years, now is the time for Dominion to make the necessary changes in its cooling methods to reduce water consumption to be in front of or in line with the national curve and negate any additional heat being placed in Lake Anna to protect the Lake Anna environment for future generations. (0033-16 (Ruth, Harry))

Comment: The U.S. Clean Water Act appears to have more safeguards for fish, wildlife, aquatic life, clams and mussels than for the protection of humans and recreation. VDEQ assumes that if the fish are o.k. -then everything else must be o.k. There are currently no water temperature limits in Fahrenheit imposed in the current Water Discharge permit and its 316A Variance for the North Anna plant for the current 2 reactors that can be measured by the public. Dominion can currently heat the entire lake to any temperature it desires with no penalties. (0033-71 (Ruth, Harry))

Comment: Water level decrease. -According to the Nuclear Regulatory Commission Environmental Report (See Page 5.12) says: Because the Unit 3 Cooling tower would consume water (up to 28 Million Gallons per day -see section 3.2), the volume of water in Lake Anna would be reduced (compared to operation of only Units 1 and 2 alone) when the lake level elevation is below 250 ft MSL. Assuming the heat rejection rate from operations of Units 1 and 2 remains constant, the reduced volume of water in the lake caused by Unit 3 operations would result in a faster increase of lake water temperature (See Page 5.12). (0033-72 (Ruth, Harry))

Comment: In October 2007, the Virginia Department of Environmental Quality (VDEQ) has granted a water discharge permit to Dominion that has imposed no water temperature limits in Fahrenheit that can be measured by the public at the North Anna plant for the current two operating nuclear units. In addition, VDEQ has granted Dominion a 316A Variance from the U.S. Clean Water Act which allows them legally to heat the entire lake to any temperature that they desire without any penalties. Microcystis Algae Bloom Facts -Note that Algae Blooms occur in Lake Anna every summer when the lake water gets hot. (0033-78 (Ruth, Harry))

Comment: While I was Manager of Water Quality at Dominion, the 316(A) temperature study of Lake Anna was completed and approved by the regulatory agencies. The company has agreed to change their water cooling design to a closed loop, hybrid system, instead of an open system, to minimize thermal impacts on Lake Anna. (0034-103 (Marshall, Burton))

Comment: I am outraged that Dominion continues to discharge water without an upper temperature limit into Lake Anna's cooling lagoons. Dominion's activities are not in compliance with the federal Clean Water Act, which protects surface waters of the United States. And, indeed, the waters of Lake Anna are surface waters of the United States. The ill effects of high water temperatures in Lake Anna have been well-documented. It's irresponsible again for Dominion and the NRC to continue with an application to site new nukes on an already environmentally and hydrologically stressed watershed. And soon you're going to find us humans competing with the nuclear reactors for water, for our sustenance. (0034-142 (Day, Elena))

Comment: The North Anna Power Station already threatens the water resources of this region. One, water temperatures have reached as high as 106 degrees Fahrenheit in the Lake Anna cooling lagoons and 93 degrees in the main lake. There are no limits on these water temperatures. (0034-149 (Black, Betty))

Comment: Last October the Virginia Department of Environmental Quality reissued the 316(a) variance to Dominion, which permitted the utility to continue to dump water used to cool the nuclear generating units at Lake Anna, which have been discussed. There has been reference to the cooling lagoon, reaching temperatures of 106 degrees Fahrenheit. Now, as a retired administrative law judge, it would seem to me that if we go with the same standards that the applicants used when they first came in, we are missing the point. I can't imagine that Dominion came in and say, You know, we've got this great cooling system. We're going to have 106-degree Fahrenheit water in our cooling lagoons. I can't imagine they said that. So they have proven, in fact, that there are some real suspect operations in terms of what they are doing. So if the NRC again uses this neutral kind of standard with somebody who already has one strike against them, they're missing the boat. They've got to say, Look, the applicant has not performed satisfactorily in the past. The stakes are so high we are actually going to have a presumption against them. And until they can come up with convincing evidence to the contrary, they're not going to get a pass from us. (0034-157 (AuClair-Valdez, Miguel))

Comment: The other thing is that this temperature is in violation of the Clean Water Act since Lake Anna, as has been pointed out, is surface water of the U.S. (0034-158 (AuClair-Valdez, Miguel))

Comment: Now that the economically simplified boiling water reactor has been selected by Dominion, the issue of cooling the third reactor can now carefully be reviewed. The once passthrough cooling was rejected in the EIS ESP because of the water temperature. It heated the lake up too much. The current proposed cooling is a combination of wet/dry cooling tower, which introduces significant evaporation of the water in Lake Anna reservoir, up to 16.6 million gallons a day of water in the maximum water conservation mode. Several state agencies -- DGIF, VDEQ, Division of Water Resources, DCR, and many other public sources such as the Lake Level Task Force Committee, which is a group of organizations and associations around the lake -- LACA, FOLA, LABERA, and many other businesses around the lake -- have objected

to this high evaporation rate. It takes away the water in the lake very significantly.
(0034-31 (Remmers, Ken))

Comment: Plan 3 was considered in a stand-alone condition. No consideration was made for the alternative of installing additional water conservation measures to the existing power reactors of Unit 1 and 2, to compensate or mitigate against the significant, adverse, incremental impacts caused by Unit 3. (0034-34 (Remmers, Ken))

Comment: The new reactor at North Anna will not increase the temperature of Lake Anna. After concerns were raised by -- of the potential thermal impact of a new reactor, Dominion committed to change the design to include cooling towers. (0034-51 (O'Hanlon, Jim))

Comment: The adverse impact of the new unit on Lake Anna will be minimal. Dominion has already committed to install a \$200 million cooling system to that new unit, so that the power station will not increase the temperature of the water it feeds into the lake.
(0034-7 (Watkins, John))

Comment: Chapter 3 mentions blowdown and other discharges. Will the applicant stipulate to a 100 degree thermal discharge limit as an operating permit condition as requested by the Waterside Property Owners Association? Will the applicant stipulate to a 104 degree limit at the end of the discharge canal as requested by Friends of Lake Anna? 0035-17 [Goldsmith, Aviv]

Comment: Wouldn't the installation of new unit(s) be an opportunity to mitigate some of the existing problems with water temperature and lake level? 0035-25 [Goldsmith, Aviv]

Response: *The NRC staff will evaluate the proposed Unit 3 plant water use, cooling system operation, and effluent discharge descriptions in the COL application relative to the plant parameter envelope committed to by Dominion and approved by NRC as part of the ESP environmental review process. New and significant information will be reviewed to determine whether there are any changes to the impacts of plant operation on water use and water quality, including temperature. The environmental impacts of construction on water use and water quality will be addressed in Section 4.3 of the COL SEIS; impacts of plant operation will be addressed in Section 5.3 of the COL SEIS. Related ecological, socioeconomic, and human health impacts of plant operation will be addressed in Sections 5.4, 5.5, and 5.8, respectively, of the COL SEIS. The NRC does not have the authority to set water quality limits; plant effluent discharges will continue to be regulated by the VDEQ.*

Comment: The petitioner has misrepresented its ability to perform as is evident by the present "cooling ponds" reaching 106 degrees last summer. The substantial misrepresentation means that the petitioner's representations regarding this application should be viewed as suspect at best and it should be required to prove any representation beyond all reason doubt, the highest legal standard. (0008-1 (AuClair-Valdez, Miguel))

Response: *The staff will carefully review the application against NRC regulations that are intended to protect public health and safety and the environment. This comment provides no new and significant information; therefore, it will not be evaluated further.*

Comment: Wrt [with respect to] Section 316(b), DGIF recommended a 2 mm screen intake with intake velocity of 0.25 fps. What is the design of this intake screen currently by Dominion? Will they comply with the bmp recommended by DGIF? (0036-4 [Remmers, Ken])

Response: *The NRC staff will consider these comments in its review of new and significant information related to proposed plant cooling system design and water use, which will be addressed in Chapter 3 of the COL SEIS.*

Comment: It appears that there are major discrepancies in the water sections. In numerous places the SDEIS asserted that data was lacking or simplified methodologies were used. (See for example Page 1-6 which states inter alia insufficient information was available "to allow the NRC staff to complete its independent analysis" and "these issues are not resolved for the North Anna ESP site"). (0035-1 [Goldsmith, Aviv])

Comment: As evidenced from the recent public hearing, water use and impacts on lake level and downstream flow are major areas of concern. The SDEIS (see Table 10-3 e.g.) that the impacts of water use and quality are "unresolved" is not sufficient to make a determination of the project's acceptability. Perhaps a solution is to commission a truly unbiased third party water study to provide better methodology and data for impact assessments. This study could be incorporated into a new DEIS. (0035-2 [Goldsmith, Aviv])

Comment: The SDEIS continues to be very troubling regarding water analysis. It states that the assessments "are based on a simplified representation of the conservation of mass for the lake." This excludes water temperature stratifications and the flow contributions from a many of the tributaries. How then, can the impact forecasts of SMALL be reliable? How can "no mitigation" be a reasonable solution? (0035-22 [Goldsmith, Aviv])

Comment: SDEIS page 5-7 line 26 concluded that "relatively small errors in the pool elevation measurements using this model can result in significant errors in the precipitation, groundwater, and tributary inflow estimate." How then, can the impact forecasts of SMALL be reliable? How can "no mitigation" be a reasonable solution? Perhaps an independent comprehensive water study would provide more robust impact assessments. (0035-23 [Goldsmith, Aviv])

Comment: The determination in Table 10-3 and elsewhere that the impacts on water use and quality is "likely to be SMALL" is unsubstantiated. As was clear from the last public hearing, the public's perception is that the impacts are LARGE. (0035-48 [Goldsmith, Aviv])

Response: *This comment refers to the NAPS draft ESP EIS that was superseded by the NAPS ESP FEIS (NUREG-1811), which was published by NRC in December 2006. The ESP-FEIS (NUREG-1811) incorporated numerous public comments (see NUREG-1811, Appendix E) and an independent water budget analysis (NUREG-1811, Appendix K). Dominion was issued an ESP permit (ESP-003) in November 2007 for two units at the NAPS site under the specifications contained in that permit. Environmental issues related to the ESP application from Dominion were identified, evaluated, and resolved, or proposed mitigation actions were identified. In Section 5.3 of the COL SEIS, NRC staff will evaluate any new and significant information pertaining to the water-related impacts of plant operation to determine whether the impact level has changed since publication of the ESP FEIS (NUREG-1811).*

Comment: In the FEIS for the ESP, it is stated that The MWC mode would be used when Lake Anna is below 250 ft msl for seven consecutive days. DGIF requested a change in this schedule to less than seven days and even when the level is above 250ft msl during certain critical periods. In the submitted Rev 0 of the COLA Final Safety Analysis, page 2-133, Dominion states if the reservoir water level falls below Elevation 76.2 m (250ft) msl and is not restored within a reasonable period of time, the MWC mode is used. Why is the seven continuous days eliminated from discussion and why is the DGIF request ignored? (0036-1 [Remmers, Ken])

Comment: Why are the Cooling Tower discussions in the FSAR and not in the EIS? Cooling tower discussions were unresolved in the FEIS of the ESP. The IFIM results could impact the amount of water released over the dam as well as any studies of the reservoir levels in the lake itself wrt recreation and safety. NRC should require Dominion put all cooling tower issues in the EIS. This is new and significant information and the NRC should open and address this issue of cooling methods used by Dominion for Unit #3. There may be insufficient water in the reservoir depending on the final IFIM recommendations. Virginia Coastal may not find the project in compliance and may not issue a certification. (0036-3 [Remmers, Ken])

Response: *NRC staff will evaluate the Unit 3 plant water use, cooling system operation, and effluent discharge descriptions in the COL application relative to the plant parameter envelope committed to by Dominion and approved by NRC as part of the ESP. Staff will evaluate new and significant information relating to impacts of plant operation on Lake Anna reservoir lake level and discharge to the North Anna River below the dam, including any information available from the IFIM study. Water-related impacts of plant operation will be addressed in Chapter 5.3 of the SEIS. However, adjustments to reservoir operations are under the authority of the Commonwealth of Virginia VDEQ, not the NRC.*

Regarding the comment on the North Anna Final Safety Analysis (FSAR), the FSAR is evaluated as part of the safety licensing review and is outside the scope of the environmental review. The staff's environmental review did evaluate and resolve the impacts of cooling towers in NUREG-1811, (ESP FEIS). As indicated above, the staff will consider the impacts of cooling towers in terms of new and significant information to determine if the impacts levels have changed.

Comment: Shouldn't the operator's role in decisions to change the normal lake level (Page 5-11, line 28 et. seq.) be one of conditions of the COL? Just because "modifications to the water release regime from the Lake Anna Dam to mitigate impacts would be under the jurisdiction of VDEQ" Page 5-33 line 14), does not absolve the operator or the NRC from adopting reasonable mitigation measures which could be subject to VDEQ approval. (0035-24 [Goldsmith, Aviv])

Response: *This comment refers to information in the NAPS draft ESP EIS that was superseded by the ESP FEIS (NUREG-1811), which was published by NRC in December 2006. The ESP FEIS (NUREG-1811) incorporated numerous public comments (see NUREG-1811, Appendix E). Dominion was issued an ESP permit (ESP-003) in November 2007 for two units at the NAPS site under the specifications contained in that permit. In Section 5.3 of the COL SEIS, the NRC staff will evaluate any new and significant information relating to impacts of plant operation on Lake Anna reservoir lake level to determine whether the impact level has changed since publication of the ESP FEIS (NUREG-1811). Adjustments to reservoir operations affecting lake water level are under the authority of the VDEQ, not the NRC.*

Comment: "Consumptive water losses may noticeably impact lake levels and downstream flows." This is a major area of local concern and should be more thoroughly analyzed and documented. It is hard to understand how an impact assessment of SMALL is derived from the discussion. It seems like the impacts are at least MODERATE and potentially LARGE. (0035-29 [Goldsmith, Aviv])

Response: *This comment refers to information in the NAPS draft ESP EIS that was superseded by the ESP FEIS (NUREG-1811), which was published by NRC in December 2006. The ESP FEIS (NUREG-1811) was revised to incorporate numerous public comments (see NUREG-1811, Appendix E). Dominion was issued an ESP permit (ESP-003) in November 2007 for two units at the NAP site under the specifications contained in that permit. Under conditions of the ESP permit, Dominion is required to conduct an IFIM study that is designed and monitored in cooperation and consultation with the VDGIF and the VDEQ to address potential impacts of the proposed units on the aquatic resources of Lake Anna and downstream waters. This study must be completed prior to issuance of a COL for any new units at NAPS. In Chapter 5 of the COL SEIS, the NRC staff will evaluate any new and significant information pertaining to the water-related and aquatic resource impacts of plant operation to determine whether the impact level has changed since the ESP FEIS (NUREG-1811) was published.*

Comment: Shouldn't the WHTF be subject to Clean Water Act and DEQ standards? It is fed by eight public streams and should be treated as public waters. (0035-26 [Goldsmith, Aviv])

Response: *In the Commonwealth of Virginia, the U.S. Environmental Protection Agency has granted VDEQ authority for regulating water quality under the Clean Water Act. The Commonwealth has determined that the WHTF for the plant's thermal discharge is subject to the "waste treatment system" exclusion in the 9 VAC 25-31-10 definition of "surface waters." VDEQ does not have authority to regulate the treatment facility itself, but it does regulate discharges from the WHTF into Lake Anna. For Chapter 5 of the COL SEIS, the NRC staff will review new and significant information related to the water-quality impacts of Unit 3 plant operation to determine whether there is any change to the impact levels determined in the ESP FEIS (NUREG-1811).*

7. Comments Concerning Hydrology – Groundwater

Comment: They also say with regards to groundwater flow, maximum hydraulic conductivity is larger than the ESP value. The groundwater is moving more quickly. A table on page 2.3 in the document says, 3.4 feet per day was assumed under the ESP. It looks like it's 9.9 feet per day hydraulic conductivity," for which they are requesting a variance. (0034-88 (Zeller, Lou))

Response: *The commenter is referencing a table in NAPS Final Safety Analysis (FSAR). The FSAR is evaluated as part of the safety licensing review and is outside the scope of the environmental review. Analysis of the above referenced table will be part of the safety evaluation report set to be issued in the spring of 2009. This comment provides no new and significant information and will not be evaluated further.*

8. Comments Concerning Ecology – Terrestrial

Comment: We [VDGIF] have reviewed the proposed corridor for the additional 500kV line required to carry the output of the existing Lake Anna units and the proposed third unit. We do not currently document any listed wildlife or resources under our jurisdiction from the project area. Therefore, impacts upon such species and resources are not likely to result from the construction of this line. In addition, as this new line will be co-located within an existing power line corridor, it does not appear that significant wildlife habitat alterations will occur. (0032-1 (Ewing, Amy))

Response: *The comment concerns terrestrial ecology issues and State-listed species, and provides information relevant to the description of existing resources that will be provided in Chapter 2 of the COL SEIS. Impacts of construction of the plant and transmission line will be considered in Chapter 4, and the impacts of operation of the plant and transmission line will be considered in Chapter 5 of the COL SEIS.*

Comment: Does the feeding range of bald eagles or loggerhead strikes extend to the North Anna vicinity (Page 213 line 32)? (0035-13 [Goldsmith, Aviv])

Comment: Section 4.4.3 line 35 acknowledged that bald eagles nest as close as 2.5 miles to the site. What effect will the project have on fish that the eagles may use as a food source? (0035-18 [Goldsmith, Aviv])

Response: *Both the bald eagle and the loggerhead shrike would be expected to feed in the vicinity of NAPS Unit 3. The ESP FEIS (NUREG-1811) states that construction and operation of the proposed ESP facilities would have a SMALL impact on species of concern, including the eagle and shrike. The NRC staff will evaluate whether there is any new and significant information concerning impacts to these species and, in Sections 4.4 and 5.4 of the COL SEIS, will describe any impacts beyond those documented in the ESP FEIS (NUREG-1811). The potential effects of plant operations on fish populations were considered in Section 5.4.2 of the ESP FEIS (NUREG-1811), and new and significant information relevant to these impacts will be evaluated for Section 5.4 of the COL SEIS.*

9. Comments Concerning Ecology – Aquatic

Comment: We recommend that all land disturbing activities adhere to erosion and sediment controls. We recommend conducting any in-stream activities during low or no-flow conditions, using non-erodible cofferdams to isolate the construction area, blocking no more than 50% of the streamflow at any given time, stockpiling excavated material in a manner that prevents reentry into the stream, restoring original streambed and streambank contours, revegetating barren areas with native vegetation, and implementing strict erosion and sediment control measures. Due to future maintenance costs associated with culverts, and the loss of riparian and aquatic habitat, we prefer stream crossings to be constructed via clear-span bridges. (0032-2 (Ewing, Amy))

Response: *The environmental impacts related to aquatic resources were resolved in NUREG-1811 (ESP FEIS). The staff will evaluate new and significant information relating to aquatic resources to determine whether the impact levels previously analyzed in NUREG-1811, ESP EIS should be changed. In this case, Virginia Department of Game and Inland Fisheries has*

provided recommendations of mitigation measures to protect Lake Anna aquatic resources. The staff will consider these mitigation measures in its evaluation. The impacts of plant construction and operation on aquatic resources will be discussed in Chapter 4.4 and 5.4 of the SEIS.

Comment: Sterile Grass Carp were introduced to assist in controlling the hydrilla. The grass carp life span was projected to be 15 years and that is just a few years away. (0028-21, 0033-24 (Ruth, Harry))

Response: *The environmental impacts related to aquatic resources were resolved in NUREG-1811 (ESP FEIS). The staff will evaluate new and significant information relating to the current and planned activities associated with stocking the reservoir to determine whether the impact levels previously analyzed in NUREG-1811, ESP EIS should be changed. The impacts of plant construction and operation on aquatic resources will be discussed in Chapter 4.4 and 5.4 of the SEIS.*

Comment: The DEIS should examine the impact of declining Lake Anna Water levels on the wetlands and feeder streams throughout both the main reservoir and cooling lagoons of the lake. What will happen to the fish and wildlife that currently depend on the wetlands for survival? The DEIS should look at how long it takes to reestablish life forms at new water levels and the impact of increasing the range of variation of levels on the wetland areas The ESP EIS identified that a cursory check had been accomplished and concluded that changes in the lake level result in creation of as much wildlife as is inundated or destroyed, hence low impact. A more comprehensive survey must now be accomplished. (0028-22 (Ruth, Harry))

Comment: Fish, aquatic life, clams, mussels and wildlife may be adversely impacted with less lake water which is also hotter in the summer months. (0028-40, 0033-48 (Ruth, Harry))

Comment: Fish, aquatic life, clams, mussels and wildlife may be adversely impacted with less water and therefore hotter water because units 1 & 2 cooling will still generate the same heat as today, but will have less water to cool it and the result will be hotter water. (0028-50, 0033-59 (Ruth, Harry))

Comment: We are also concerned that these declining water levels will cause the water to get hotter faster in the summer months to unsafe water temperatures causing negative impacts to humans, recreation, fish, wildlife, aquatic life, clams and mussels. (0028-61, 0033-70 (Ruth, Harry))

Comment: The NRC in its DEIS should examine the impact of declining Lake Anna Water levels on the wetlands and feeder streams throughout both the main reservoir and cooling lagoons of the lake and the additional human health impact of mosquito's breeding in the stagnant water in the wetlands. What will happen to the fish and wildlife that currently depend on the wetlands for survival? The DEIS should look at how long it takes to reestablish life forms at new water levels and the impact of increasing the range of variation of levels on the wetland areas The ESP EIS previously identified that a cursory check had been accomplished and concluded that changes in the lake level result in creation of as much wildlife as is inundated or destroyed, hence low impact. It also appears that no one previously investigated the human health impact of mosquito's breeding in the stagnant water caused by declining water levels. (0033-26 (Ruth, Harry))

Comment: The ESP EIS claims that wetlands impact is small because as much wetland is created as is destroyed, but is silent about the impact of what appears to be an almost annual reduction to the 248-foot level. The NRC should review modeling done in the environmental impact statement to incorporate new actual data and do further analysis of deviations from the 20-year averages. Additionally, inflow assumptions have not been field-verified and should be reviewed. Dominion has developed new data, including actual surveys of a portion of the wetlands on the lake. We ask that NRC carefully review and use this new data to determine if it alters its earlier impact assessment. Additional steps can and should be taken to mitigate low water level impact on safety, erosion, and ecosystems on the lake. (0034-185 (Smith, Doug))

Comment: Other impacts are unsafe water conditions, which occur at low water levels; boating hazards; shoreline stabilization issues; impact to wetlands; and impacts to business and home values. (0034-194 (Heino, George and Gerry))

Response: *The impacts of temperature and low-water levels on Lake Anna wetlands and aquatic resources were previously resolved in ESP FEIS (NUREG-1811). The NRC staff will evaluate new information, including any revision to the water budget, to determine whether the impact levels previously stated should be changed. The impacts of plant operation on aquatic resources will be discussed in Section 5.4 of the COL SEIS. Related impacts on recreation and human health will be discussed in Sections 5.5 and 5.8, respectively, of the COL SEIS.*

Comment: A major clam die-off occurred last year, but no study has been conducted by a certified malacologist to determine the health of the mussels and clams in Lake Anna. (0023-6, 0034-152 (Black, Betty))

Comment: The SDEIS should also include the results of a professionally conducted total Clam/Mussel Survey of the entire Lake Anna as was previously requested by Brian Watson, the DGIF Wildlife Diversity Biologist/Malacologist. Apparently this study has never been completed. According to Brian Watson (Phone 434-525-7522) a clam/mussel survey should be conducted by a Virginia State certified malacologist and should be current within the last 2 year time period. Mr. Watson has identified that the Asian clam (*Corbicula fluminea*), Eastern elliptio (*Elliptio complanata*), Paper pondshell (*Uterbackia imbecillis*) and Easter Floater (*Pyganodon cataracta*) are resident in Lake Anna. In addition, he is concerned about the potential impacts of elevated water temperatures upon native freshwater mussels and that other freshwater rare species mussels (Yellow lampmussel *Lampsilis cariosa*), (eastern lampmussel *Lampsilis radiata*, Eastern pondmussel *Liguimia nasuta*) and the (Tidewater mucket-leptodea *ochracea*) which are rare species may also be present. This study needs to be done and now is the time to do it before irreparable harm is done. (0028-16, 0033-25 (Ruth, Harry))

Response: *The staff will evaluate new investigation and monitoring information relating to aquatic resources, to determine whether the impact levels previously analyzed in the ESP FEIS (NUREG-1811) should be changed. The impacts of plant construction and operation on aquatic resources will be discussed in Sections 4.4 and 5.4 of the COL SEIS.*

Comment: Both VDEQ and DGIF, in conjunction with Dominion Resources are currently conducting an Instream Flow Incremental Methodology (IFIM) study on Lake Anna and the North Anna River and Pamunkey Rivers downstream to determine the effects of the reduced

water flow on recreation, wildlife, aquatic life and fish as part of the conditional certification for the 3rd reactor Early Site Permit (ESP). This IFIM study must also address all of the comments made by the VA. Dept of Conservation and Recreation (DCR). This IFIM study should be completed before any Draft Environmental Impact Statement for the COL is issued by the NRC so all the results of the IFIM study can be reviewed and commented on by the public. Otherwise the results from this important study will cause much re-work later by the NRC, Virginia and the public and waste much time. Currently there is no public participation in the study plan or results. (0028-8 (Ruth, Harry))

Comment: The IFIM Study will be completed in June and should be studied and analyzed as a part of the new EIS. Dominion has been directed to conduct a scientific study called the Instream Flow Incremental Methodology study. DEQ, DGIF and DCR are providing input and supervision. This study looks at both Lake Anna and the downstream rivers (North Anna and Pamunkey) and will provide much guidance and valuable information which needs to be evaluated before a COLA can be granted. (0031-11 (Crawford, Barbara))

Comment: The referenced IFIM study should be completed in draft only before any Draft Environmental Impact Statement for the COL is issued by the NRC so all the results of the IFIM study can be reviewed and commented on by the public. Otherwise the results from this important study will cause much re-work later by the NRC, Virginia and the public which will waste much time. Currently there is no public participation in the study plan or results. DCR, VDEQ and DGIF, in conjunction with Dominion Resources are currently conducting an In-stream Flow Incremental Methodology (IFIM) study on Lake Anna and the North Anna River and Pamunkey Rivers downstream to determine the effects of the reduced water flow on recreation, wildlife, aquatic life and fish as part of the conditional certification for the 3rd reactor Early Site Permit (ESP). This IFIM study must also address all of the comments made by the VA. Dept. of Conservation and Recreation (DCR) as to the total lake and recreation on the lake, as well as public review of the study. (0033-6 (Ruth, Harry))

Response: *Under conditions of the ESP permit (ESP-003), Dominion is required to conduct an IFIM study that is designed and monitored in cooperation and consultation with the VDGIF and the VDEQ to address potential impacts of the proposed units on the fishes and other aquatic resources of Lake Anna and downstream waters. The IFIM study must be completed prior to issuance of a COL for any new units at NAPS. Dominion agreed to consult with both the VDGIF and the VDEQ regarding surface-water management, release, and instream flow conditions prescribed by VDGIF and VDEQ as implemented through appropriate State or Federal permits or licenses. Public involvement in the study plan and review of the results is the responsibility of the VDGIF and the VDEQ, not the NRC. The NRC staff, however, will monitor progress related to completion of the study and results obtained. Any information that is available regarding the IFIM study at the time the COL SEIS is prepared will be included as part of Section 2.7.*

Comment: Page 5-24 states that "larval abundance is not known" and that a 1978 model was used for the estimation. How good is the estimation? Couldn't representative sampling give an estimate of larval abundance? (0035-27 [Goldsmith, Aviv])

Comment: Page 5-27 discusses cold shock and says that it will be less of a problem with a multiple unit plant. This is only true if the entire station does not shut down. If the remaining

unit or units shut down, the cold shock will be much more severe due to the loss of a huge thermal load. (0035-28 [Goldsmith, Aviv])

Response: *These comments refer to information in the NAPS draft ESP EIS that was superseded by the ESP FEIS (NUREG-1811), which was published by NRC in December 2006. The ESP FEIS (NUREG-1811) was revised to incorporate numerous public comments (see NUREG-1811, Appendix E). Dominion was issued an ESP permit (ESP-003) in November 2007 for two units at the NAPS site under the specifications contained in that permit. Environmental issues related to the ESP application from Dominion were identified, evaluated, and resolved, or proposed mitigation actions were identified. The impacts to aquatic resources were discussed and resolved in Sections 4.4, 5.4, and 7.5 of the ESP FEIS (NUREG-1811). The NRC staff will evaluate new investigation and monitoring information related to aquatic resources to determine whether the impact levels previously stated in the ESP FEIS should be changed. The impacts of plant construction and operation on aquatic resources will be discussed in Sections 4.4 and 5.4 of the COL SEIS.*

10. Comments Concerning Socioeconomics

Comment: The first item is the number of workers and residents using Route 652, Kentucky Springs Road. It is our understanding that North Anna Power Station employs approximately 800 permanent workers and every 18 months brings in an additional 1,000 workers during its outages. If Unit 3 is approved, there would be a need for approximately 2,000 employees during the construction phase. When Unit 3 is complete and operational, North Anna Power Station would employ approximately 1,500 full time employees and still require additional workers every 18 months. There are dozens of multi-lot subdivisions along Route 652. The Waters Subdivision is a 400 lot development within a few miles of the plant. Cutalong is a mixed use development, that at full build out, will have over 1,000 dwellings, a golf course and commercial retail space at the intersection of Route 652 and Route 208. There will be severe traffic congestion with that many people traveling a two-lane country road. While there will be long economic benefits to the County, those effects will not be felt until construction of Unit 3 begins and well thereafter. Louisa County needs to know what Dominion Power is doing for the increase of vehicles on Route 652? (0015-2 (Lintecum, Lee))

Comment: Dominion has stated that it would be willing to work cooperatively with state and county governments to facilitate planning decision to minimize transportation impacts to avoid congestion and they would develop a construction management traffic plan prior to the start of construction. If widening Route 652 to handle the massive increase in traffic is required, planning needs to begin now. (0015-3 (Lintecum, Lee))

Comment: Secondly, there would be a major influx of new people into Louisa County resulting in the need for new schools. Louisa County is currently building a new elementary school that will house 700 students. Even with the addition of this school, our elementary system will still be at maximum capacity. Louisa County Public Schools is currently working on a school construction plan, but needs more information about the impact of Unit 3 for that plan. (0015-4 (Lintecum, Lee))

Comment: The County understands that because of the nature of the construction industry, with a variety of employee skill sets required, many employees will be transient but Louisa

County has a tremendous wealth of attractants that many employees may make Louisa their permanent home. Since energy is a national priority, with a focus on nuclear energy, then possibly school construction grants can be provided by the Federal government to assist with new school construction. Again, if we are not prepared for the impact on our community's infrastructure, the County will have to play catch up, which will cost more in the long run. (0015-5 (Lintecum, Lee))

Comment: Why there is a discrepancy of the ESP defining of 5,000 -7,000 new workers (construction, periodic maintenance, professional) employees for 5 years on local roads and schools and now Dominion is saying there will only be 2,000 workers involved with the 3rd reactor. In any case, the COL DEIS should evaluate these new worker impacts on the need for new expanded and improved roads before the project begins because of the heavy equipment, large number of workers and the three newly approved Louisa County subdivisions for about 1800 new homes in close proximity to the plant. (0028-29 (Ruth, Harry))

Comment: New schools and other county infrastructure (police, fire, rescue squads, etc.) will need to be planned and built prior to any new tax dollars coming from Dominion. Louisa is now the 73rd fastest growing county in the U.S. Louisa and Spotsylvania are centrally located between three major fast growing metropolitan areas (Washington D.C, Richmond and Charlottesville, Va). Who is going to pay for all these new requirements? Is the Federal Government (NRC & other departments) going to give grants to Louisa and Spotsylvania Counties, similar to the 8 to 10 million dollar grant they gave to Dominion for processing the Early Site Permit? (0028-30, 0033-38 (Ruth, Harry))

Comment: Emergency evacuation on small 2 lane roads. Need for expanded road system to accommodate new workers, heavy construction equipment and subdivisions. (0028-31 (Ruth, Harry))

Comment: The previous EIS calls the impacts of building a new reactor on Louisa County's infrastructure small. This is absurd and must be revisited as part of the new EIS. This is not a wealthy county. Our schools will be overwhelmed and unable to serve the children of the estimated 5000 workers who would be employed for a period of five years to build the 3rd reactor, in addition to the 850 people who work there now and the special crews that come to North Anna for the intermittent outages. Our roads are narrow, winding, 2-lane and unable to handle the new traffic. The construction equipment and materials would be heavy and damaging. Dominion has been directed to conduct a Traffic Impact Analysis. Have they done this? The results should be made available to the public. The new EIS should evaluate the results and set forth exactly what improvements Dominion will be expected to make. (0031-12 (Crawford, Barbara))

Comment: One is the State Route 652 Kentucky Springs Road, which is a two-lane road. And with the construction that is going to happen, and with the -- and then afterwards with the additional workers that we're going to be able to enjoy, the question is, you know, is that road adequate enough to handle the traffic that's coming? And we have more development coming in that area, as it is -- Lake Anna is one of the growth areas in Louisa County, and we're going to have to face these problems. Obviously, the state currently is not in a position to help us with roads, so we're having to try to figure it out ourselves. (0034-11 (Lintecum, Lee))

Comment: The second issue has to do with our school population. We're getting ready to build our fourth elementary school, and when it's built it will already be full. So we're wondering about this influx of new people, about how to play catch up in our school construction, and what may be available to help us on that. (0034-12 (Lintecum, Lee))

Response: *Impacts of construction and operation of NAPS Unit 3 on the use of existing local infrastructure or need for new infrastructure are within the scope of the socioeconomic impacts to be addressed in the COL SEIS. Impacts related to socioeconomics previously resolved in the ESP FEIS (NUREG-1811) will be evaluated in terms of new and significant information to determine if impact levels should be changed.*

Comment: The Lake Anna region has been designated a growth area in the County's Comprehensive Plan. In view of the annual low water level in Lake Anna and potential needs for water sources in the immediate future, Louisa County has recently begun a study to identify potential water supplies for our citizens. Lake Anna and its tributaries have been identified as potential water resources for this ever-growing population center of our County. (0015-6 (Lintecum, Lee))

Comment: The previous EIS stated that there were no new or anticipated residential, business or commercial demands on the watershed near the plant. This is incorrect. It was known, or should have been known based on documentation submitted to you, that there are 3 significant residential developments in the works, including Cutalong which is building a golf course that will require significant water withdrawals from Contrary Creek, one of the feeder streams for the power plant. Note that the DEQ has recommended this permit be granted. In addition, there are at least 3 businesses that I know of, near the plant that require significant water use: Argonaut, Martin Marietta, and a shopping center with supermarket at Cutalong, all of which require water in order to operate. Again, the new EIS needs to look closely at these competing demands for water in an area that has very little of it. The new EIS needs to reevaluate the availability of water for a 3rd reactor. (0031-10 (Crawford, Barbara))

Comment: The previous EIS looked at the 3 counties bordering the lake, plus Henrico County and the City of Richmond. Considering that the water that flows over the dam goes into Hanover County and that Hanover County is dependant on that water for sewage treatment plants, private businesses such as Big Bear Paper Co. and Kings' Dominion, and the health and recreation uses of the North Anna and Pamunkey Rivers, I would argue that the new EIS should take a close and hard look at the impacts on that county. The LLCP or Lake Level Contingency Plan is a fragile and contentious balance between Louisa County and Hanover County and reflects the competing needs for water. (0031-6 (Crawford, Barbara))

Comment: The third concern we have is that, since it is a growth area, we're going to have to some day figure out how to get the public water supply in that area, and what the availability of or the tributaries that make up Lake Anna or Lake Anna as a possible water source, we would like to discuss those with Dominion. (0034-13 (Lintecum, Lee))

Comment: Considering that the water that flows over the dam goes into Hanover County and that Hanover County is dependent on that water for sewage treatment plans, private businesses, such as Big Bear Paper Company and King's Dominion, and the health and

recreational uses of North Anna and Pamunkey Rivers, I would argue that the new EIS should take a close and hard look at the impacts on that county. (0034-204 (Crawford, Barbara))

Comment: It's important to bear in mind that when Lake Anna was created, neither Dominion nor any governmental body, whether federal, state, or local, in any way discouraged the public from purchasing land and building homes around the lake. I would argue that there, therefore, exists a responsibility to those homeowners to protect them from the adverse impacts of the power station. Okay. There is misinformation in here. It is in my written statements. We have three housing developments going up there plus three businesses that are going to use a lot of water. You have the information in your hands, and you put down that there was nothing planned. I don't understand how that can happen. (0034-206 (Crawford, Barbara))

Response: *The effects of population and industry on water demand, in conjunction with the construction and operation of NAPS Unit 3 are within the scope of the COL SEIS. Impacts related to socioeconomics previously resolved in the ESP FEIS (NUREG-1811) will be evaluated in terms of new and significant information to determine if impact levels should be changed.*

Comment: Why there is a discrepancy of the ESP defining of 5,000 -7,000 new workers (construction, periodic maintenance, and professional) employees for 5 years on local roads and schools and now Dominion is saying there will only be 2,000 workers involved with the 3rd reactor. In any case, the COL DEIS should evaluate these new worker impacts on the need for new expanded and improved roads before the project begins because of the heavy equipment, large number of workers and impact on earlier analysis of the three newly approved Louisa County subdivisions for about 1800 new homes in close proximity to the plant. (0033-37 (Ruth, Harry))

Comment: The new unit will bring 750 new jobs to the local area, additional tax revenues, and reduce the dependence on foreign oil, providing enough electricity to provide 375,000 homes. (0034-181 (Smith, Doug))

Comment: And what I'm here tonight to speak on is this is going to support -- once this project starts, it's going to support young kids that want to get in a trade, to learn a trade, which it can support them the rest of their life for their families. (0034-19 (Rigali, Tony))

Comment: North Anna 3 could --is an economic engine for Louisa County and the Commonwealth as a whole. And Dominion -- if Dominion were to build this new nuclear unit at North Anna, the company would expect a workforce for more than 3,000 construction workers, and that's pretty much what it took when I was over there, and would require permanent workers of 750 high-paying permanent workers that were created for the station's operation. The power station currently provides employment for more than 900 people. Roughly one third of these employees live in Louisa County, while the rest live in Richmond, Fredericksburg, and Spotsylvania County. (0034-20 (Rigali, Tony))

Comment: In direct revenue, North Anna pays Louisa County each year approximately \$11 million. And since its inception, it has paid Louisa County over \$230 million of direct revenue. The third nuclear reactor will add millions more dollars to that, and if you really want to see the

impact just look at our new schools and our fire trucks and police cars and the services that this revenue provides our county. (0034-22 (Gibson, Bob))

Comment: The second point I'd like to make is, like our previous speaker said, 300 -- approximately 300 of the 900 workers live in Louisa County. The average salary of these workers is \$60,500. That equates to an annual payroll of Louisa County citizens of over \$18 million. The new reactor is going to employ 750 people. If the same ratio applies, that means 250 of these jobs will go to Louisa County citizens, and with the same average payroll that's an additional \$15 million annually of payroll in Louisa County for Louisa County citizens. Taken together, that is over \$33 million of payroll within Louisa County, and keep in mind this money changes hands several times before it leaves Louisa County, so which will mean several million dollars more of additional indirect revenue for the county. (0034-23 (Gibson, Bob))

Comment: I would like to again bring out the point that a previous speaker made of the 3,000 construction workers coming into Louisa County. You know, the word surge is kind of popular these days in the United States, but this is going to be an economic development surge for the county, because these workers are going to get paid and probably a pretty good salary, and they're going to rent homes, they're going to buy homes, they're going to buy groceries, they're going to buy automobiles and trucks and every other type of retail purchase in our county. So this is going to mean additional revenue for our county. (0034-24 (Gibson, Bob))

Comment: The North Anna power station has also been -- had a positive impact on the county. I don't think I could add anything to what Bob just said. However, the county has benefitted economically from the -- through the increased tax base and increased numbers of employees. (0034-29 (Manzari, Jack))

Comment: As Dominion's lowest cost source of baseload electricity, nuclear is important to the economic well being of Virginians and to the economy of the Commonwealth. North Anna power station, as has been stated, has paid over \$230 million in taxes to Louisa County, and I am informed that the taxes would more than double after this third unit goes into operation. (0034-55 (Tribble, Charles))

Comment: I'd like to start off talking about a Nuclear Energy Institute study that looked at the economic impact of North Anna power station on the State of Virginia. North Anna generates more than \$710 million in economic benefit to the state. This includes approximately \$11 million in property tax for the surrounding counties, which enables the counties to provide excellent educational facilities and staff, and other public works for everyone in the county, not just Dominion employees' families. (0034-78 (Fawls, Rebecca))

Comment: Building a new nuclear power plant will bring approximately 2,000 jobs during construction and provide approximately 600 permanent high-paying jobs. The new nuclear power plant would also increase tax revenues to the surrounding counties and Virginia as a whole. An added benefit would be the ripple effect on the economy, such as housing, restaurants, and manufacturing for the state. (0034-81 (Fawls, Rebecca))

Response: *The impacts of the NAPS Unit 3 construction and operating workforce are within the scope of the socioeconomic impacts to be addressed in the COL SEIS. Impacts related to*

socioeconomics previously resolved in the ESP EIS (NUREG-1811) will be evaluated in terms of new and significant information to determine if impact levels should be changed.

Comment: I AM OPPOSED TO A PLANT THAT WILL LOWER THE LAKE WATER LEVEL. Lowering the Lake level will negatively impact property values and negatively impact recreation (0010-2 (Hayo, Dennis))

Comment: When water levels are down 2 ft the lake becomes unusable for the majority of homeowners. (0012-2 (Heino, George and Gerry) (Heino, George and Gerry))

Comment: Dominion (Vepco) was allowed to build there reactors as long as the lakes provide recreation, their proposed design will limit that significantly. (0012-4 (Heino, George and Gerry) (Heino, George and Gerry))

Comment: Other impacts are unsafe water conditions which occur at low water levels, boating hazards, shoreline stabilization issues, impact to wetlands and impacts to business and home values. (0012-5 (Heino, George and Gerry) (Heino, George and Gerry))

Comment: Recreational boaters will find more hazards throughout the lake, with stumps, rocks, sandbars, etc. causing lower units to hit them which in turn could necessitate major repairs or replacement of propellers, other engine components and boat hulls. When the lake level is below 250 MSL and continues to decrease during drought cycles, these hazards will only increase. (0028-12 (Ruth, Harry))

Comment: It is important to remember that the lake was not just built for Dominion to use to cool its power plant. The enabling legislation set forth very clearly that Lake Anna was also created as a recreational lake for the public to enjoy. One use is no more important than the other. And one use, e.g. cooling the reactors, cannot be allowed to destroy the lake's recreational use. (0031-7 (Crawford, Barbara))

Comment: It is important to bear in mind that when Lake Anna was created, neither Dominion nor any governmental body, whether federal, state or local, in any way discouraged the public from purchasing land and building homes around the lake. I would argue that there therefore exists a responsibility to those homeowners to protect them from adverse impacts of the power station. (0031-8 (Crawford, Barbara))

Comment: Business Real Estates Sales/Rentals (B3R)

- i. Advantage: None
- ii. Disadvantages

1. Lower lake level discourages any potential buyers or renters -minimal sales
2. Current depressed real estate market will further decline .
3. Real Values and Assessments will decrease
4. Sales /rental commissions will decrease
5. Taxes to local communities will decrease
6. Insurance rates may increase due to lack of water at dry fire hydrants
7. Shoreline instability problems may create many related impacts.
8. Fewer sales will mean less need for loans from banks/mortgage lenders

9. Fewer sales will means less need for future land development
10. Fewer sales will mean less need for title agencies

(0033-44 (Ruth, Harry))

Comment:

Business Construction (BC)

- i. Advantages: None
- ii. Disadvantages

1. With fewer real estate sales/rentals there will be less need for future construction
2. This will directly reduce need for building designers, building contractors, building materials, cabinetry & countertops, clearing services, concrete, construction of decks, decorative concrete, docks and boathouses, drywall contractors, excavating, hauling, heating & air conditioning, home improvement, home staging, interior design, kitchen & bath, landscape design, landscape lighting, lumber, remodeling, soil consultants, surveyor, underground sprinkler systems and water treatments

(0033-45 (Ruth, Harry))

Comment:

Business Lake Recreation (BL)

- i. Advantages: Boating major repairs will increase for the few boaters that use lake
- ii. Disadvantages

1. With less water in the lake, fewer people will want to use the lake or visit the lake

(0033-46 (Ruth, Harry))

Comment: This will directly reduce the business for boat rentals, boat repairs for many boaters who would have previously used the lake, boat RV/PWC/storage, boat sales, campgrounds and marinas. (0033-49 (Ruth, Harry))

Comment: An example of one safety impact is: Recreational boaters will find more hazards throughout the lake, with stumps rocks, sandbars, etc. causing lower units of boats to hit them which can cause severe injury to passengers and necessitate major repairs or replacement of propellers, other engine components and boat hulls. When the lake level is below 250 MSL and continues to decrease during drought cycles, these hazards will only increase. The drought cycles will double if the wet/dry cooling method for unit 3 is selected. Businesses will suffer and users of the lake will find other places to recreate which will decrease property values and reduce tax income to the local counties. Also note that when the lake level drops below 248MSL that over 50% of the homeowners cannot use their boats piers due to low water levels. (0033-5 (Ruth, Harry))

Comment: Boat slip rental business and lake waterfront owners will encounter major difficulties in getting boats off boat lifts, possibly having mud-flats in front of their property making the lake unusable for swimming or using their boats. (0033-51 (Ruth, Harry))

Comment: Marinas, Campgrounds and lake front owners may have to extend their boat ramps & docks so they can launch and retrieve their boats. (0033-53 (Ruth, Harry))

Comment: If fewer people come to the lake because of declining lake levels, then the need for other lake services will also decline. (0033-55 (Ruth, Harry))

Comment: Fewer real estate sales & rentals and less construction will mean fewer people will live on or visit the lake, thereby decreasing the business for accounting, advertising, automotive, attorneys, awards, bed and bath, blinds & shades, business services, catering services, cleaning services, computer services, county stores, physicians, dentists, dining, event location, fitness centers, investment securities, lawn care, newspapers, retailers, self storage, shipping services, skin care, beauty shops, television services, travel & leisure, wineries, etc. (0033-56 (Ruth, Harry))

Comment:

1. Advantage: Potential for lower taxes due to decreasing value of property.
2. Disadvantages:

- a. Lower lake level discourages any potential buyers or rentals
- b. Real estate values and assessments could decrease

(0033-57 (Ruth, Harry))

Comment: Waterfront owners will encounter major difficulties in getting boats off boat lifts, possibly having mud-flats in front of their property making the lake unusable for swimming & boating. (0033-60 (Ruth, Harry))

Comment: Some owners and/or Property Owner Associations may have to extend their boat ramps so they can launch and retrieve their boats. (0033-62 (Ruth, Harry))

Comment: Day User (DU) Does not own Lake Anna property and uses Lake Anna for recreation (e.g. campground, marina, state park, etc.) for day and then goes to home, motel or cabin.

1. Advantage: None.
2. Disadvantages:

- a. Less water will cause the existing water to get hotter faster and increase the human health risks for immersion in heated water, together with the potential for health risks of increased bacteria (microorganisms) or algae blooms. Hotter water makes the lake less desirable in summer time and day users may try to find other cooler waters to recreate in.
- b. Fish, aquatic life, clams, mussels and wildlife may be adversely impacted with less water and the water temperatures rising could cause lethal effects to various water related wildlife.
- c. Lower and hotter water levels could encourage the hydrilla and other aquatic life to proliferate, thereby making it less desirable, as well as unhealthy to swim and recreate on the lake. Previous high levels of hydrilla caused major difficulties in launching boats, caused the

weeds to become entangled in boat propellers and choke the engine. In addition, young children when swimming previously became entangled in the hydrilla creating a very serious safety issue.

d When boating, the lake users will find more hazards throughout the lake, with stumps, rocks, sandbars, etc. causing lower units to hit them which in turn could necessitate major repairs or replacement of propellers, other engine components and boat hulls. In addition, the safety of allay board the boats is severely jeopardized when the boats run into these newly emergent and changing boating hazards when the lake level is below 250 MSL and continues to decrease during drought cycles. Note: Dominion and the NRC state these drought cycles will be doubled with the proposed type of 3rd reactor wet/dry cooling method. The doubling of the drought cycle will increase the human safety risks dramatically.

e. If fewer people come to the lake because of declining lake levels, then it is quite possible that many of the current lake services (restaurants, retail, etc.) will be unable to grow or stay in business due to lack of customers and will be unavailable to the day user when they visit. (0033-66 (Ruth, Harry))

Comment: Lake Anna Boating and Recreation Association has concerns that the proposed cooling towers for the third nuclear reactor at Lake Anna will create an additional adverse impact when lowering the lake levels, lower lake levels when compared to the safety and welfare of the estimated 500,000 boating and recreation enthusiasts that live at and visit the lake. (0034-173 (Jones, Dale))

Comment: Unsafe low water conditions cause many of the people that previously boated here to look elsewhere for the boating recreation. This causes a negative impact on our local business community. Many Lake Anna businesses rely on the sales that are made in the spring, summer, and fall months. The low water condition affects real estate, construction, marinas, dock builders, restaurants, banks, fishing guides, boat sales, repair shops, et cetera. The business owners that we had personally spoken to -- and we haven't spoken to all of them - -have all concurred that the low lake levels will adversely impact their businesses. (0034-175 (Jones, Dale))

Comment: Fewer people will visit the Lake Anna State Park because of the increased risks at the lake. (0028-58, 0033-67 (Ruth, Harry))

Comment: The Lake Anna Boating and Recreation Association recognizes and appreciates the many benefits that are derived from the Dominion Resources, including construction of the lake. Many of our members, friends, and neighbors enjoy employment, which we have seen here tonight, a lot of them. They have enjoyed home ownership and business due to their presence. In the past, we have considered them to be a good neighbor and would expect that in the process of planning for future business expansion, Dominion Resources would be considerate of the needs of the public and continue to help maintain a healthy lake condition, as promised, rather than purposely destroy them. The maintenance of the 250-foot water level will only help ensure the continued success as well as others in the community. (0034-179 (Jones, Dale))

Comment: The majority of docks at Lake Anna only have three feet of water. When water levels are down two feet, the lake becomes unusable for the majority of homeowners. (0034-191 (Heino, George and Gerry))

Comment: Dominion, VEPCO, was allowed to build their reactors as long as the lake provides recreation. Their proposed design will limit that significantly.
(0034-193 (Heino, George and Gerry))

Comment: Other impacts are unsafe water conditions, which occur at low water levels; boating hazards; shoreline stabilization issues; impact to wetlands; and impacts to business and home values. (0034-195 (Heino, George and Gerry))

Comment: The LLCP, or lake level contingency plan, is a fragile and contentious balance between Louisa County and Hanover County and reflects the competing needs for water. It is important to remember that the lake was not just built for Dominion to use to cool its power plant. The enabling legislation set forth very clearly that Lake Anna was also created as a recreational lake for the public to enjoy. One use is no more important than the other. And one use; for example, cooling the reactors, cannot be allowed to destroy the lake's other use: its recreational use. (0034-205 (Crawford, Barbara))

Response: *Impacts of low water levels on Lake Anna recreation, businesses, and property values were previously resolved in NUREG-1811, ESP EIS. Impacts related to socioeconomics previously resolved in the ESP EIS will be evaluated in terms of new and significant information to determine if impact levels should be changed.*

Comment: Business Real Estates Sales/Rentals (BR)

- i. Advantages--None
- ii. Disadvantages --

1. Lower lake level discourages any potential buyers or renters --minimal sales
2. Current depressed real estate market will further decline
3. Real Values and Assessments will decrease
4. Sales /rental commissions will decrease
5. Taxes to local communities will decrease
6. Insurance rates may increase due to lack of water at dry fire hydrants
7. Shoreline instability problems may create many related impacts.
8. Fewer sales will mean less need for loans from banks/mortgage lenders
9. Fewer sales will means less need for future land development
10. Fewer sales will mean less need for title agencies

(0028-36 (Ruth, Harry))

Comment:

Business Construction (BC)

- i. Advantages: None
- ii. Disadvantages

1. With fewer real estate sales/rentals there will be less need for future construction
2. This will directly reduce need for building designers, building contractors, building materials, cabinetry & countertops, clearing services, concrete, construction of decks, decorative concrete, docks and boathouses, drywall contractors, excavating, hauling, heating & air conditioning, home improvement, home

staging, interior design, kitchen & bath, landscape design, landscape lighting, lumber, remodeling, soil consultants, surveyor, underground sprinkler systems and water treatments

(0028-37 (Ruth, Harry))

Comment: Business Lake Recreation (BL)

- i. Advantages: Boating major repairs will increase for the few boaters that use lake
- ii. Disadvantages

1. With less water in the lake, fewer people will want to use the lake or visit the lake

(0028-38 (Ruth, Harry))

Comment:

This [fewer people using the lake because of declining lake levels] will directly reduce the business for boat rentals, boat repairs for many boaters who would have previously used the lake, boat RV/PWC/storage, boat sales, campgrounds and marinas. (0028-41 (Ruth, Harry))

Comment: Boat slip rental business and lake waterfront owners will encounter major difficulties in getting boats off boat lifts, possibly having mud-flats in front of their property making the lake unusable for swimming or using their boats. (0028-43 (Ruth, Harry))

Comment: If fewer people come to the lake because of declining lake levels, then the need for other lake services will also decline. (0028-46 (Ruth, Harry))

Comment: Fewer real estate sales & rentals and less construction will mean fewer people will live on or visit the lake, thereby decreasing the business for accounting, advertising, automotive, attorneys, awards, bed and bath, blinds & shades, business services, catering services, cleaning services, computer services, county stores, physicians, dentists, dining, event location, fitness centers, investment securities, lawn care, newspapers, retailers, self storage, shipping services, skin care, beauty shops, television services, travel & leisure, wineries, etc. (0028-47 (Ruth, Harry))

Comment: Homeowners (H)

1. Advantage: Potential for lower taxes due to decreasing value of property.
2. Disadvantages:
 1. Lower lake level discourages any potential buyers or rentals
 2. Real estate values and assessments could decrease

(0028-48 (Ruth, Harry))

Comment: Waterfront owners will encounter major difficulties in getting boats off boat lifts, possibly having mud-flats in front of their property making the lake unusable for swimming & boating. (0028-51 (Ruth, Harry))

Comment: Some owners and/or Property Owner Associations may have to extend their boat ramps so they can launch and retrieve their boats. (0028-53 (Ruth, Harry))

Comment: Homeowner Insurance rates may increase due to lack of water at dry fire hydrants k. If fewer people come to the lake because of declining lake levels, then it is quite possible that many of the current lake services (restaurants, retail, etc.) will be unable to grow or stay in business due to lack of customers. (0028-56 (Ruth, Harry))

Comment:

Day User (DU) Does not own Lake Anna property and uses Lake Anna for recreation (e.g. campground, marina, state park, etc.) for day and then goes to home, motel or cabin.

1. Advantage: None.
2. Disadvantages:
 1. Less water will cause the existing water to get hotter faster and increase the human health risks for immersion in heated water, together with the potential for health risks of increased bacteria (microorganisms) or algae blooms. Hotter water makes the lake less desirable in summer time and day users may try to find other cooler waters to recreate in.
 2. Fish, aquatic life, clams, mussels and wildlife may be adversely impacted with less water and the water temperatures rising could cause lethal effects to various water related wildlife.
 3. Lower and hotter water levels could encourage the hydrilla and other aquatic life to proliferate, thereby making it less desirable, as well as unhealthy to swim and recreate on the lake. Previous high levels of hydrilla caused major difficulties in launching boats, caused the weeds to become entangled in boat propellers and choke the engine. In addition, young children when swimming previously became entangled in the hydrilla creating a very serious safety issue.
 4. When boating, the lake users will find more hazards throughout the lake, with stumps, rocks, sandbars, etc. causing lower units to hit them which in turn could necessitate major repairs or replacement of propellers, other engine components and boat hulls. In addition, the safety of all aboard the boats is severely jeopardized when the boats run into these newly emergent and changing boating hazards when the lake level is below 250 MSL and continues to decrease during drought cycles. Note: Dominion and the NRC state these drought cycles will be doubled with the proposed type of 3rd reactor wet/dry cooling method. The doubling of the drought cycle will increase the human safety risks dramatically.
 5. If fewer people come to the lake because of declining lake levels, then it is quite possible that many of the current lake services (restaurants, retail, etc.) will be unable to grow or stay in business due to lack of customers and will be unavailable to the day user when they visit.

(0028-57 (Ruth, Harry))

Comment: There will be major fire safety hazards for lake homes/communities by making the dry fire hydrants unusable due to the lack of water at the lake intake caused by the decreasing lake water level.

- * There will be shoreline stabilization problems (the seawalls & rip rap are designed for a water level of 250 MSL) and
 - * There will be negative impacts on many lake businesses as people go elsewhere to recreate and live.
- (0033-4 (Ruth, Harry))

Comment: Homeowner Insurance rates may increase due to lack of water at dry fire hydrants. If fewer people come to the lake because of declining lake levels, then it is quite possible that many of the current lake services (restaurants, retail, etc.) will be unable to grow or stay in business due to lack of customers. (0033-65 (Ruth, Harry))

Response: *Impacts of low-water levels on Lake Anna recreation, business entities, and property values were previously resolved in the ESP FEIS (NUREG-1811). Impacts related to socioeconomics previously resolved in the ESP FEIS will be evaluated in terms of new and significant information to determine if impact levels should be changed. The impacts on fire safety will be considered as part of the COL SEIS and addressed in Chapter 5.*

Comment: The height of dry and wet cooling towers and facility buildings should not exceed the tree line to protect the rural aesthetic landscape of the community as Dominion indicated in its Jan 2006 stakeholder meeting. (0028-28 (Ruth, Harry))

Comment: Noise concerns/decibel levels emitted from 180/230 foot buildings that will travel long distances without having tree barriers to break the sound from giant fans. (0028-34 (Ruth, Harry))

Comment: To ensure that the proposed construction of a 3 reactor will minimize the adverse effects on the quality of life for those who live and work on and around or use Lake Anna, we also ask that you further evaluate the following concerns prior to your making a final decision on the ESP (conditional certification requirements) and are included for evaluation in the COL DEIS.

a. The height of dry and wet cooling towers and facility buildings should not exceed the tree line to protect the rural aesthetic landscape of the community as Dominion indicated in its Jan 2006 stakeholder meeting. (0033-36 (Ruth, Harry))

Response: *Local noise impacts and visual aesthetics of the proposed Unit 3 are within the scope of the COL SEIS. Impacts related to noise and visual aesthetics previously resolved in the ESP FEIS (NUREG-1811) will be evaluated in terms of new and significant information to determine if impact levels should be changed.*

Comment: The section on socioeconomics is lacking. For example, there is no data on the impact that the project will have on local house values. The impacts on the human environment must be fleshed out in an EIS and this should be addressed as part of Section 5.5.3.1 or 5.5.3.5. The potential impacts to the DC area are not addressed at all in the document and should be included. (0035-3 [Goldsmith, Aviv])

Response: *Impacts of the construction and operation of the proposed power plant on housing availability and housing values were previously discussed and resolved in the ESP FEIS (NUREG-1811). The COL SEIS prepared for Unit 3 will primarily discuss new and significant information available since the publication of the ESP FEIS (NUREG-1811) to determine*

whether any previously stated conclusions would change as a result of the new information. With respect to the impacts to the metropolitan area of the District of Columbia, the number of activities that affect that metropolitan housing market are many and diffuse, and it is extremely unlikely that the impact of the construction and operation of NAPS Unit 3 could be separately identified in that market.

Comment: The transportation section is totally deficient. There is currently insufficient infrastructure to support the construction workforce or handle an evacuation. Assuming that the roads will be there when required (Page 5-37, line 16) is not science, it is superstition. The SDEIS stated "No new transportation routes...are currently planned in the vicinity of NAPS." (Page 2-4 line 37) There is little to no funding for road expansions in Virginia. The DEIS acknowledged that the I-95/606 interchange is congested at "LOS D or worse" and that SR208 from Blockhouse Road to Lake Anna (about 12.5 miles) is a minor two-lane road. Increased construction usage will have major impacts on these roads. If an evacuation is required during the construction interval when additional personnel are on site, the impact would be staggering. (0035-5 [Goldsmith, Aviv])

Response: *The transportation section of the COL SEIS will address new and significant information that has become available since publication of the ESP FEIS (NUREG-1811) to determine if any impacts should be changed.*

Comment: Given that Louisa County had a population of about 25,000 in 2000 (Page 2-1 line 42), the SDEIS conclusion that a construction work force of 5,000 would have a SMALL impact (Section 4.5) is unsubstantiated and suspect. (0035-19 [Goldsmith, Aviv])

Response: *In the ESP FEIS (NUREG-1811) for the NAPS site, the impact of the construction-related population was based in part on where the construction workforce chose to live. The basic assumption was that the construction workforce would largely come from outside of Louisa County and would commute to the NAPS site. The basis for that assumption was given in the ESP FEIS (NUREG-1811). It also stated that if more workers than expected located in Louisa County, the impact was estimated to rise to MODERATE. The NAPS Unit 3 construction workforce is significantly smaller than that assumed in the ESP FEIS, but more is now known about the housing and public services that the workforce would actually face. The Unit 3 COL SEIS will consider whether new and significant information that has become available since publication of the ESP FEIS (NUREG-1811) would change any impact levels previously discussed.*

Comment: At the ESL public hearing that I was able to attend, Lake Anna residents expressed concern about the aesthetics of the cooling towers. A visual simulation should be included as part of section 4.5.1.4 to address this concern. (0035-20 [Goldsmith, Aviv])

Response: *The environmental impacts related to aesthetics were resolved in ESP FEIS (NUREG-1811). The staff will evaluate new and significant information relating to aesthetics of the cooling towers to determine whether the impact levels previously analyzed in NUREG-1811 should be changed. A visual simulation has been provided in the applicant's ER and will be considered.*

Comment: Table 10-1 acknowledges that increased traffic congestion is unavoidable. This is not congruous with the SMALL impact determination. Table 10-2 should include an assessment

of traffic similar to Table 10-1. Presently, this would also conclude that increased traffic congestion is unavoidable. (0035-44 [Goldsmith, Aviv])

Response: *The analysis of mitigation and unavoidable impacts will consider any new and significant information on traffic congestion and the impact of traffic management plans.*

Comment: [Overall, the mitigations (listed in Section 10) are insufficient]. Major contributions to construction of a reliable road network are required. Financial contributions to neighboring counties to alleviate the housing, school, and health care burdens of the project should be implemented. (0035-46 [Goldsmith, Aviv])

Response: *Chapter 10 of NUREG-1811(ESP FEIS), considered potential mitigation actions in the area of traffic congestion. The issue is considered resolved absent new and significant information. The staff will consider these mitigation measures in its evaluation in terms of new and significant.*

Comment: Shouldn't Appendix F or L or the socioeconomic section of the text include mention of the resolution passed by Spotsylvania County against the project and the ESP? (0035-49 [Goldsmith, Aviv])

Response: *The resolution will be considered in the COL SEIS to the extent that it provides new and significant information that affects the impact levels previously resolved in the ESP FEIS (NUREG-1811) or any impacts that were not previously addressed.*

11. Comments Concerning Historic and Cultural Resources

Comment: Many issues regarding potential impacts to historic properties, specifically archaeological resources, were resolved during the Early Site Permit (ESP) process. Given the limitations of the ESP process and changes to the scope of the project, additional studies are warranted to determine this undertaking's effect to historic properties. We understand, that an additional 90+ acres have been added to the project. We recommend that this and any additional areas included in the project be subjected to Phase I archaeological survey by a qualified professional in accordance with our *Survey Guidelines* (rev. 2003). Furthermore, as new tower height is established, we recommend finalizing the viewshed analysis to determine potential impacts to the setting of nearby historic properties. Finally, we are concerned about the avoidance and continued management of the three known cemeteries (44LS0221, 0222, and 0227) and the historic site (44LS0226), which have been found to be potentially eligible for listing in the National Register of Historic Places. We request that the NRC provide for their protection. (0001-1 [Kirchen, Roger])

Response: *The environmental impacts related to cultural resources were resolved in NUREG-1811 (ESP FEIS). The staff will evaluate new and significant information relating to cultural resources to determine whether the impact levels previously analyzed in NUREG-1811 should be changed. Regarding the new cemeteries, the staff believes these cemeteries, along with any additionally discovered cultural resources, will continue to be protected based upon Dominion's cultural resources management procedures outlined in Chapter 4 and 5 in NUREG-1811. The impacts of plant construction and operation on cultural resources will be discussed in Chapter 4 and 5 of the SEIS.*

Comment: Since consultation regarding the ESP, several Federally-recognized Indian tribes have informed our office of their possible interest in undertakings in Virginia. Find attached contact information for these tribes. We do not know of any specific tribe with interest in this project nor do we make any statement regarding the completeness of this list. This information is provided as a courtesy and is intended as technical assistance to NRC in meeting its tribal consultation requirements. (0001-2 [Kirchen, Roger])

Response: *The NRC intends to make use of the list of tribes provided by the Virginia State Historic Preservation Officer to meet its tribal consultation requirements.*

12. Comments Concerning Environmental Justice

Comment: NRC Commissioner Jaczko took issue with his fellow commissioners in the November decision to approve the North Anna ESP. In dissent, he wrote:
"I concur with my colleagues on most of this decision, but dissent, in part, on the environmental justice portion of the Memorandum and Order. Environmental justice is a critical component of the agency's NEPA review. It seeks to ensure that environmental, social, economic and health issues are all appropriately considered in the context of minority and low-income populations where the impacts of actions may be remarkably different from the impacts on the majority. Although the staff obtained underlying data on minority and low-income populations and provided its conclusions on the potential environmental impacts on those populations in the Environmental Impact Statement (EIS), I do not believe that the Staff sufficiently explained how it reached its conclusions regarding environmental justice. Without such an explanation, I believe it is difficult for the Commission, or the public, to determine whether the Staff has examined environmental justice issues in greater detail -as we, in our Environmental Justice Policy Statement, directed the Staff to do. I fully support my colleagues' efforts in this Memorandum and Order to ensure that future environmental justice reviews are supported by a level of detail that would transparently describe the basis for the Staff's conclusions. I diverge from my colleagues on this issue in one respect: I would have also directed the Staff to prepare a Supplemental EIS that provides a supporting analysis for its conclusions prior to the issuance of this Early Site Permit. I recognize that requiring additional work in the environmental justice area would then impact the finality of this Early Site Permit. I also recognize that this could cause the applicant to adjust its future plans, even though it is the agency's, not the applicant's, responsibility to consider environmental justice issues. But as I have previously stated, this agency exists to serve the public. I have consistently demanded that applicants present thorough and high quality applications to this agency and it would be inconsistent for me not to demand the same in the Staff's review of those applications. Both are necessary for the NRC to be able to transparently demonstrate how we meet our mission. In this instance, I believe we could have provided a supplemental environmental justice analysis at the cost of a bit more time, but with the benefit of being certain that the agency had a thorough analysis supporting issuance of this Early Site Permit."

It is now incumbent on the NRC to rectify this error. The supplemental analysis outlined above would be a reasonable, practicable remedy. We hereby request that the NRC implement this process at the earliest possible date. (0024-10 [Zeller, Lou])

Comment: The Nuclear Regulatory Commission has not fulfilled the environmental justice requirements embodied in Executive Order 12898 which requires the agency to review its

programs, policies and activities to address disproportionately high impacts on minority and low-income populations. (0024-9 [Zeller, Lou])

Response: *Environmental Justice is within the scope of the COL SEIS. Because this subject was analyzed for the the ESP FEIS (NUREG-1811), the analysis for the COL SEIS will consider new information to assess whether the impact level determine in the ESP FEIS (NUREG-1811) should be changed.*

13. Comments Concerning Health – Non radiological

Comment: The human brain eating Naegleria fowleri amoeba was found in both the main reservoir and the cooling lagoons. This same amoeba caused deaths in Florida, Texas, and Arizona last summer. It proliferates in water around 86 degrees and thrives especially well at 95 degrees and above. (0023-4, 0034-150 (Black, Betty))

Comment: Previous water temps. ---LACA/VDEQ water teams in 2006 and 2007 have confirmed in various tests that the Water Temperatures have risen to 104.6F on the warm side of the lake and 93F on the cool side of the lake. Dominion's data reported to VDEQ and NRC is very close to this.

1. How water temps affect prolonged human immersion and changes in concentrations of micro-organisms. The Virginia State Health Commissioner in a Sep 15, 2005 letter to the Virginia Department of Environmental Quality state when evaluating the potential health effects of any such new nuclear reactors from (1) Direct effects of heat from immersion in ambient waters by recreational bathers, and (2) the potential adverse effects of any changes in the concentrations of microorganisms in those waters said in part:
 1. Naegleria Fowleri (amoebas1 which have been found at various locations in Lake Anna) species organism begins to proliferate at temperatures around 86F and thrives especially well (compared to its competitors) at temperatures of 95 to 113F. Primary Amoebic Meningoencephalitis (PAM) is a rare but nearly always fatal infection caused by Naegleria fowleri.
 2. Persons with heart disease, children, parents and guardians of young children, the elderly, pregnant women and persons with spinal cord or peripheral nerve disorders should be cautious of prolonged immersion in waters that are warmer than body temperature. Bodies of water that have a temperature exceeding 104F should be considered unsafe for recreational activity for all persons due to the effects of heat alone.
 3. Common sense suggests that to reduce the risk of PAM, swimmers might wish to avoid swimming in freshwater venues when water temperatures are high, (e.g. when surface water temperatures are greater than or equal to 95F.

(0028-65, 0033-74 (Ruth, Harry))

Comment: Various newspapers articles during the summer of 2007 identified that 6 deaths occurred in 3 different states in the U.S. during the summer of 2007 due to PAM. This is a major increase from previous statistics where the Centers for Disease Control said there were only 24 deaths between 1989 and 2000.

1. The Virginia Commonwealth University conducted tests for Lake Anna Civic Association (LACA) the summer of 2007 to identify the presence or absence of Naegleria Fowleri (NF) in Lake Anna. See report dated Dec 2007 that identified 16 locations were tested and that 9 of the 16 locations tested positive for NF. 5 on the warm side of the lake and 4 on the cold side of the lake. Some of the locations on the cold side are in the upper part of the lake above the 208 bridge. (See the full report at www.LakeAnnaVirginia.org)
 1. On Page 4 of the VCU Related research about NF Amebae states "In studies of fresh water lakes associated with power plants, N. fowleri was routinely isolated. The heated water is a breeding ground for pathogenic NF amebae. Thermal enrichment of water can cause proliferation of amebae especially at temperatures of 86F to 111F.
 2. On Page 5 Recommendations to reduce the risk of infection. The report says "Since it has been shown that N. fowleri is present in Lake Anna, the public should be warned to wear nose plugs while diving, swimming or engaging in water activities in which the head is submerged when temperatures of Lake Anna reach 84F or higher."

(0028-67, 0033-76 (Ruth, Harry))

Comment: Both amoeba and ameba are acceptable spellings as well as the plurals -bas and -bae and all are used throughout this document by various authorities

c. On Page 13 --In Conclusion the report says Quote Lake Anna Civic Association studies indicate that Lake Anna is unique in that 99% of the water between the power plant and the dam is re-circulated by the North Anna Power Station cooling pumps. During the summer months water temperatures are in excess of 100 degrees F at some locations. Thus, recirculation of the water could account for sites being positive on one sampling date and negative at another sampling date. This study indicates that increased temperatures at sites on the lake are associated with the presence of Naegleria fowleri. These sites should be monitored during the summer months when there are increased water activities to determine the abundance of amebae, in order to prevent primary amebic meningoencephalitis. There is a large body of literatures that demonstrates that as water temperatures rise, the amebae proliferate. This increased proliferation is consistent with a possible increased risk of human infection. Unquote.

d. On Page 13 --In summary the report says that Identifying the risk of contracting Primary Amebic Meningoencephalitis infection when N. fowleri amebae are present in the water is a very complex issue and there are no U.S. Standards. When concentrations of amebae are high there is a greater chance of becoming infected, but we do not know what all of the risk factors are and what the actual risk of infection is. (0028-68, 0033-77 (Ruth, Harry))

Comment: The Va. State Health Commissioner says that as water temperatures rise there is an increased risk to the public for immersion in the hot water and also that amoebae proliferates faster in water temperatures above 85F. LACA/VDEQ teams have recorded water temperatures of 104.6F on the warm side and 93F on the cold side. The Va State Health commissioner says that persons with heart disease, children, parents and guardians of young children, the elderly, pregnant women and persons with spinal cord or peripheral nerve disorders should be cautious of prolonged immersion in waters that are warmer than body temperature (98.6F). The U.S. Safety Commission says that it could be fatal if you go into a hot tub with temperatures greater than 104F. Various newspapers confirmed the deaths of 6 young people in 3 states due to PAM during the summer of 2007.

(0028-71, 0033-80 (Ruth, Harry))

Comment: Virginia Commonwealth University (VCU) studies during the summer of 2007 confirmed the presence of Naegleria Fowleri (NF) on both sides of Lake Anna. The VCU studies further states that as water temperatures increase above 86F and the NF proliferate the risk of getting PAM in Lake Anna increases. The study also says there is a large body of literatures that demonstrates that as water temperatures rise, the amebae proliferate. This increased proliferation is consistent with a possible increased human infection. VDEQ has granted water discharges permits for the current 2 units to Dominion to heat up the entirety of Lake Anna to any water temperature it desires without any penalties. We have previously had water temperatures over 104F in some parts of the lake and in the high 90s in many parts of the lake. We also know that 99% of the water re-circulates between the power plant and the dam and what amoebas are at one location today could be at another tomorrow. There is much scientific evidence that there is increased risk of an algae bloom (with heated water and an abundance of nutrients in the water) which in turn creates various health concerns with the type of water exposure (contact or ingestion). The health risks to human from algae blooms have found to contribute to eye, ear, and skin irritation. More serious health effects (e.g. muscle cramps twitching) can also occur. (0028-72, 0033-81 (Ruth, Harry))

Comment: The FOLA organization is concerned about the Virginia Commonwealth University (VCU) conducted tests in 2007 for the presence or absence of Naegleria Fowleri (NF) a human brain eating amebae in Lake Anna. They tested 16 locations and found that 9 of the 16 locations tested positive for NF. VCU also indicated that heated water is a breeding ground for pathogenic NF amebae. Thermal enrichment of water can cause proliferation of amebae especially at temperatures of 86F to 111 F. Note that Lake Anna had previous confirmed water temperatures exceeding 104F degrees F. We believe that the NRC should require Dominion to have continued tests bi-annually throughout the cooling lagoons and main reservoir to monitor the NF amebae and the results should be reported to the public bi-annually. These new and significant actions by the Health Department and State Park which effect the local economy with less people visiting the lake, loss of real estate values, etc. should be fully evaluated by the NRC during the DEIS. (0033-8 (Ruth, Harry))

Response: *The NRC staff will evaluate any new and significant information relating to the presence of the microorganism Naegleria fowleri in the Lake Anna reservoir to determine if impact levels should be changed. The staff also will evaluate new and significant information that may change the impacts related to the original thermal impact level and, thus, the non-radiological health impact level previously resolved in the ESP FEIS (NUREG-1811).*

Comment: Note that with only Units 1 and 2 operating, water temperatures have previously been recorded at over 104F in the cooling lagoons and over 93F on the main reservoir. The hot water is where humans recreate and where fish, wildlife, clams/mussels, and aquatic life share the water in what appears to be unsafe conditions. (0028-15 (Ruth, Harry))

Comment: The NRC in its DEIS should also examine the effects of increased undesirable aquatic growth from the declining water levels which allows sunlight to permeate to lower levels of the lake, that previously were darkened. Will this declining water level caused by unit 3 create a reoccurrence of increased undesirable aquatic life throughout the lake and the associated human safety concerns defined below? The sun light penetration enhances the growth of aquatic weeds (hydrilla) and (skunk weed) and possibly others. The skunk weed has

increased dramatically during the recent drought due to lower water levels causing unsafe swimming conditions for young children. Approximately 11 years ago, hydrilla growth created many safety risks for the public and created many boating hazards in Lake Anna. Humans could not swim in many parts of the lake due to 10' long hydrilla patches throughout. Children would become entangled in the hydrilla creating serious safety concerns. Boats would come to an abrupt stop when their motors were choked out by hydrilla causing people to become thrown about in their boats. (0028-20, 0033-23 (Ruth, Harry))

Comment: Less water will cause the existing water to get hotter faster in the summer and increase the possibility of adverse impacts to humans through the increased health risks of human immersion in heated water, together with the potential for dangerous growth of bacteria (microorganisms) or algae blooms. (0028-39, 0033-47 (Ruth, Harry))

Comment: Less water will cause the existing water to get hotter faster and increase the human health risks for immersion in heated water, together with the potential for adverse effects of increased bacteria (microorganisms) or algae blooms. (0028-49, 0033-58 (Ruth, Harry))

Comment: Lower and hotter water levels could encourage the hydrilla and other aquatic life to proliferate, thereby making it less desirable to swim and recreate on the lake. Previous high levels of hydrilla caused major difficulties in launching boats, caused the weeds to become entangled in boat propellers and choked off the engine. In addition, young children when swimming previously became entangled in the hydrilla creating a very serious safety issue. (0028-44, 0028-52, 0033-52, 0033-61 (Ruth, Harry))

Comment: What do we know that is identified in official government, university, or government sanctioned studies/documents about the potential health risks to humans from hot water in Lake Anna from the current 2 nuclear reactors? Will the Lake water temperatures get hotter from the proposed 3rd Unit cooling method and decreased water levels? What are the health risks to humans from hot water? (0028-59, 0033-68 (Ruth, Harry))

Comment: How elevated water temps affects prolonged human immersion. The U.S. Consumer Safety Commission indicates that no one should go into a Hot Tub if the water temperature exceeds 104F because of possible fatal consequences. (0028-66, 0033-75 (Ruth, Harry))

Comment: In October 2007, the Virginia Department of Environmental Quality (VDEQ) has granted a water discharge permit to Dominion that has imposed no water temperature limits in Fahrenheit that can be measured by the public at the North Anna plant for the current two operating nuclear units. In addition, VDEQ has granted Dominion a 316A Variance from the U.S. Clean Water Act which allows them legally to heat the entire lake to any temperature that they desire without any penalties.

Microcystis Algae Bloom Facts --Note that Algae Blooms occur in Lake Anna every summer when the lake water gets hot. Frequently Asked Questions Concerning Health Impacts of Algae Blooms. (0028-69 (Ruth, Harry))

Comment: Question? -- Can we take the chance that one of our loved ones will get sick or die because the water temperatures in Lake Anna which are currently at high levels in the summer months and will be increased further because of the up to 24 million gallons a day additional

evaporation from the 3rd reactor cooling method than what they currently are from the existing two reactors?? Why? Because the water level will decline and there will be less water to cool the heat from the two current reactors causing the water to get hotter starting earlier in the summer and increasing temperatures throughout the summer and extending further into the fall. A simple analogy for the heating of water faster can be made with the fact that heating a cup of coffee will occur much faster than for heating a whole cup of coffee. If Dominion changed its proposed 3rd reactor cooling method to dry cooling (which they proposed for unit 4 and is currently used in many places throughout the world), then the 3rd reactor cooling method would not further impact the hot water temperatures during the summer months in Lake Anna. (0028-74, 0033-83 (Ruth, Harry))

Comment: The NRC in keeping with its charter to protect public health and safety should evaluate in the DEIS for the Unit 3 COL all the related public health impacts that could result from hotter water in Lake Anna as a result of further lake level declines caused by the evaporation of up to 24 million gallons per day.

We understand that the Virginia Dept of Health is considering issuing a statement that if the Lake Anna water is over 104 degrees F that it is unsafe for humans because of the water temperature. The health dept is also considering issuing a statement indicating to avoid swimming, jumping or diving into bodies of water when water temperatures are high (above 95 degrees F), especially when the water levels are low. We further understand that the Virginia State Park is planning to monitor Lake Anna water temperatures and recommend that no one swims at the state park if the Lake Anna water temperatures exceed 95 degrees F. (0033-7 (Ruth, Harry))

Response: *The impacts of lake temperature and low-water levels were resolved in the ESP FEIS (NUREG-1811). The staff will evaluate new and significant information to determine whether the previously resolved impact levels related to health risks or recreational hazards from warmer water or low lake level should be changed.*

Comment: Noise concerns/decibel levels emitted from 180/230 foot buildings that will travel long distances without having tree barriers to break the sound from giant fans. (0033-42 (Ruth, Harry))

Response: *Local noise impacts and visual aesthetics of the proposed Unit 3 are within the scope of the COL SEIS. Impacts related to noise and visual aesthetics previously resolved in the ESP FEIS (NUREG-1811) will be evaluated in terms of new and significant information to determine if impact levels should be changed.*

Comment: PCBs have been found in Lake Anna resulting in a fish consumption advisory by the State Health Commissioner. (0023-5, 0034-151 (Black, Betty))

Comment: The DEIS should examine the source of Lake Anna PCB contamination that has now caused the Virginia Dept of Health to issue a fish consumption advisory on August 31, 2007. The VDH advisory cautions: Do not eat any Lake Anna gizzard shad and do not eat more than two meals a month of carp, largemouth bass, striped bass, white perch, white catfish, channel catfish or blue gill sunfish. The health advisory applies to the total lake, both the main reservoir and cooling lagoons. (0028-17 (Ruth, Harry))

Comment: The NRC in its DEIS should examine the source of Lake Anna PCB contamination that has now caused the Virginia Dept of Health to issue a fish consumption advisory on August 31, 2007. The VDH advisory cautions: Do not eat any Lake Anna gizzard shad and do not eat more than two meals a month of carp, largemouth bass, striped bass, white perch, white catfish, channel catfish or blue gill sunfish. The health advisory applies to the total lake, both the main reservoir and cooling lagoons. (0033-21 (Ruth, Harry))

Response: *The staff will evaluate any new and significant information relating to the presence of polychlorinated biphenyls (PCBs) in fish and sediments from the Lake Anna reservoir and the WHTF as they relate to assessing the human health impacts of Unit 3 construction and operation. This information will be evaluated in terms of new and significant to determine if impact levels should be changed.*

Comment: The DEIS should further investigate the fire at the North Anna Power station in 1981 and the significant spill of transformer oil associated with this event as it likely contained polychlorinated biphenyls (PCB's). It was reported at the time that some unknown quantity of oil did reach the waters of Lake Anna. The complete remediation effort, including what happened to the contaminated material from the ground site and precisely how the PCB's were extracted from Lake Anna should be identified in the DEIS. This survey should include what possible impact the ground excavation for the 3rd reactor (which is on the same site as the PCB spill) and its facility buildings will have on Lake Anna. (0028-18 (Ruth, Harry))

Comment: The DEIS should further investigate the spill and fire at the North Anna Power station of poly-chlorinated biphenyls (PCB) transformer oil in 1981. It was reported at the time that some unknown quantity of oil did reach the waters of Lake Anna. It has also been noted that Dominion has not released the results of PCB samples that it recently took in the WHTF/Cooling Lagoons 1, & 3. The complete Dominion disclosure of the remediation effort, including what happened to the contaminated material from the ground site and precisely how the PCB's were extracted from Lake Anna should be identified in the DEIS. This disclosure should include what possible impact the ground excavation for the 3rd reactor (which is on the same site as the PCB spill) and its facility buildings will have on Lake Anna. Core samples of the existing ground should be taken to insure it is PCB free. (0033-22 (Ruth, Harry))

Response: *The staff will evaluate any new and significant information relating to the presence of PCBs on or near the proposed construction site, including Lake Anna in the vicinity of the intake structure, to determine whether previously stated impact levels should be changed. Construction impacts will be discussed in Chapter 4 and operational impacts will be discussed in Chapter 5 of the SEIS.*

14. Comments Concerning Health – Radiological

Comment: I hold in my hand here North Anna 3 combined license application part 7 departures report. Departures report is variances of plant-specific deviation from one or more of the site characteristics design parameters terms and conditions of the early site permit or from the site safety analysis report. I picked out a few of these. There's a long list of them, including annual thyroid dose and liquid effluent releases and gaseous pathways. But regarding the radiological exposure, the variances requested by Dominion say, distances to the closest receptors had changed. People are living closer to the plant. (0034-87 (Zeller, Lou))

Response: *In Section 5.9 of the SEIS, the NRC staff will evaluate the impacts of the revised liquid and gaseous effluent release source term from the proposed Unit 3 at NAPS. The impact of the revised receptor locations also will be evaluated.*

Comment: We are learning more and more about the hazards of tritium exposure and we also know that it is routinely released into the Lake and into the atmosphere. How will Dominion and the NRC act to limit tritium releases? Both Dominion and the NRC must continue to study and make public the effects of tritium exposure on humans and flora and fauna who live on and in the Lake and downstream. (0017-8 (Day, Elena))

Comment: The EIS should fully address the impact on flora and fauna in Lake Anna and surrounding tributaries caused by North Anna-3's planned release of radioactive waste into the Lake. (0026-8 (AuClair-Valdez, Miguel))

Comment: The NRC in its DEIS should evaluate the effect of tritium being released into Lake Anna together with its heated water from Units 1 and 2 and if the possibility exists that Unit 3 proposed cooling method could also introduce additional tritium which has a radioactive half-life of 12.3 years. Our understanding is that the current two units routinely discharge not only tremendous amount of heat, because the reactors are only 33 percent thermally efficient. 67 percent of the fission generated heat is dumped into the lake together with some radioactivity. According to NRC records, since 2000, the current reactors have released more than 5,700 curies of radio active tritium water into the lake. It is increasingly uncertain what constitutes a permissible radiation exposure. The NRC's protective standard for radio active tritium in drinking water is 1million picocuries per liter. While the Environmental Protection Agency standard is 20,000 picocuries per liter, Colorado and California have set theirs at 400 per liter. What will the impact of the 3rd unit have on additional radioactivity being released into the lake with the reduced water levels? (0033-27 (Ruth, Harry))

Comment: I'm also concerned about the hazards of tritium exposure. And we also note that this tritium is routinely released into the lake and into the atmosphere. How would Dominion and the NRC act to limit tritium releases? Both Dominion and the NRC must continue to study and make public the effects of tritium exposure on humans and flora and fauna who live in and around the lake and downstream. (0034-141 (Day, Elena))

Response: *The environmental impacts related to tritium releases to the air and Lake Anna were resolved in Chapter 5.9 of NUREG-1811(ESP FEIS). The staff will evaluate new and significant information relating to tritium release to determine whether the impact levels*

previously analyzed in NUREG-1811 should be changed. Tritium releases from the proposed ESBWR reactor design for Unit 3 are significantly lower than those evaluated in NUREG-1811.

Comment: A summary is required that clearly sets out expected radiation impacts in the study area. (0035-6 [Goldsmith, Aviv])

Comment: The section on emergencies and radiation impacts is not understandable by lay persons. A summary is required that clearly sets out (a) expected radiation impacts in the study area, and (b) the possible radiation impacts from an emergency. (0035-30 [Goldsmith, Aviv])

Response: *The ESP FEIS (NUREG-1811) published by the NRC in December 2006 discussed radiological impacts of normal operations in Sections 5.9 and 7.8. The environmental impacts of postulated accidents (emergencies) were discussed in Section 5.10 of the ESP FEIS. Sections 5.9 and 5.10 both contain summary information at the end of each section. All environmental issues associated with radiological impacts of normal operations and environmental impacts of postulated accidents were resolved in the ESP FEIS (NUREG-1811). The analysis for the Unit 3 COL SEIS will address only new and significant information to determine whether the impact level has changed. Any new and significant information identified since the ESP FEIS was published will be evaluated in Chapter 5 (Sections 5.9 and 5.10) of the COL SEIS.*

15. Comments Concerning Accidents – Design Basis

Comment: The EIS should address potential consequences (on the Lake, on people, on flora and fauna in the region) of a serious accident in the irradiated fuel pool at North Anna-3, and in other potential high-level radioactive waste storage facilities. (0026-4 (AuClair-Valdez, Miguel))

Response: *Evaluation of design-basis and severe accidents of the proposed Unit 3 are within the scope of the COL SEIS. Impacts related to design-basis and severe accidents previously resolved in the ESP FEIS (NUREG-1811) will be evaluated in terms of new and significant information to determine if impact levels should be changed.*

Comment: Section 5.10 [Impacts of Postulated Accidents] is hard to understand the possible radiation impacts from an emergency. Given that "radiation experts conservatively assume that any amount of radiation exposure may pose some risk of causing cancer or a severe hereditary effect," a common language summary is required that clearly sets out expected radiation impacts in the study area. (0035-31 [Goldsmith, Aviv])

Comment: Please clarify the statements in page SDEIS 5-57 line 35 et. seq. Does the SDEIS say that the project would create "730 fatal cancers, nonfatal cancers, and severe hereditary effects per 10,000 persons"? (0035-32 [Goldsmith, Aviv])

Response: *These comments refer to generic information in the NAPS draft ESP EIS and draft supplemental EIS that were superseded by the ESP FEIS (NUREG-1811) published by NRC in December 2006. The ESP FEIS (NUREG-1811) was revised to incorporate numerous public comments (see NUREG-1811, Appendix E). Dominion was issued an ESP permit (ESP-003) in November 2007 for two units at the NAPS site under the specifications contained in that permit. The information presented in NUREG-1811 is resolved.*

The above comment regarding the number of fatal cancers, nonfatal cancers, and severe hereditary effects is incomplete. The full statement gives a correlation between population dose and health effects published by the International Commission on Radiation Protection. That correlation says that a population dose of 1 million person-rem can be expected to produce 730 fatal cancers, nonfatal cancers, and severe hereditary effects. This correlation applies to population doses due to the project. It is used to convert population doses to health effects; rather, it is not a statement that the project would cause 730 fatal cancers, nonfatal cancers, and severe health effects.

16. Comments Concerning Accidents – Severe

Comment: When I read about the risk assessment of severe accidents in the environment impact statement prepared here, and specifically in Table 518, which I think was renumbered, but it's -- it was reviewed somewhat in response to public comments on that section in Volume 2, Section 3.14.3, Severe Accidents. And here I quote, A severe accident without loss of containment for an advanced boiling water reactor is estimated to have a core damage frequency of 1.34 times 10⁻⁷. That is 1.34 of the severe accidents in 10 million years. Now, how in the world are you predicting 10 million years from here? It just --it's --my algebra teacher, when I was in ninth grade -- and this was quite a few years ago --said, You can't extrapolate way beyond your data. And I found this true when I did my master's degree. I found this true when I did my doctorate. You can't extrapolate like this. What are you doing thinking about 10 million years from now, and there is a likelihood of 1.34 accidents, severe accidents, in the proposed plant. I object also to the using two decimal points. It gives an illusion of -- that you know what you're doing. And I have to say these two decimal points do not give any additional information. You don't have any idea, even to -- even to an order of magnitude, and to put in 1.34, this is -- this is a problem we've got in this country. (0034-69 (Bryan, James))

Response: *The commenter refers to the ESP FEIS (NUREG-1811), specifically Table 5-18, where results are reported per reactor year (Ryr-1). The term reactor year refers to an operating year for a given reactor. For these analyses, the probability of a given event occurring is an indication of the probability of occurrence per operational year, considering the anticipated operational lifetime of the reactor (i.e., 40 years). Although the analyses indicate a very low probability occurrence for some events and consequences, this is not equivalent to the probability of a given event or consequence if the reactor were operated for millions of years. The staff agrees the use of three significant figures in the previously reported results overstates their relative degree of accuracy. This comment provides no new and significant information; therefore, it will not be evaluated further.*

Comment: Now, looking a little further at the same data, there is another problem. And that's that when they do their analysis they leave out Three Mile Island. And if you read the explanation for it, Three Mile Island Reactor Number 2 is left out of the data set, and this accident -- this absence, I thought it was an accident. But they answer -- Three Mile Island, Unit 2 is not among the current generation reactors included in preparation of Table 522, because it is no longer in operation. Well, do you want to make your basis of thinking the elimination of your most significant accident? (0034-70 (Bryan, James))

Response: *The commenter refers to the ESP FEIS (NUREG-1811), specifically Table 5-22, where results for core damage frequency and population dose risk are compared to 28 operating current-generation reactors. Because only operating reactors are included in the*

comparison, the commenter incorrectly infers that lessons learned from the 1978 Three Mile Island Unit 2 accident are not considered. To the contrary, the analyses are made using well-developed methods that have been updated based on investigation of the accident at Three Mile Island and considerable research following the accident. These methods explicitly consider both pre-accident and post-accident human errors. The comparison of analysis results to operating current-generation reactors is appropriate because many of the specific errors that led to the accident at Three Mile Island have been eliminated or reduced through updated designs and procedures. This comment provides no new and significant information; therefore, it will not be evaluated further.

Comment: The EIS should describe and address the potential consequences of a beyond design basis accident at North Anna-3 and should address potential additional risks of a First-of-a-Kind reactor design. (0026-9 (AuClair-Valdez, Miguel))

Comment: He [Dr. James Bryan] mentioned that Three Mile Island is considered as a reference case in either the ESP or the COL, wherever he had his comment. And I wanted to tell him that Three Mile Island was a PWR, pressurized water reactor. The reactor we are proposing or that Dominion is proposing here is ESBWR, a boiling water reactor. What happened at Three Mile Island can't happen at a boiling water reactor. (0034-172 (Stiles, Lisa))

Comment: My third concern about the safety issue is the human error problem. And within the reports, the NRC says that they are taking into consideration human error. Human error has been the problem at Chernobyl, it has been the problem at Three Mile Island, it has been the problem in Japanese reactors. And one of the main human reactors -- one of the main human errors has been when they have neglected to do the safety checks, the analyses that they needed to do. Now, you may say, Oh, this is Russia. This is Japan. This is not the United States. Well, right this month we have got airlines not being inspected when they needed to be inspected. We all know about that. There may be some people in this room that have been grounded for it. Fortunately, no one has been damaged by it, as far as I know. But leaving out the safety inspections that are mandated has been a worldwide problem, and it has not been absent here in the States either. You've got to pay more attention to human error. It's a human characteristic. It's just as part of us as breathing, is that we make mistakes. We try to take shortcuts. We try to do things the easy way. When there are safeguards, we figure out ways to make it -- to overlook them. And this has to be part of a solid safety analysis is human error. (0034-71 (Bryan, James))

Response: *Design-basis and severe accidents of the proposed Unit 3 are within the scope of the COL SEIS. Impacts related to design-basis and severe accidents previously resolved in the ESP FEIS (NUREG-1811) will be evaluated in terms of new and significant information to determine if impact levels should be changed. In addition, the staff will evaluate the potential consequences of design-basis accidents and the probability and consequences of severe accidents for the ESBWR as part of its review of the application for certification of the reactor design. While a detailed description of the design certification review is beyond the scope of the COL SEIS, it is important to note that while the reactor design may be new, severe accidents are associated with multiple failures of components, such as valves, and that the likelihood of failure of components may be reasonably well understood, even if the reactor type is new. The analysis methods also explicitly consider both pre-accident and post-accident human errors, along with any applicable lessons learned following operational events or accidents at*

worldwide locations, including the 1978 accident at Three Mile Island Unit 2. These comments provide no new and significant information; therefore, they will not be evaluated further.

Comment: Section 5.10 [Impacts of Postulated Accidents] should include a worst case analysis for low-probability events. (0035-34 [Goldsmith, Aviv])

Comment: A common-language summary of section 5.10.2 [Severe Accidents] is required. (0035-35 [Goldsmith, Aviv])

Comment: The statement on page 5-69 line 40 that "alternatives to mitigate severe accidents are not resolved" is incongruous with the SMALL impact determination. Since the ESP is designed to address site-specific issues, these must be resolved now, not at the COL stage as is suggested by page 5-70 line 2. (0035-36 [Goldsmith, Aviv])

Comment: There should be a Section 7.8.B that discusses the cumulative radiologic impacts of emergency situations (accidents and terrorism). Casual discussion in 7.8 of normal operations is insufficient treatment for this potentially devastating situation. (0035-39 [Goldsmith, Aviv])

Response: *These comments refer to information on severe accidents in the NAPS ESP FEIS (NUREG-1811), which was published by the NRC in December 2006. The ESP FEIS (NUREG-1811) includes revisions based on numerous public comments (see NUREG-1811, Appendix E). Dominion was issued an ESP permit (ESP-003) in November 2007 for two units at the NAPS site under the specifications contained in that permit. Environmental issues related to severe accidents in the ESP application were identified, evaluated, and resolved in Section 5.10.2 of the ESP FEIS (NUREG-1811). The NRC staff will evaluate new information relating to severe accidents in Chapter 5 of the COL SEIS to determine whether the impact level has changed.*

The Commission has considered the type of analyses that are appropriate for evaluating consequences of severe accidents and has determined that the evaluation should be on the basis of mean estimates of risk (51 FR 30028). The ESP FEIS (NUREG-1811) concludes that the risk of severe accidents is comparable to the risk of normal operation and that risks of early fatality from normal operation or a severe accident are small compared to risks of an early fatality from other human activities. The ESP FEIS considered the risks of severe accidents and concluded that based on the risk the environmental impacts of severe accidents would be SMALL. This does not mean that the staff determined that the risk of severe accident could not be reduced further. The applicant did not address, and was not required to address, severe accident mitigation design alternatives and other severe accident mitigation alternatives in the ESP application. Therefore, the staff did not address them in the ESP FEIS (NUREG-1811). Severe accident mitigation design alternatives and other severe accident mitigation alternatives must be addressed by the applicant in the COL application and by the staff in its review of that application.

The NRC staff does not believe that it is appropriate to assess cumulative impacts of severe accidents, regardless of the cause. Should there be a severe accident with a large release of radioactive material, the impacts of that release will dominate the impacts of releases of radioactive material from normal operations. The likelihood of simultaneous severe accidents is too small to be considered reasonably foreseeable.

17. Comments Concerning the Uranium Fuel Cycle

Comment: It will be used up by the waste that is produced by 2010. So Dominion continues to bet that this high-level waste is going to go somewhere else. So I feel that this is irresponsible for Dominion as well as the NRC to entertain construction of new nukes when the high-level radioactive waste -- and now since Barnwell is also going to close in June 2008, the low-level radioactive waste issue remains unresolved. (0034-137 (Day, Elena))

Comment: The EIS particularly needs to include the fact that -- and assume that there will be no available repository for the full operating lifetime of this reactor, this proposed reactor, and to consider the consequences of onsite storage in perpetuity there on Lake Anna. This would also apply to -- again, to what Jerry pointed out, was that as of June 2008, South Carolina will be closing the Barnwell low-level radioactive waste facility to Virginia, and so the EIS consequently, since there are no other sites, I believe it's the responsibility of the EIS to fully account for the consequences of onsite storage of low level -- so-called low-level radioactive waste. (0034-44 (Gunter, Paul))

Comment: The reactors will create approximately 20 MT/year of nuclear waste. Detailed plans for safe waste management, transport, and disposal should be presented and analyzed in the COL SDEIS. (0035-37 [Goldsmith, Aviv])

Response: *The staff will evaluate new and significant information concerning the impact of low-level waste storage and disposal in Section 6.1 of the COL SEIS. The safety and environmental effects of long-term storage of spent fuel on site has been evaluated by the NRC and, as set forth in the Waste Confidence Rule at 10 CFR 51.23 (available at http://www.nrc.gov/reading-rm/doc-collections/cfr/part051/part051_0023.html), the NRC generically determined that "...if necessary, spent fuel generated in any reactor can be stored safely and without significant environmental impacts for at least 30 years beyond the licensed life for operation (which may include the term of a revised or renewed license) of that reactor at its spent fuel storage basin or at either onsite or offsite independent spent fuel installations. Further, the Commission believes there is reasonable assurance that at least one mined geologic repository will be available within the first quarter of the twenty-first century and sufficient repository capacity will be available within 30 years beyond the licensed life for operation of any reactor to dispose of the commercial high-level waste and spent fuel originating in any such reactor and generated up to that time." These comments provide no new and significant information; therefore, they will not be evaluated further.*

Comment: Finally, we are again facing the very real possibility of uranium mining and milling in VA. There are uranium deposits in Orange, Madison, Fauquier and Pittsylvania Counties. The drive by Dominion and other utilities to build new reactors has made uranium mining attractive once again after a twenty-five year ban. Mining and milling of uranium has never been attempted in a wet climate like ours. (0017-11, 0034-143 (Day, Elena))

Comment: Furthermore, the history of mining and milling of uranium in our western states is one of high cancer rates. The radioactive tailings love to continue to disburse their radioactivity as the wind blows. So the uranium fuel cycle from start to finish leaves a huge carbon imprint, a footprint, or whatever. (0017-12, 0034-144 (Day, Elena))

Comment: And in Virginia, this is interesting the way it is playing out is the claim for energy independence currently is being lauded by those seeking to extract uranium from the enormous deposit that has been identified in Virginia, in Pittsylvania County. The basis of this claim is that we do currently import about 70 percent of the uranium we use for fuel, for fuel in our reactors from abroad, from countries like Canada and Australia and some of the former Soviet Union states. So, then, to mine it here in Virginia, I suppose it would help us reduce our dependency on foreign sources of energy. I would say that it probably does not reduce our addiction to oil, as it has been brought up here tonight. As far as I know, we are not using uranium in our tanks at this point. But certainly it would bring up uranium. It would bring it back into our economy in the form of both mining and milling. What is interesting is that Virginia is going to be the only state in the country that is witnessing firsthand the cause and effect of nuclear expansion. Here in Virginia we have both a proposal for a new reactor and a corporation challenging the state's moratorium on uranium mining. (0034-91 (Fisher, Allison))

Comment: And these [effects of nuclear expansion as relates to speculation on uranium mining] should be present in the environmental impact statement. The NRC should fully review the impacts of mining and milling within the scope of the EIS. (0034-93 (Fisher, Allison))

Response: *Section 6.1 of the COL SEIS will address new and significant information related to the environmental impacts of the uranium fuel cycle and solid-waste management to include uranium mining and milling. The generic impacts of the fuel cycle are codified in 10 CFR 51.51(b), Table S-3, "Table of Uranium Fuel Cycle Environmental Data." Per the guidance in 10 CFR 51.51, the staff will rely on Table S-3 as a basis for the impact of uranium fuel-cycle impacts to include uranium mining and milling.*

Comment: The Environmental Impact Statement has failed to address the consequences of what might well be permanent storage of high level waste at Lake Anna in the irradiated fuel water pools as well as dry casks. The high level waste continues to accumulate and new nukes will be generating more waste. Yucca Mtn. has not opened and is not likely to open any time soon. And it is well know that Yucca cannot accept waste generated by US plants beyond 2010. (0017-4 (Day, Elena))

Comment: The EIS should fully address the potential consequences of permanent storage of high-level radioactive waste adjacent to Lake Anna. Because there is no permanent storage facility for high-level radioactive waste, and it appears increasingly unlikely that there will be one during the lifetime, of North Annas-3, the EIS should address how and where all of the high-level radioactive waste generated by North Anna-3 will be stored. (0026-3 (AuClair-Valdez, Miguel))

Comment: On-site storage of spent fuel rods. The EIS presumes that there will be a Federal Repository somewhere in this country to receive this very dangerous nuclear waste. In fact, as you all know, Yucca Mountain may well never open and therefore the new EIS needs to study the health and safety ramifications of what will be permanent and long- term storage at North Anna for all three reactors. (0031-1 (Crawford, Barbara))

Comment: Spent nuclear fuel: Where and how the various types of nuclear waste are being stored. What types are being shipped to other states and how is it being shipped? When will all the nuclear waste be transferred to a national nuclear waste site? What is being done at the

North Anna plant to protect this waste from terrorist attack or accidental failure of the dam? What is the status of the Federal Repository? The COL EIS needs to study the health and safety ramifications of what will be the permanent and long-term storage at North Anna for the spent nuclear fuel of all three reactors since the federal repository does not appear to be a reality. (0028-32, 0033-40 (Ruth, Harry))

Comment: I think that the environmental impact statement has failed to address the consequences of what might well be permanent storage of high-level waste at Lake Anna in the irradiated fuel water pools as well as in dry casks. The high level waste continues to accumulate. And the new nukes will be generating more waste. And, as we have heard, Yucca Mountain is not likely to be open any time soon. And, furthermore, Yucca can only accept waste generated by nuclear power plants that is generated before 2010. (0034-136 (Day, Elena))

Comment: First of all is the on-site storage of spent fuel rods. This environmental impact statement assumes the existence of a federal repository somewhere in this country where all the spent fuel rods can be sent. It gives the example of Yucca Mountain. Now, you folks from the NRC know that Yucca Mountain is not going to open. I mean, you know it. There's not going to be a Yucca Mountain. Probably reactor number 3 if it's ever built will be decommissioned before there's even a federal repository. So to only deal with the storage of spent fuel rods as if it's going to be shipped somewhere as dealing with a fairy tale. And you really need in the new impact statement to deal with how you are going to store the spent fuel rods on site at North Anna, not just for reactor 3, but, you know, how are you going to deal with all of that waste that is sitting there? (0034-197 (Crawford, Barbara))

Comment: The storage of spent fuel rods has never been adequately solved. Radioactive material will continue to be active for thousands of years. Regarding human health, exposure to radioactive material will lead to the increase of many types of cancers. Nobody wants radioactive waste stored in their territory. Yucca Mountain is geologically unstable. The people of Nevada don't want radioactive materials stored there. The people of Virginia do not want radioactive materials stored at Lake Anna. To me it makes no sense to continue building nuclear reactors and adding to this glaring problem until there is a satisfactory solution to the radioactive waste storage problem. (0034-97 (Amidon, Eleanor))

Comment: I am also deeply concerned about disposal of nuclear waste (0009-2 (Burns, Mecca))

Comment: We [Sierra Club] believe that the on-site storage of radioactive waste poses unreasonable environmental and security risks for the people of Virginia. Building new reactors will increase these risks and leave our children and grandchildren with a horrible burden. (0023-2 (Black, Betty))

Comment: The reactors will create approximately 20 MT/year of nuclear waste. Detailed plans for safe waste management, transport, and disposal should be presented and analyzed in the COL SDEIS. (0035-37 [Goldsmith, Aviv])

Response: *The safety and environmental effects of long-term storage of spent fuel on site has been evaluated by the NRC and, as set forth in the Waste Confidence Rule at 10 CFR 51.23 (available at http://www.nrc.gov/reading-rm/doc-collections/cfr/part051/part051_0023.html), the NRC generically determined that "...if necessary, spent fuel generated in any reactor can be stored safely and without significant environmental impacts for at least 30 years beyond the*

licensed life for operation (which may include the term of a revised or renewed license) of that reactor at its spent fuel storage basin or at either onsite or offsite independent spent fuel installations. Further, the Commission believes there is reasonable assurance that at least one mined geologic repository will be available within the first quarter of the twenty-first century and sufficient repository capacity will be available within 30 years beyond the licensed life for operation of any reactor to dispose of the commercial high-level waste and spent fuel originating in any such reactor and generated up to that time." These comments provide no new and significant information; therefore they will not be evaluated further.

Comment: So Dominion continues to bet that this high level waste is going to go somewhere else. It is irresponsible for Dominion as well as for the NRC to entertain construction of new nukes when the high level radioactive waste issue (and now since Barnwell is to close in June 2008)--the low level radioactive waste issue as well) remains unresolved. How much low level waste does Dominion plan to store on Lake Anna's shores? How many dry casks does Dominion plan to site on the shores of Lake Anna. And will it be expanding water storage capacity? Will construction of more pools physically disturb Lake shores? Will more waste increase possibility of accident in the irradiated fuel pools? (0017-5 (Day, Elena))

Comment: The EIS should address the possible effects of North Anna-3 on the existing dry cask irradiated fuel storage units at the North Anna site, including their potential degradation over time as well as the potential impacts of a large expansion of the dry cask units to store high-level radioactive waste from North Anna-3. (0026-5 (AuClair-Valdez, Miguel))

Comment: How much low-level waste does Dominion plan to store on Lake Anna shores? These are my concerns. This should be addressed in the EIS. How many dry casks does Dominion plan to site on the shores of Lake Anna? How will it be expanding water storage capacity for spent fuel? Will construction of more pools physically disturb lake water? Will more waste increase the possibility of accident in the irradiated fuel pools? (0034-138 (Day, Elena))

Comment: The EIS should address how and where all of the low-level radioactive waste at North Anna-3 can be expected to generate during its lifetime will be stored. Virginia's access to the Barnwell, South Carolina low-level radioactive waste facility will end in June 2008. There are no current plans to build a new facility to handle radioactive waste generated in Virginia. This the EIS should assume that all low-level radioactive waste generated by North Anna-3 will be stored on-site for its licensed lifetime. (0026-7 (AuClair-Valdez, Miguel))

Comment: We believe that the on-site storage of radioactive waste poses unreasonable environmental and security risks for the people of Virginia. Building new reactors will increase these risks and leave our children and grandchildren with a horrible burden. (0034-148 (Black, Betty))

Response: *The NRC staff will evaluate new and significant information related to the impacts of low-level waste storage and disposal and the potential of fuel handling accidents in the reactor's spent fuel pool in Sections 6.1 and 5.10.1, respectively, of the COL SEIS.*

Comment: The uranium fuel cycle from start to finish leaves a huge carbon footprint--in fact it takes two coal plants just to run the facility that processes the uranium into fuel rods in Kentucky--regardless of industry claims that there building nukes to save us from greenhouse

gas emissions and global warming. Dominion's plans for new nukes will associate it with the despoliation of our pristine rural VA counties if mining is allowed in the Commonwealth. (0017-13 (Day, Elena))

Comment: In fact, it takes two coal plants at Paducah, Kentucky to run the facility that processes the uranium into fuel rods. So, regardless of the claims of the industry that building nukes to save us from greenhouse gas emissions and global warming, you know, it's not true that uranium cycle from start to finish leaves a huge carbon footprint. (0034-145 (Day, Elena))

Response: Chapter 6.1 of the SEIS will address new and significant information related to the environmental impacts of the uranium fuel cycle and solid-waste management to include uranium enrichment activities. The generic impacts of the fuel cycle are codified in 10 CFR 51.51(b), Table S-3, "Table of Uranium Fuel Cycle Environmental Data;" which includes emissions from fossil fuel plants providing the power for fuel cycle facilities. Per the guidance in 10 CFR 51.51, the staff will rely on Table S-3 as a basis for the impact of uranium fuel-cycle impacts to include uranium enrichment.

18. Comments Concerning Transportation

Comment: If and when a repository for high level waste is licensed, how will the waste be transported safely, along what routes and is an evacuation plan included to safeguard residents in Louisa and along transportation routes in VA. (0017-6, 0034-139 (Day, Elena))

Comment: The EIS should address possible effects of transportation of radioactive waste generated at North Anna, in the unlikely event a waste repository ever will be built. This should include road, rail and barge transportation. If barges are not used, then trucks or trains would be. The Baltimore train tunnel fire of 2001 could have killed thousands if high-level radioactive waste had been on board, and that route has been targeted by the Dept. of Energy in the past. (0026-6 (AuClair-Valdez, Miguel))

Response: A detailed analysis of the health and safety impacts of transporting fuel and waste by truck to and from the proposed North Anna Power Station site was presented in Chapter 6 of the North Anna final ESP EIS (NUREG-1811). The staff will consider the impacts of transporting fuel and waste in the SEIS in terms of new and significant information to determine if the impacts levels have changed. Emergency preparedness planning and preparations to respond to transportation accidents is described in detail in the "Final Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada" (DOE/EIS-0250F) and will not be addressed in the SEIS.

19. Comments concerning Decommissioning

Comment: Section 6.3 of the SDIES mentioned that decommissioning would eventually be required and "reduction of residual radioactivity to a level that permits termination of the NRC license." Has this been successfully done anywhere in the U.S.? What financial security does the operator post to assure successful decommissioning? (0035-38 [Goldsmith, Aviv])

Response: Several nuclear power plants have successfully undergone decommissioning; in addition, 14 plants are currently undergoing decommissioning (see <http://www.nrc.gov/info-finder/decommissioning/power-reactor/>). Federal regulations (10 CFR 50.33(k) and 10 CFR 50.75(b)) require an applicant for a COL to certify that sufficient funds will be available to assure radiological decommissioning at the end of power operations. Section 6.3 of the COL SEIS will evaluate the applicant's plan for assuring these funds are available.

20. Comments Concerning Cumulative Impacts

Comment: The EIS should address the cumulative effects of routine radiation releases on nearby populations and on aquatic life in and around the lake. (0026-11 (AuClair-Valdez, Miguel))

Response: Cumulative impacts associated with radiation releases to aquatic life in the lake were previously resolved in NUREG-1811 (ESP FEIS). The cumulative impacts associated with the construction and operation of the proposed Unit 3 will be evaluated in terms of new and significant information to determine if the impacts levels should be changed.

Comment: Plant 3 was considered in a stand-alone condition. No consideration was made for the alternative of installing additional water conservation measures to the existing power reactors of Unit 1 and 2, to compensate or mitigate against the significant, adverse, incremental impacts caused by Unit 3. (0034-33 (Remmers, Ken))

Response: Portions of the alternative cooling systems (i.e., cooling towers) previously resolved in the ESP FEIS (NUREG-1811) will be evaluated in terms of new and significant information to determine if impact levels should be changed. Information not analyzed in the ESP FEIS (NUREG-1811) regarding alternative cooling systems intake and discharges structures will be evaluated in Chapter 9 of the COL SEIS.

21. Comments Concerning the Need for Power

Comment: Our goal in applying for the COL is to continue to maintain the option to build a third nuclear unit to meet the skyrocketing demand for electricity projected for Virginia. Right now, Virginia is the second largest importer of electricity in the nation, behind California. The state imports 30 percent of its electricity from electrical generators located in other states. Virginia also is one of the fastest-growing states in the United States. (0013-1 (Grecheck, Eugene))

Comment: The PJM Interconnect, the regional transmission operator for the Mid-Atlantic region, projects that by 2017 there will be a large gap between the amount of electricity that will be required for our customers and the electrical generation facilities available in Virginia to meet this demand. We are talking about a gap of 4,000 megawatts of generating capacity, of which 2,000 megawatts must be from the type that is available 24 hours a day, seven days a week. (0013-2 (Grecheck, Eugene))

Comment: As you can see, according to US DOE projections, we will need to increase our production of electricity by nearly 50% in the coming years. This increase is necessary due to population expansion, a greater reliance on electronics, and soon a major shift towards plug-in hybrid electric vehicles. As you can see, even if North Anna Unit 3 is built, and by some miracle we are able to miraculously expand our renewable contribution to 15%, we still have a huge gap

of needed electricity. What's even more sobering is that means we have to keep every coal, oil, gas, and nuclear station that we currently operate today. (0025-2 (Stuart, Michael))

Comment: Virginia is facing a significant shortfall of electricity of about 4,000 megawatts in 2017. With today's volatile energy markets, we can no longer afford to rely on imported power for Virginia's needs. If built, unit 3 would make us less dependent on electricity produced outside the state. And it will also provide nearly a third of that shortfall in 2017. (0034-101 (Marshall, Burton))

Comment: Nuclear energy is a key ingredient in the Virginia energy plan, which calls for a 20 percent increase in the in-state production of electrical energy by 2017 and the simultaneous 30 percent decrease in the level of greenhouse gas emissions by 2025. According to remarks made by Steven Walsh, Chair of Governor Kaine's Energy Policy Advisory Council, conservation and renewable energy targets will only get us halfway to this target. Research in the use of clean-burning coal-fired power plants and nuclear energy is clearly needed to make up the difference. (0019-1,0034-116 (Brown, Eugene F.))

Comment: One of the issues that -- concerns I have, and I think everybody does, we have -- there will be a shortage of energy (0034-15 (Wright, Jack))

Comment: Clearly the need for 4,000 megawatts of new generating capacity, with 2,000 of that being base load, is well-documented and validated by the PJM Interconnection Corporation. Also, the evaluation of the alternatives available to meet future energy needs show that to best meet Virginia needs, nuclear must play a large part. (0034-163 (Stiles, Lisa))

Comment: There is a need for a substantial amount of new generation capacity here in this state. Recent estimates call for an additional 4,000 megawatts within a decade in order to serve the needs of Virginia. The southeastern region is a well-balanced mix of energy resources that help maintain reliable service and act as a hedge against price volatility and supply interruptions. It is important that we expand generation capacity and that we maintain the diversity of these sources. (0034-2 (Watkins, John))

Comment: The United States, and Virginia in particular, has an ever increasing need for electric power. In order to maintain our economic prosperity, we must continue to develop new sources of energy -- electricity -- as well as conserve as much as possible. This new unit will help in meeting that increased need. (0034-27 (Manzari, Jack))

Comment: The Virginia Energy Plan, of which I was a part in drafting and getting passage of in the Virginia Legislature back in 2006, calls for the needs of nuclear energy here in Virginia as an important capacity. (0034-5 (Watkins, John))

Comment: Virginia is in a deficit as far as generating capacity is concerned. The generation gap is projected to be about 4,000 megawatts by 2017, and that goes well beyond already significant ability to import power from other states. In order to keep Virginia's growing energy needs and keep rates stable, we surely need to have a strong investment in baseload energy sources within the Commonwealth. (0034-60 (Moore, Kenneth))

Comment: It is projected that Dominion's Virginia service territory will require an additional 4,000 megawatts in the next decade. The state currently is the second largest importer of electricity, second only to California. Because 30 percent of the electricity currently used in Virginia is imported, Virginians are more vulnerable to price volatility in the electricity market. In order to keep rates stable, there is a significant need for investment in a diverse mix of generation within the state. (0034-66 (Ellis, Larry))

Comment: Over the next 10 years, Virginia will need to add an additional 4,000 megawatts of capacity in order to keep up with demand. This electricity can either be generated here in Virginia, bringing our state closer to energy independence, or it can be imported. Either way it will be needed. North Anna Unit 3 would generate an additional 1,520 megawatts. (0034-80 (Fawls, Rebecca))

Comment: I am here today to speak about the need for power. Let me start by making it clear that Virginia is the second largest importer of electricity in the United States. The only state that imports more electricity in the United States is California. (0034-84 (Stuart, Michael))

Response: *Affected states or regions prepare a need for power evaluation and assessment of the regional power system for planning or regulatory purposes. A need for power analysis may also be prepared by a regulated utility and submitted to a regulatory authority, such as a State Public Utility Commission. However, the data may be supplemented by information from other sources. The determination for the need for power is not under NRC's regulatory purview. When another agency has the regulatory authority over an issue, NRC defers to that agency's decision. The NRC staff reviews the need for power and determines if it is (1) systematic, (2) comprehensive, (3) subject to confirmation, and (4) responsive to forecasting uncertainty. If the need for power evaluation is found to be acceptable, no additional independent review by the NRC is needed. The need for power review will be discussed in Chapter 9 of the COL SEIS.*

Comment: While I laud renewable energy sources such as solar and wind and believe that we must continue to build more of these kinds of plants, the point I am making is that they just cannot keep up with the current growth in electrical demand compared to other electrical generation sources such as nuclear. (0021-4 (Pierson, Mark))

Comment: I am here today to speak to the issue of the Need for Power. Let me start by making it clear that Virginia is the second largest importer of electricity in the United States. The only state that imports more power than Virginia is California. (0025-1 (Stuart, Michael))

Comment: North Anna right now contributes 17 percent of the power generated and used by Dominion customers. Of course, the new unit will increase this. And this station is strategically located between two very high growth areas in the company. This is a source for base-loaded power, which can operate at a very low cost and will enable us to keep electric rates within a reasonable amount of charge at which probably inflation increases. (0034-106 (Farmer, John))

Comment: Base load means a lot of generation when it's needed. And the alternatives are offered of conservation, solar, wind energy, and tidal energy. Now, the problem is that when the wind doesn't blow and the sun doesn't shine, then base load is needed for reliability of the system as a whole to provide our customers. And conservation has a limited application in favor of an increase in population and customer demand. (0034-109 (Beament, Peter))

Comment: Why I applaud renewable sources, such as solar and wind, and believe that we must continue to build more of these kinds of plants, the point I am making is that they just cannot keep up with the current growth in electrical demand compared to other electrical generation sources, such as nuclear. (0034-123 (Pierson, Mark))

Comment: Last fall, last summer, we reached almost 20,000 megawatt hours as a peak load, so we doubled from '84 to '07. The projections indicate that we will double again by 2030. That's 40,000 megawatts. Now, we all talk about conservation and, you know, I've got some of those little light bulbs that burn less energy, and I tend to cut off lights when I leave rooms, like I was taught. But at the same time, we can't get there with conservation. We can help, but we can't get there. We've got to have additional energy. (0034-56 (Tribble, Charles))

Response: *The NRC staff will review the need for power and determine if it is (1) systematic, (2) comprehensive, (3) subject to confirmation, and (4) responsive to forecasting uncertainty. If the need for power evaluation is found to be acceptable, no additional independent review by the NRC is needed. The need for power review will be discussed in Chapter 9 of the COL SEIS. Regional forecasts, conservation, imports, and generation alternatives will be addressed in the discussion.*

22. Comments Concerning Alternatives – Energy

Comment: Numerous comments have been received questioning an agency's obligation, under the National Environmental Policy Act, to evaluate alternatives to a proposed action developed by an applicant for a federal permit or license. (0024-7 (Zeller, Lou))

Comment: The alternative section of the needs to assess other alternatives beyond siting such as renewables, demand side management, repowering of Units #1 and #2, etc. (0035-40 [Goldsmith, Aviv])

Response: *Alternatives to the proposed action including energy alternatives and the no-action alternative will be considered in the COL SEIS.*

Comment: If and how conservation and energy efficiency might offset the need to embark on construction of new nukes is not even mentioned (has Dominion even explored these options?). (0017-2 (Day, Elena))

Comment: The North Anna Power Station Unit Three reactor plant would provide about 1500 MW of electricity. For comparison, this is equivalent to about 750 to 1000 wind turbines -- more than twice the size of the world's largest wind farm. Additionally, wind turbines have an average output of about 30% of their maximum power capacity, only providing electricity when wind speeds are able to support it. Thus, to consistently provide the same electrical power generation as North Anna Unit Three, it would require about three times as many wind turbines or 2000 to 3000 turbines. I contend the environmental impact of one modern state-of-the-art nuclear reactor is much less than the impact of 3000 wind turbines covering 100 acres per turbine or over 300,000 acres total. Additionally, on a hot, steamy, windless day when power

loads from air conditioning are at a peak, wind power is not available. However, North Anna Unit Three would be on line providing 1500 MW of electricity all day. (0021-2, 0034-121 (Pierson, Mark))

Comment: If we compare a nuclear reactor to solar generation, it would take at least 12,000 acres of solar arrays to produce a maximum electrical power output equivalent. But once again, solar is not always available, especially at night, and the average output is only 20 percent of the maximum capacity. Thus, over 60,000 acres, or just under 100 square miles, of solar arrays would be needed to consistently produce the same output as one nuclear reactor. Of course, the largest solar farm currently planned to be built would only yield about 80 MW of electricity at an estimated cost of about half a billion dollars. Note also that most solar facilities are being built in the western United States in the desert where there is no snow and ice. Thus, on an overcast snowy and icy day on the east coast during a peak heating load, solar power is not available. However, North Anna Unit Three would be on line providing 1500 MW of electricity day and night. (0021-3, 0034-122 (Pierson, Mark))

Comment: The EIS should fully consider alternatives to North Anna-3, including but not limited to:

- use of renewable energy to meet electricity demand
- use of energy efficiency to reduce electricity demand, including various and aggressive energy efficiency program scenarios
- use of a combination of renewable energy and energy efficiency to meet electricity demand
- the no action alternative.

(0026-1 (AuClair-Valdez, Miguel))

Comment: More [solar]energy falls on the surface of the Earth in one hour than the entire humanity uses in a year. It's time for us to get creative, and it's time to think outside the box. (0034-134 (Day, Donal))

Comment: Let me also point out to all of these people who talk about the windmills only producing when the wind blows and solar only producing when the sun shines. Dominion operates one of the largest pump storage facilities in the world because not all of the time they run their nuclear power plant, people are using the energy. They pump water uphill and store it very effectively and run it downhill. There is no reason that that same technique can't be used for wind or for solar. (0034-135 (Day, Donal))

Comment: And there are many things that recent claims and stories didn't mention, such as though the last August heat wave is often mentioned, most stories fail to point out that during the hottest weeks, the nation's nuclear power plants were running at 98 percent capacity factor. During California's heat wave in 2006, in which 60 people died, San Onofree and Diablo Canyon nuclear power plants were running at full output. On the other hand, the capacity factor for the state's wind farms was an abysmal four percent. This performance for wind turbines during a heat wave is not unusual. According to the Energy Information Administration, capacity factors for wind farms are always the lowest during the hottest months of the year. (0034-167 (Stiles, Lisa))

Comment: Hydroelectric and thermal solar use more water per megawatt hour produced than nuclear. The already low efficiency of solar photovoltaics drops even further at high temperatures. And we certainly don't want to depend on being able to grow corn, sugar, or switch grass, or anything else during a prolonged drought. The single largest nuclear facility in North America is in the middle of the desert in Arizona. And it does not suffer from any drought-related setbacks simply because water conservation was built into the design. (0034-168 (Stiles, Lisa))

Comment: There are alternatives out there, though, that are not anywhere near as expensive as the nuclear energy is and have lower CO2 emissions than nuclear energy. If you look at wind power, which everybody has bashed wind power a lot tonight, there is a very interesting study from March 2007 from the Oxford Research Group that just compares the carbon emissions of nuclear power to the carbon emissions of wind power. And, at its best, nuclear power has 4 grams per kilowatt hour more of carbon emissions than wind power and 44 more grams of carbon emissions per kilowatt hour at its worst. So that's one thing to consider. What do we need to consider? We need to be considering ways to look at energy efficiency. Energy efficiency is a realistic reliable way to do it. And we can decrease our energy consumption by 20 percent and be able to have no net cost to the economy as well as we need to shift to renewable energy. (0034-211 (Tolbert, J.R.))

Comment: The scope of the EIS also considers alternatives to the project. This includes a no-action option. And this goes back to the first statement I made. I mean, obviously the alternative question is paramount here in Virginia. It asks the following. If not this reactor, how will Virginia meet its energy needs or we can pose it another way. Do we even need to assume the risk associated with the new reactor and mining in order to keep the lights on? I appreciate the graph that was just up here a few minutes ago. And I saw what was trying to be projected. I think what that was speaking to was not potential for renewable energy here in Virginia. It was talking about the political will and the utility's will to implement those kind of technologies. So, to address these questions, the EIS should consider that Virginia's choices are not limited to new nuclear or coal. In fact, it is technically and economically feasible for a diverse mix of existing renewable energy and efficiency technologies to completely meet Virginia's electricity needs over the coming decades. (0034-94 (Fisher, Allison))

Comment: These renewable resources could be harnessed effectively and reliably and without producing carbon dioxide or carbon emissions, radioactive waste, or relying on mining a finite resource. According to the National Renewable Energy Laboratory data in a Virginia Center for Coal and Energy Research study, Virginia's electricity needs can be fully met in the coming decades by wind, solar, advanced hydroelectric power, and geothermal heat pumps. Then the EIS should include a full examination of the following data from the NREL study. First, Virginia's wind potential comes over 104 million megawatt hours. That is over 92 percent of Virginia's total annual electricity consumption. Virginia's PV solar potential is 25,000 megawatts by 2025, which would generate over 46 million megawatt hours annually. Right now that's And then, finally, geothermal heat pumps could also be used in Virginia to reduce the energy used for heating and cooling billings by 30 to 60 percent. So it's not just turning off your lights, and it's not just putting in those newfangled light bulbs. There's some other stuff out there that could be implemented. (0034-95 (Fisher, Allison))

Comment: And you can turn your considerable talents and your healthy ambitions to life-enhancing projects, utilizing solar, wind, and wave energy to creating real and not bogus safety

and security and to safeguarding the intensity of our relationship with future generations and with the whole of the natural world. (0034-99 (Nguyen, Vanthi))

Comment: It is time for Dominion to stop its quest for new nukes and, instead, commit to programs of conservation, efficiency in conjunction with renewables as they come on line. (0034-146 (Day, Elena))

Response: *Alternative energy sources, including energy conservation and renewable energy sources, will be addressed in Chapter 9 of the COL SEIS.*

23. Comments Concerning Alternatives – System Design

Comment: I am hoping that you could use some kind of cooling tower to do the job [avoid lowering lake level]. (0010-3 (Hayo, Dennis))

Comment: The solution is simple although it may cost more it will insure Lake Anna continues to be a major state attraction. Dominion has proposed dry cooling for a potential Unit 4, If this was used for Unit 3 also then these major issues go away. This type of cooling is used in other countries why not here. (0012-6 (Heino, George and Gerry) (Heino, George and Gerry))

Comment: A new-fresh look at cooling technologies needs to be performed. Specifically the hybrid -cooling proposed will only remove up to 1/3 of the heat of the entire system during the hot humid days. The other 2/3 will be done by the wet cooling with large evaporation (16.6MGD). In contrast dry cooling technology would consume only about 5-10% of that amount. Despite this enormous water savings, most of the cooling for new power plants primarily uses wet cooling. This is because on hot days, dry cooling can lead to increased turbine back pressure that prevents a plant from generating at its full rated capacity. The problem is compounded because hot days are precisely when the electricity demand is the highest. This hot-day performance problem with dry-cooled units can be alleviated by using small water supplemental cooling as needed. One such method recommended PIER Energy-Related Environmental Research http://www.energy.ca.gov/reports/2004-03-09_50003-109.PDF is to introduce a small amount of water spray into the cooling tower inlet air stream, where it evaporates and cools the air. Studies have shown that reducing inlet air temperature by even a few degrees can maintain much of the plant's output during hot hours. This is one of many dry cooling examples which are currently being used in the USA and worldwide. This dry cooling needs to be studied more carefully. (0016-2 (Remmers, Ken))

Comment: Plant #3 was considered in a stand alone condition and no consideration was made for the alternative of installing additional water conservation measures on the existing nuclear power reactors Units 1 and 2, to compensate or mitigate against the significant and adverse incremental impacts that will be caused by unit 3. Judge Karlin (ALSBP) stated that some of the once-through cooling water from unit 1 and 2 could be diverted to the cooling tower used for unit 3. While this diversion would be small, it would offset some of the impacts of unit 3. He rejected the NRC staff's position that such an offset is per se unreasonable under NEPA. He stated There is no dispute that the NEPA alternative analysis {is the heart of the environmental impact statement}. When a company operates an existing facility that emits pollution and/or has adverse environmental impacts, it is common for a regulator to at least consider, and sometimes impose, additional environmental controls on the existing units as trade-off for obtaining

approval to construct additional units. Judge Karlin stated It seems to me that creative nuclear engineers and environmental scientist, if properly motivated, might very well propose realistic offsets or mitigation measures that could be applied to the pre-existing reactors on the same site. This is significant new information that needs to be addressed. (0016-3 (Remmers, Ken))

Comment: The NRC should now determine how to implement the modest recommendations of ASLB Judge Karlin who parted ways with the majority on water supply: "My [Judge Alex Karlin] dissent is also based on the fact that section 8.2 of the FEIS, entitled "System Design Alternatives" and the NRC Staff, excluded, per se, even considering the alternative of asking or requiring Dominion's affiliates to install additional water conservation measures on the existing nuclear power reactor Units 1 and 2, to compensate or mitigate against the significant and adverse incremental impacts that will be caused by proposed Units 3 and 4." (0024-12 (Zeller, Lou))

Comment: The drought cycles will double if the wet/dry cooling method for unit 3 is selected. (0028-13 (Ruth, Harry))

Comment: We have several concerns, primarily with the cooling method proposed for the 3rd reactor which will use up to 24 million gallons a day of Lake Anna water. If the cooling method were changed to dry cooling which Dominion has proposed for the 4th reactor and which is used in other parts of the world, most of our concerns would go away. (0028-2, 0028-4 (Ruth, Harry))

Comment: One alternative discussed, but not proposed by Dominion for the 3rd reactor's cooling method is to exclusively use Dry Air Cooling for the 3rd unit, which would then negate any further water withdrawals from our small watershed and would also hopefully reduce major safety problems in the event that the dam would break or be blown-up by a terrorist attack, causing sudden loss of water for cooling any of the reactors. The North Anna Nuclear Power Plant (which supplies over 20% of Virginia's power) could be offline for 3 years while we wait for the lake to refill. Our power would be purchased from other sources and our bills would increase significantly. The dry-air cooling appears to be a feasible option, since this is the same technology that Dominion has proposed for Unit 4 and is used by many overseas countries that do not have a local water source. In addition, many of the recommendations by VDEQ analysis to the NRC, requests that the air cooling mode be used with unit 3 for 7 months of the year to reduce lake water drawdown and reduce the risk of a complete unit 3 shutdown. In its response to the ESP DEIS, VDEQ's Division of Water Resources (DWR) expressed its preference that the once-through cooling process proposed for Unit 3 be changed to a dry cooling tower because the dry cooling tower would results in less consumptive use of water than the either the once-through cooling or the combination wet/dry cooling tower. Also in its comments on the DEIS, DWR stated that it would have no concerns about this project if both the third and fourth reactors at North Anna were air cooled. The COL DEIS should fully analyze this alternative dry cooling method. (0028-27 (Ruth, Harry))

Comment: Dry Air cooling of the 3rd reactor will preserve this beautiful lake resource for future generations and will not create all the decreasing water levels and negative effects as defined above that will be caused by the proposed wet/dry cooling towers. (0028-35 (Ruth, Harry))

Comment: The NRC should evaluate including the system design alternative of imposing some form of water saving measures and temperature reductions on the two nuclear reactors that

already exist on the site, as a form of offset to the impacts of the proposed new reactors. Since there are significant surface water impacts that will be caused by the proposed Unit 3 (cooling method using up to 24 million gallons per day), the system design alternatives should include the alternative of imposing some form of water saving measures and temperature reductions on the two nuclear reactors that already exist on the site, as a form of offset to the impacts of the proposed new reactor. These unit 1 & 2 offsets are necessary under the National Environmental Policy Act (NEPA) where the applicant and its affiliates seek to add a nuclear reactor at the same location of existing nuclear operations. The unit 1 & 2 water conservation measures should mitigate against the significant -and adverse incremental impacts that will be caused by the proposed Unit 3 cooling method. (0033-17 (Ruth, Harry))

Comment: The COL DEIS should fully analyze alternative cooling methods for the 3rd reactor which do not create all the environmental impacts defined above. An alternative cooling method that does not cause declining water levels would mitigate the LARGE declining water level impacts from the proposed 3 rd reactor wet/dry cooling method currently proposed. (0033-28 (Ruth, Harry))

Comment: One alternative discussed, but not proposed by Dominion for the 3rd reactor's cooling method is to exclusively use Dry Air Cooling for the 3rd unit, which would then negate any further water withdrawals from our small watershed. (0033-29 (Ruth, Harry))

Comment: dry-air cooling appears to be a feasible option, since this is the same technology that Dominion has proposed for Unit 4 and is used by many overseas countries that do not have a local water source. In addition, many of the recommendations made by VDEQ analysis from almost all Virginia regulation authorities to the NRC, requests that the air cooling mode be used with unit 3 for 7 months of the year to reduce lake water drawdown and reduce the risk of a complete unit 3 shutdown. In its response to the ESP DEIS, VDEQ's Division of Water Resources (DWR) expressed its preference that the once-through cooling process proposed for Unit 3 be changed to a dry cooling tower because the dry cooling tower would results in less consumptive use of water than the either the once-through cooling or the combination wet/dry cooling tower. Also in its comments on the DEIS, DWR stated that it would have no concerns about this project if both the third and fourth reactors at North Anna were air cooled. (0033-31 (Ruth, Harry))

Comment: Another alternative cooling method to be considered is the small water supplemental cooling method recommended by PIER Energy-Related Environmental Research. With the current proposed wet/dry cooling this will only remove up to 1/3 of the heat of the entire system during the hot humid days. The other 2/3 will be done be by the wet cooling with large evaporation (16.6 MGD). In contrast dry cooling technology would consume only about 10% of that amount. Despite this enormous water savings, most of the cooling for the proposed power plant would still use primarily wet cooling. This is because on hot days, dry cooling can lead to increased turbine back pressure that prevents a plant from generating at its full rated capacity. The problem is compounded because hot days are precisely when the electricity demand is the highest. This hot-day performance problem with dry -cooled units can be alleviated by using small water supplemental cooling. This supplemental cooling would introduce a small amount of water spray into the cooling tower inlet air stream, where it evaporates and cools the air. Studies have shown that reducing inlet air temperature by even a few degrees can maintain much of the plant's output during hot hours. This is one of many dry cooling examples which are currently used in the USA and worldwide. No such studies of dry cooling were performed in

the EIS-ESP because the PPE did not define a specific reactor design. This supplemental dry cooling needs to be studied more carefully before a cooling method is selected. (0033-32 (Ruth, Harry))

Comment: Another alternative cooling method would be for Dominion to run water pipes from the James River to the North Anna site to provide cooling for the Pr reactor without impacting the Lake Anna water level and the related negative effects. This alternative would also provide additional water for the power plant in the event that a dam leak occurred causing the shut down of units 1 and 2. All eggs would not be in the same basket of using exclusively Lake Anna water and also gives the additional opportunity of cooling unit 4 in the future. Louisa County is currently planning to pipe in water from the James River to the Zion Crossroads in the county; possibly Dominion could participate in a joint venture with the county to extend the water pipe to the power plant at Lake Anna. (0033-33 (Ruth, Harry))

Comment: Other alternative cooling methods (i.e. dry cooling that Dominion proposed for the 4th reactor) would not impact the lake level. (0033-86 (Ruth, Harry))

Comment: The consumption of an additional million gallons of water a day only aggravates an already serious condition. If the proposed cooling towers are to be used, then consideration must be given to other options to conserve and/or send water back into the lake for environmental concerns and public safety as the lake was originally designed. This is required to help facilitate the needs of the nuclear power plant, control water for usage in Hanover County, provide safer boating conditions on the lake for recreation, and ultimately help restore and promote business for all of the communities. (0034-178 (Jones, Dale))

Comment: The solution is simple. Although it may cost more, it will ensure Lake Anna continues to be a major state attraction. Dominion has proposed dry cooling for potential unit 4. If this were used for unit 3 also, then these major issues would go away. This type of cooling is used in other countries. So we can use it here. (0034-196 (Heino, George and Gerry))

Comment: A new fresh look at cooling technologies needs to be performed, specifically the hybrid cooling process, will only remove up to one-third of the heat of the entire system during the hot humid days. The other two-thirds will be done by wet cooling with large evaporation -- the 16.6 million gallons a day. In contrast, dry cooling technology would consume only about 5 to 10 percent of that amount. Despite this enormous water savings, most of the cooling for new power plants primarily use wet cooling. This is because on hot days dry cooling can lead to increased turbine back pressure that prevents a plant from generating at its full rated capacity. This problem is compounded because the hot days are precisely when the electric demand is the highest. The hot day performance problem with a dry cooled unit can be alleviated by using a technique such as small water supplemental cooling as needed. One such method is recommended by PIER Energy-Related Environmental Research -- to introduce a small amount of water spray in the cooling tower inlet stream where it evaporates and cools the air, and such studies have shown that reducing the inlet air temperature, even by a few degrees, can maintain much of the plant's output during hot hours. This is just one of many dry cooling examples which are currently being used in the USA and worldwide. No such studies of dry cooling were performed in the ESP EIS, because the PPE did not define this specific reactor design. (0034-32 (Remmers, Ken))

Comment: Judge Karlin of the Atomic Licensing Safety Board Panel stated that some of the once through cooling water from Unit 1 and 2 could be diverted to the cooling tower used for Unit 3. While this diversion would be small, it would offset some of the impacts of Unit 3. He rejected NRC staff position that such an offset per se is unreasonable under NEPA. He stated there is no dispute that the NEPA alternative analysis is the heart of the environmental impact statement. When a company operates in an existing facility and emits pollution and/or has environmental impacts, it is common for regulators to at least consider, and sometimes impose, additional environmental controls on existing units as a tradeoff. Judge Karlin stated, It seems to me that creative nuclear engineers and environmental scientists, if properly motivated, might very well propose a realistic offset or mitigation measures that could be applied to the preexisting reactors at the same site. (0034-35 (Remmers, Ken))

Response: *The issue of alternative cooling system designs for new nuclear units at NAPS was partially resolved in the ESP FEIS (NUREG-1811) and will be evaluated in terms of new and significant information to determine if impact levels should be changed. Information not analyzed in the ESP FEIS (NUREG-1811) regarding intake and discharge structures for alternative cooling systems will be evaluated in Chapter 9 of the COL SEIS.*

Comment: Section 3 introduced the hybrid cooling tower. Is there an operating nuclear plant in the U. S. that has demonstrated this hybrid cooling tower technology is appropriate and safe for such a large thermal load? If not, the technology risks should be assessed and discussed herein. (0035-15 [Goldsmith, Aviv])

Comment: Since water is a critical concern, among the major alternatives that should be considered in detail in Chapter 8 are the retrofitting of a cooling tower to Units #1 and/or #2, and the application of a dry cooler to Unit 3. Factors in the analysis such as capital and operating costs and operating efficiencies should be detailed. The conclusion on page 8-5 line 23 is not supported. (0035-41 [Goldsmith, Aviv])

Response: *These comments refer to information in the NAPS draft ESP EIS that was superseded by the ESP FEIS (NUREG-1811), which was published by NRC in December 2006. Dominion was issued an ESP permit (ESP-003) in November 2007 for two units at the NAPS site under the specifications contained in that permit. The issuance of alternative cooling system designs for NAPS Units 3 and 4 was partially resolved in the ESP EIS (NUREG-1811) and will be evaluated in terms of new and significant information to determine if impact levels should be changed. Information not analyzed in in the ESP FEIS (NUREG-1811) regarding the intake and discharges structures for alternative cooling systems will be evaluated in Chapter 9 of the COL SEIS.*

Comment: Section 3.2.1.2 mentions water treatment effluent. Shouldn't Chapter 8 include an assessment of a zero discharge option as is used in many other power plants? (0035-16 [Goldsmith, Aviv])

Response: *This comment refers to plant water treatment systems for Unit 3, which were not specified at the time the ESP FEIS (NUREG-1811) was published because a specific system design had not been selected by the applicant. For the COL SEIS, NRC staff will evaluate the water treatment and effluent discharge systems proposed in the COL application. Impacts related to effluent water quality will be addressed in Chapter 5 of the COL SEIS. Effluent*

discharges would be regulated by the VDEQ through the Virginia Pollutant Discharge Elimination System.

24. Comments Concerning Alternatives – Sites

Comment: The Commission must revisit the analysis which forms the basis for the combined license; i.e., the early site permit. The Chairman of the ASLB Panel for the North Anna Early Site Permit issue took issue with the analysis done by Dominion-Virginia Power and approved by the NRC staff. In his dissent, he wrote: "NRC's alternative sites analysis was, in my judgment, inconsistent with both the letter and the spirit of NEPA." (0024-2 (Zeller, Lou))

Comment: The issue here, when distilled to its essence, is whether the level of detail in the Staff's alternative site analysis was so narrow as to render the results "foreordained" or, instead, whether the level of detail was reasonable under NEPA's "rule of reason" and "hard look" tests. We agree with the dissent that the FEIS does not show that the Staff's alternative site review at the candidate site level was sufficiently detailed. (0024-4 (Zeller, Lou))

Comment: This omission creates the unfortunate --and, we believe, inaccurate --appearance that the Staff avoided its obligation to take a "hard look" at the alternative sites issue and instead merely accepted Dominion's analysis at face value. And this appearance is exacerbated by the fact that the Staff actually reviewed in depth only Dominion's four proposed sites--facts reminiscent of those in another adjudication thirty years ago, where the adequacy of the Staff's alternative site review was similarly called into question. (0024-5 (Zeller, Lou))

Response: *As required by NRC regulations in 10 CFR 51.92(e)(3), the COL SEIS must contain no separate discussion of alternative sites. The issue is considered closed. Accordingly, the COL SEIS will not revisit the analysis of alternative sites.*

25. Comments Concerning Benefit – Cost Balance

Comment: Let us look at electrical generation costs. Since the year 2000, nuclear power has surpassed coal as the cheapest method of electricity production. In 2006, the average cost to produce electricity from nuclear generation was 1.72 cents per kilowatt-hour. This is compared to 2.37 cents per kilowatt-hour for coal generation and 6.75 cents for natural gas generation. We do admit these costs are based on the current fleet of nuclear power plants which have long since paid off most of their capital investment costs. It is anticipated that the cost to produce electricity from a new nuclear power plant will be approximately 4 cents per kilowatt-hour. However, since global warming has become an issue, there will come a time soon in this country where we will have some sort of carbon emission cap and trade program in place. Under this scenario, the cost of generating electricity from new nuclear power plants will be much lower than the cost from other sources such as coal or natural gas which will have to buy carbon credits from utilities that own nuclear power plants or hydroelectric facilities. This is because nuclear power plants have zero emission of carbon dioxide during production of electricity. In fact, nuclear power provides the largest source of emission-free electricity making up over 73% of the total emission-free electrical generation in the United States. The other primary source of emission-free electricity at 24% is hydroelectric. However, hydroelectric capacity in this country is about tapped out. We will not be building very many new major dams any time soon given the present regulations protecting our streams and rivers. To put all of this

in perspective, it is estimated that the new North Anna Power Station Unit Three would reduce greenhouse gas emissions by the equivalent of taking 1.5 million cars off the road compared to conventional power production sources. (0021-5 (Pierson, Mark))

Comment: Let us look at electrical generation costs. Since the year 2000, nuclear power has surpassed coal as the cheapest method of electricity production. We do admit these costs are based on the current fleet of nuclear power plants, which have long since paid off most of their capital costs. However, since global warming has become an issue. There will come a time soon in this country where we will have some sort of a carbon emission cap and trade program in place. Under this scenario, the cost of generating electricity from new nuclear plants will be much slower than the cost from other sources, such as coal or natural gas. This is because nuclear power plants have zero emission of carbon dioxide during production of electricity. In fact, nuclear power provides the largest source of emission-free electricity, making up over 73 percent of the total emission-free electrical general in the United States. The other primary source of emission-free electricity, at 24 percent, is hydroelectric. However, hydroelectric capacity in this country is about tapped out. To put all of this in perspective, it is estimated that the new North Anna Power Station unit 3 would reduce greenhouse gas emissions by the equivalent of taking 1.5 million cars off the road compared to conventional power production sources. (0034-124 (Pierson, Mark))

Comment: The EIS should examine the Cost/Benefits of North Anna-3 using a process that would account for differing construction cost estimates for the facility. Moody's Investor Services predicts construction costs for new reactors to be \$5,000\$6,000/kw. In filings with the Florida Public Service Commission, Florida Power & Light projects costs as high as \$12 billion per reactor. Because of these uncertainties, the EIS should examine the cost/benefits at the various cost ranges. (0026-2 (AuClair-Valdez, Miguel))

Comment: I would say don't just look at the cost of building the plant. Look at the true cost associated with it. Taxpayers are what fund nuclear energy. You fund it when the money comes out of your check every week from the federal government taxes. You fund it when you have to buy the power from the utility company. You are what's funding nuclear power. And look at the true cost to people. So when you are doing this cost-benefit analysis, peel back more than just the look at what the cost is and the economic benefit for the local community and compare what would it be if we didn't have the massive subsidies that are paying for the nuclear energy right now. (0034-212 (Tolbert, J.R.))

Comment: Let's look at the economic review. When we talk about the cost of nuclear power, it is not just Dominion's cost. Taxpayers --every time somebody in the nuclear industry opens their mouth, they want to put their hand in your pocket and take it out with your money. It's taxpayer money. So let's add it all up. Let's find out where all these costs are. We've got the utility cost, we've got the fed cost, we've got waste, we've got high-level waste, we've got low-level waste. We've got insurance, we've got subsidies. Let's add it up, so that we can have a true site. (0034-40 (Rosenthal, Jerry))

Comment: I think one of the primary purposes of the EIS is to provide a clear, reasoned, and transparent cost-benefit analysis. And so we believe that this EIS should include a full range of cost estimates for the projected construction of the ESBWR, rather than hold those costs as propriety information. So I think that it's vital, and particularly in terms of providing public

credibility to this whole process, that the EIS -- first of all, take a look at the fact that since the early site permit process was completed, that the cost projections for nuclear power have gone up by about 300 to 400 percent. Right now, the latest estimate that we've seen was provided in discovery documents as a result of Florida Power and Light disclosures to the Florida Public Service Commission where now we're looking at projected costs of anywhere from \$5,500 per kilowatt to more than \$8,000 per kilowatt hour for new nuclear construction. So if you convert that to about a 1,500 megawatt reactor, that is anywhere from between \$6 billion to \$12 billion for a new reactor. Clearly, this should be taken into consideration in terms of the cost-benefit analysis. (0034-43 (Gunter, Paul))

Comment: I'd like to point out to -- as the NRC knows, and to members of the audience, that when you talk about rising fuel costs, the rising cost of concrete, the rising cost of metal, and you talk about the skyrocketing expenses that are involved in building a potential North Anna Unit 3, those same skyrocketing costs would apply to any baseload energy that you want to put in. (0034-72 (Taylor, Kelly))

Comment: The study also shows that this nuclear facility's electricity production cost was 1.38 cents per kilowatt hour in 2006. This is considerably lower than the coal, natural gas, and renewables whose --when the renewables cost was \$4.37 per kilowatt hour. (0034-79 (Fawls, Rebecca))

Response: *The cost and benefits of construction and operation of Unit 3 will be evaluated in Chapter 10 of the COL SEIS.*

Comment: I am just suggesting that nuclear power is not the best way to decrease emissions. It's important to recognize those emissions from cradle to grave. From the point where we begin to take action on mining the uranium, we are making an environmental imprint. Okay? So we have to take that into account when we're considering nuclear energy. Furthermore, not just a process of the mining of the uranium, but you have to enrich the uranium, the construction of the reactor, the disposing of the waste, which has been pointed out over and over, -- we don't really have a way to dispose of that waste right now -- as well as any changes to the transmission line that would occur. (0034-209 (Tolbert, J.R.))

Response: *Life-cycle carbon impacts will be considered to the extent that they were not previously considered in the ESP FEIS (NUREG-1811). The carbon impacts will be considered in Chapters 4 and 5 (construction and operation) and Chapter 9 (alternatives) of the COL SEIS. If new and significant information concerning carbon cycle is found, it will be considered in the benefit-cost analysis in Chapter 10 of the COL SEIS.*

Comment: We need to evaluate all energy technologies with the same set of objective criteria, whether they relate to lifetime emissions, economic issues, -- I started making notes as the speakers were going on -- waste streams, or environmental footprints. When we consider all of those criteria objectively, then we need to thoughtfully deploy all our energy technologies so we meet the needs of all members of society, especially those that are disadvantaged and minimize the impact to our environment. If we do that thoughtfully and carefully, we will find that we need all energy technologies, including nuclear. As one speaker put it, nuclear is not the cheapest or the cleanest. In this country, that would be hydro. But, in addition to the limit imposed by the number of adequate sites for hydroelectric power, consider that per-kilowatt hour produced, as I

said before, hydro consumes much more water than nuclear. And as far as safety, far more people have been hurt or killed by dam breaks in this country than by nuclear power plants. What I am saying is that there is no one energy technology that is safest, cleanest, and cheapest. We have to thoughtfully maximize the benefits and minimize the risks of each one to solve our energy and environmental problems. (0034-171 (Stiles, Lisa))

Comment: The GE-designed ESBWR has multiple backup safety systems with automatic safety features. It is a low carbon energy source with a small ecological footprint. To make the same amount of electricity from a wind farm as a nuclear power plant, it would take up to 200 square miles. And a solar plant would take 75 square miles, where a nuclear power plant would take approximately one square mile. (0034-82 (Fawls, Rebecca))

Comment: And also due to this unique circumstance [proposed nuclear reactor vs. state moratorium on uranium mining], the environmental impact statement, whose main purpose is to establish a cost-benefit analysis of the project to determine if the environmental costs outweigh the stated benefits, should consider the effects of nuclear expansion and how it relates to the booming speculation on uranium. (0034-92 (Fisher, Allison))

Comment: So regarding these technologies and for the purposes of the EIS, an analysis should consider cost comparison, ratepayer savings, and certainly job creation, which is another issue that has been broached here by several of the presenters. And there are plenty of studies that are showing that these technologies are bringing just as many jobs and just as many opportunities into communities and without the risks associated with nuclear power or coal. Alleviating us from these technologies is not going to shut down the economy, I assure you. So, just again, you know, or the choices our utilities are making for us are critical. And we really cannot afford economically as well as environmentally to continue on this business as usual path. And I think that, when all things are considered, what we will see is nuclear power is not the cheapest. It's not the safest. And it's certainly not the cleanest. (0034-96 (Fisher, Allison))

Response: *The cost and benefits of construction and operation of Unit 3 will be evaluated in Chapter 10 of the COL SEIS.*

Comment: The document does not address the life cycle costs of power and the amount of government subsidy involved. (0035-4 [Goldsmith, Aviv])

Response: *The NRC benefit-cost analysis in an EIS is confined to an analysis of the as-proposed facility at the proposed location, given existing institutions, and is not an academic or policy comparative benefit-cost analysis with other power supply options. The life-cycle cost and amount and type of government subsidy belong to the policy arena and are not germane to the benefit-cost analysis.*

26. General Comments in Support of the Licensing Action

Comment: I AM NOT OPPOSED TO THE PROPOSED POWERPLANT. I think it is needed with our country's energy situation. (0010-1 (Hayo, Dennis))

Comment: The Board has consistently supported Dominion's application for the construction and operation of Unit 3 at the North Anna Nuclear Power Station however the foregoing issues need to be adequately addressed. (0015-8 (Lintecum, Lee))

Comment: I enthusiastically support the building of North Anna's Unit 3. (0019-4 (Brown, Eugene F.))

Comment: In conclusion, I would like to voice my strong support for the combined operating license application submitted by Dominion Nuclear Power for North Anna Power Station Unit No. 3. (0020-5 (Ball, Kenneth))

Comment: I fully support Dominion's combined license application for the North Anna Power Station Unit Three as a first step in the battle of fighting global warming . (0021-7 (Pierson, Mark))

Comment: The Friends of Lake Anna (FOLA) is not anti-nuclear, nor do we have not in my backyard sentiments. We do support the addition of the 3rd reactor at the North Anna plant, but want to ensure that all environmental issues are taken care of prior to the issuance of a Combined Operating License. (0028-1 (Ruth, Harry))

Comment: The Board, at its April 7th meeting, went on record, as Mr. Harper referred to, supporting the combined permit for Dominion. (0034-10 (Lintecum, Lee))

Comment: I am here to speak in support of the combined operating license for unit 3. (0034-100 (Marshall, Burton))

Comment: We need to seize the opportunity to build this third unit and provide more economic benefits to Virginians and Louisa County. (0034-105 (Marshall, Burton))

Comment: I would like to voice my strong support for the combined operator license application submitted by Dominion Nuclear Power for North Anna Power Station unit number 3. (0034-114 (Ball, Kenneth))

Comment: I enthusiastically support the building of North Anna's unit 3 and the other 14 proposed nuclear power plants in the United States (0034-119 (Brown, Eugene F.))

Comment: I fully support Dominion's combined license application for the North Anna Power Station unit 3 as a first step in the battle of fighting global warming. (0034-126 (Pierson, Mark))

Comment: IYNC [International Youth Nuclear Congress] supports Dominion's combined license application. (0034-161 (Stiles, Lisa))

Comment: I represent thousands of construction workers all over -- from this county, throughout the State of Virginia. And I'm here tonight in support of Unit 3. (0034-18 (Rigali, Tony))

Comment: LACA supports the proposed third unit at North Anna. We believe it is good for the community, good for the state of Virginia, and good for the Nation. (0014-1 (Murphey, Bill), 0034-180 (Smith, Doug))

Comment: In summary, the Lake Anna Civic Association supports the third unit, but we have concerns that should be addressed in the environmental impact statement. (0034-187 (Smith, Doug))

Comment: The additional unit at this station would provide low-cost, reliable energy for Virginians, while at the same time will provide good jobs for the hard-working men and women in this region. (0034-21 (Rigali, Tony))

Comment: Our organization [Women in Nuclear Global] is supporting approval of Dominion's combined operating license and supplemental environmental impact statement. (0034-218 (Harte, Vicky))

Comment: However, to express my support for the plans to construct and operate a safe, economical, reliable, proven asset to the overall energy mix used to make electricity, I would like to also say banana: Build a Nuke at North Anna. (0034-221 (Montague, Joe))

Comment: We support the construction of North Anna Unit 3, with its associated cooling tower. (0034-26 (Manzari, Jack))

Comment: We support the development of the new unit on the basis of the need for electricity, which is safe and has a positive impact on the country in general and the county specifically. (0034-30 (Manzari, Jack))

Comment: I'm here tonight in support of the construction operating license for North Anna Unit 3. (0034-47 (O'Hanlon, Jim))

Comment: Not only would the reactor -- the third reactor at North Anna provide safe and reliable energy, it would do so while protecting the environment. (0034-50 (O'Hanlon, Jim))

Comment: I'm here in support of the continued -- combined operating license for North Anna 3. (0034-59 (Moore, Kenneth))

Comment: I'm here tonight to also speak in favor of the combined operating license for the third reactor at North Anna. (0034-65 (Ellis, Larry))

Comment: I want to encourage the NRC to move forward with these necessary permits for a new nuclear unit here at North Anna power station, so that this option is available to help provide the energy that we need to sustain Virginia's economy and Virginia's environment. (0034-8 (Watkins, John))

Comment: Based on that commitment from Dominion Power, and their willingness to come to the table and talk to us on occasion, and also their willingness to sit down when we do have issues and work them out, the Louisa County Board of Supervisors has unanimously voted to support Dominion's application for a combined license for Unit 3. (0034-9 (Harper, Willy))

Response: *These comments express general support for the proposed NAPS Unit 3 or the associated COL application. They provide no new and significant information; therefore, they will not be evaluated further.*

Comment: I am writing on behalf of the Louisa County Board of Supervisors regarding the environmental scoping process for the North Anna Power Station, Unit 3 combined License application. At its April 7, 2008 meeting, the Board wished to express their support of Unit 3 but wanted to communicate concerns about the impact Unit 3 will have on Louisa County. (0015-1 (Lintecum, Lee))

Comment: I am submitting these comments in favor of Dominion Nuclear Power's application for a combined license (COL) for North Anna Power Station Unit Three. The environmental impact of this nuclear power plant will be significant -- but in a positive way. (0021-1 (Pierson, Mark))

Comment: I think it's highly unlikely that we can meet the energy demands of a growing population, support a shift to plug-in hybrid electric vehicles, while reducing our dependence on coal and foreign oil and gas. That's why we need North Anna Unit 3. (0025-3 (Stuart, Michael))

Comment: LACA [Lake Anna Civic Association] supports the proposed third unit at Lake Anna. We believe it is good for the community, the State of Virginia, and the country. The new unit will bring 750 new jobs into the local area. It will bring additional tax revenues to the State and local coffers and will reduce the dependence on foreign oil by generating enough power to supply 375,000 homes. (0027-1 (Smith, Doug))

Comment: We applaud Dominion Resources for their past stewardship of Lake Anna and are not opposed to the North Anna Project. We do support the addition of the 3rd reactor at the North Anna plant, but want to ensure that all environmental issues are taken care of prior to the issuance of a Combined Operating License since the lake was constructed for both cooling of the North Anna Plant and also the enabling legislation set forth very clearly that Lake Anna was also created as a recreational lake for the public to enjoy. (0028-3, 0033-1 (Ruth, Harry))

Comment: You have heard about the number of jobs provided. You have heard about the taxes that will be generated. This is a win-win situation for everyone in Virginia. It provides low-cost energy, emission-free with respect to greenhouse gases, and a safely operated plant. (0034-107 (Farmer, John))

Comment: I would like to comment in favor of this new reactor. And I don't plan to say very much of this because it has already been said about the necessity of the energy and the simplified boiling water reactor design with its combination of passive safety, simplicity, operation, reliability, economics, and the fact that it has no impact on the waste heat treatment. (0034-108 (Beament, Peter))

Comment: I am here today to speak in favor of Dominion's application for a combined license for North Anna Power Station unit 3. The environmental impact of this nuclear power plant will be significant but in a positive way. (0034-120 (Pierson, Mark))

Comment: But the Board felt that it needed to go on record supporting it. We realize that this plant, if it's constructed, will be a real economic boom for Louisa County. But you have to get there first, and getting there sometimes causes us problems of playing catch up, which can be very expensive. But, again, the Board does support the combined license. (0034-14 (Lintecum, Lee))

Comment: based on my experience with Virginia Power or Dominion Power -- and I've been on the Board -- this is my eleventh year on the Board, and with that they have a firm commitment -- I have seen it demonstrated time and again, they are totally committed to have the best safety program they can possibly have. And I strongly support this application. (0034-17 (Wright, Jack))

Comment: There will be excellent job opportunities with the development of North Anna unit 3. And I want to wrap up by saying that the Nuclear Advocacy Network supports North Anna unit and what it can contribute to the Commonwealth of Virginia. (0034-214 (Cherry, Pratt))

Comment: I want to say this as strongly as I can -- that Dominion North Anna is the most important economic development project in the history of Louisa County, more so than the railroads in the 19th century or the interstate highways in the 20th century. This is the most important economic development project in the history of our county. (0034-25 (Gibson, Bob))

Comment: In closing, let me say that Virginia needs a balanced strategy moving forward to meet our increasing energy needs, while at the same time being mindful of the environment. The third unit at North Anna is a key component of this responsible and balanced strategy. (0034-53 (O'Hanlon, Jim))

Comment: I'm here tonight in support of the third unit at North Anna/Lake Anna. I think it is important to support energy development right here in Virginia to ensure that electric service remains affordable and reliable. (0034-54 (Tribble, Charles))

Comment: A new reactor at North Anna will not have a significant impact on Lake Anna. In response to concerns raised by the Department of Environmental Quality and local citizens, as you have already heard, Dominion committed to install a \$200 million plus cooling system that will allow the temperature of the lake not to be affected, not even in the company-owned waste heat treatment facility, the cooling lagoons that are adjacent to North Anna. (0034-62 (Moore, Kenneth))

Comment: I would like to point out what others have already said, and I certainly experienced in construction not only at North Anna but in other sites around the state, construction will -- and operation of this unit will really continue to be a Godsend to the area in general, and to Louisa County in particular. So North Anna plays a particular role in Virginia's economy overall, and Dominion -- and it's Dominion's lowest cost of baseload generation and will continue to be for the foreseeable future. (0034-64 (Moore, Kenneth))

Comment: The NRC has determined that a new reactor can be safely sited and operated in a way that will have minimal impact on the environment. As part of the early site permit environmental review process, Dominion agreed to build a cooling tower instead of using once-through cooling from Lake Anna. Dominion has indicated -- demonstrated that it is a good neighbor by changing its plans for cooling so that no additional heat will be placed in North Anna

-- in Lake Anna. The company has embraced policies and technologies, worked hand in hand with protecting our environment, and at the same time they continued to demonstrate that this third unit at North Anna will continue to implement those policies. (0034-68 (Ellis, Larry))

Comment: For those who wish studies to be redone because the water balance studies don't account for the improved cooling design for the decreased evaporation rates for the reduction in heat that is trajectoryed back into the lake, then I would submit that you are asking to spend money for no benefit, since the increase -- since the improved design is actually more conservative than the one that the studies were done for.

For those who would talk about the difference between the long-term cooling versus the short-term cooling in the summer months when the cooling is most critical, I would submit that I like using the power the other 350 days a year, and I would appreciate the fact that the plant goes in so that it's available for use whenever we need it. And if there are periods in the summer months where we have issues meeting those, I would say the long-term benefit will override those short-term concerns. (0034-75 (Taylor, Kelly))

Comment: According to the U.S. Department of Energy projections, we're going to need to increase our energy production by about 50 percent in the coming years. And the increase is necessary due to population increases. That's due to greater reliance on electronics. And it doesn't even account for the electric vehicles that Kelly was talking about earlier. As you can see, even if we hopefully build North Anna unit 3 and, by some miracle, this little blue part right here, we implement a 15 percent renewable portfolio standard, we still have this gap up at the top. Now, there's a lot of people in this audience that want to get rid of coal and they want to get rid of oil and gas and they want to get rid of nuclear. And that leaves nothing. If somebody cut the lights out, that would be a great, dramatic effect right now, but that's okay. As you can see, it is highly unlikely. Now, we can meet our energy demands of a growing population, support a shift to plug in electric hybrid vehicles while reducing our dependence on coal, foreign oil, and gas. We can't do it all. That's why we need unit 3 as soon as we can get it. (0034-85 (Stuart, Michael))

Response: *These comments express general support for the proposed NAPS Unit 3 or the associated COL application. They provide no new and significant information; therefore, they will not be evaluated further.*

27. General Comments in Support of the Licensing Process

Comment: We have complete trust that the federal and state environmental and nuclear regulatory authorities combined with the responsible actions of a regulated utility will balance the recreational, nuclear utility requirements, and environmental concerns to come to an optimum balance. (0006-2 (DuBois, Paul and Linda))

Comment: We [Clean and Safe Energy Coalition] support the NRC's recommendation and a continuation of the licensing process that would lead to new construction at Virginia. (0034-217 (Richmond, Michelle))

Response: *These comments express general support for the NRC COL process and provide no new and significant information; therefore, they will not be evaluated further.*

Comment: Last fall the NRC issued an early site permit for the North Anna site. By issuing this permit, the NRC determined that North Anna is suitable for additional nuclear generation from an environmental, safety, and emergency planning perspective. A number of environmental issues were addressed in the final Environmental Impact Statement issued by the Nuclear Regulatory Commission. (0013-5 (Grecheck, Eugene))

Comment: As part of that process, Dominion agreed to change its approach to cooling a new reactor from using once-through cooling from Lake Anna -the system now used by North Anna units 1 and 2 -to a closed loop hybrid cooling tower system. We changed our approach after listening to concerns raised by state agencies and the local community. From our standpoint, the early site permit licensing process was a win-win because it resulted in a compromise that addressed the concerns raised about the use of the lake water before any construction costs were incurred. (0013-6 (Grecheck, Eugene))

Comment: the questions and decisions that face us are not simple. There are complex issues that need to be addressed and evaluated. We are confident that after these issues are fully and fairly considered, the Combined Operating License process can continue and the nuclear option can be maintained for the energy supply decisions that will need to be made in the future. (0013-7 (Grecheck, Eugene))

Comment: [International Youth Nuclear Congress supports] NRC's detailed review process that solicits public participation and ensures that all safety, licensing, and environmental issues are resolved prior to the majority of the capital investment to build is made. (0034-162 (Stiles, Lisa))

Comment: Dominion's ESP license is an example of how well the licensing process is working. When the local community voiced its concern over escalating water temperatures on the hot side of Lake Anna, Dominion revised its application to include a closed hybrid cooling system. (0034-164 (Stiles, Lisa))

Comment: The NRC reviewed a number of environmental issues during the early site permit process and addressed them satisfactorily in the environmental impact statement. During the EIS review period, Dominion worked with the NRC, state agencies and other stakeholders to resolve those environmental issues. There is no need to revisit these issues again during the COL process. (0034-52 (O'Hanlon, Jim))

Comment: Secondly, through the early site permitting process, the NRC conducted a thorough review of the environmental impact a new nuclear unit would have on the North Anna site, and determined that a new reactor can safely be sited and operated in a way that will have minimal effect on the environment. (0034-61 (Moore, Kenneth))

Response: *These comments express general support for the NRC COL process and provide no new and significant information; therefore, they will not be evaluated further.*

28. General Comments of Support of Nuclear Power

Comment: I am pleased that our elected officials appear to be representing the majority of Virginians that see nuclear power as the most efficient and environmentally safe method of providing future energy needs. (0006-1 (DuBois, Paul and Linda))

Comment: This Country needs additional nuclear power plants (0011-4 (Romano, John))

Comment: Here in Virginia, Governor Kaine and the General Assembly have taken important steps to promote nuclear as a reliable, safe and economic energy source for the Commonwealth. The Governor's 10-year Energy Plan includes nuclear power in the mix of resources that will be required to meet Virginia's future energy needs, along with natural gas, clean coal, renewable energy sources and conservation measures. (0013-3 (Grecheck, Eugene))

Comment: We believe that nuclear energy must be a significant part of this requirement. Dominion has chosen General Electric Hitachi's ESBWR for North Anna Unit 3, should we decide to move forward and build a new unit. (0013-4 (Grecheck, Eugene))

Comment: Nuclear energy now represents the nation's (and Dominion's) least expensive source of electrical energy. The need for increased in-state energy production along with the need to reduce green house gas emissions requires serious consideration of the installation of new nuclear power plants such as North Anna's Unit 3 which, of course, is the topic of this meeting. (0019-2, 0034-117 (Brown, Eugene F.))

Comment: Times have changed, and now the nuclear industry is in a period of resurgence, resulting in part from fears of global warming and the related need for carbon free electricity production. (0019-3 (Brown, Eugene F.))

Comment: As a department head, I would like to emphasize the wide-spread interest in our new nuclear program among our alumni, students, and their parents throughout the Commonwealth of Virginia. (0020-1, 0034-110 (Ball, Kenneth))

Comment: The nuclear renaissance is real, and it is generating considerable excitement nation-wide. (0020-2, 0034-111 (Ball, Kenneth))

Comment: The Commonwealth of Virginia and its citizens have much to gain by supporting nuclear energy initiatives, and we are well-positioned to be at the forefront of technological leadership in this area, which will have far-reaching implications for Virginia's economy. (0020-3, 0034-112 (Ball, Kenneth))

Comment: These prestigious universities all recognize the enormous opportunities that exist in nuclear technologies. The citizens of their respective states will benefit from cheaper, cleaner power production as the majority of new nuclear reactors will be built in the Southeast U.S. For Virginia to remain in a leadership position, it is important to support the nuclear power industry as they are key partners and the largest employers of the graduates of our nuclear programs. (0020-4 (Ball, Kenneth))

Comment: As a researcher, engineer, and scientist, I believe that nuclear reactors and nuclear power generation must be included in our nation's energy portfolio and that nuclear power generation is extremely safe and environmentally sound. (0020-6 (Ball, Kenneth))

Comment: I personally believe that if one looks at all the facts associated with nuclear power generation, that its advantages by far outweigh any disadvantages, especially in the environmental arena. Regardless of what opinions others may conclude in this regard, we still face serious issues of both global warming and that of providing a secure energy supply to meet U.S. demand. (0021-6, 0034-125 (Pierson, Mark))

Comment: the Southeastern Region depends on this reliable nuclear energy low-cost source of electricity for 20 percent of its power. While this source provides approximately 35 percent of the electricity that is used here in Virginia, nuclear energy makes a tremendous positive contribution to our economy and to our standard of living here. (0034-1 (Watkins, John))

Comment: The citizens of the Southeastern United States, the States, will benefit from cheaper, cleaner power production as a majority of new nuclear reactors will be built in the Southeast. For Virginia to remain in a leadership position is important to support the nuclear power industry as they are key partners and the largest employers of the graduates of our nuclear programs. (0034-113 (Ball, Kenneth))

Comment: As a citizen of the Commonwealth of Virginia and also a father of four teenagers, I believe that ensuring that the electric power supply is sufficient to meet the future requirements of the Commonwealth in an efficient, cost-effective, and environmentally responsible manner is vital for our future prosperity. As a researcher, engineer, and scientist, I believe that nuclear reactors and nuclear power generation must be included in our nation's energy portfolio and that nuclear power generation is extremely safe and environmentally sound. (0034-115 (Ball, Kenneth))

Comment: And now the nuclear industry is in a period of resurgence, resulting, in part, from fears of global warming and the related need for carbon-free electricity production. (0034-118 (Brown, Eugene F.))

Comment: In fact, nuclear power plants are among the most reliable power options during extreme weather conditions. (0034-165 (Stiles, Lisa))

Comment: In fact, nuclear power plants are one of the best alternatives if we are looking at a future of higher temperatures and lower water levels because they can be designed to minimize water usage and can also be modified later if conditions drastically change; hence, the number of new plants being proposed with wet and dry cooling towers and older plants being retrofitted with helper cooling towers. (0034-169 (Stiles, Lisa))

Comment: When the Northeast United States get hit with several blizzards in a row and the trains carrying fuel can't get through, and natural gas prices are through the roof, and all the while the nuclear power plants are humming along better than ever, I just find it hard to believe that conservation, solar, wind, corn, and switch grass are going to save the day. Just like nuclear power, they all have their place in a diverse energy portfolio. They all have their pros and cons. But none alone is the answer to our energy and environmental problems. (0034-170 (Stiles, Lisa))

Comment: Nuclear energy is a clean, safe, reliable energy source. It is an important component of a diversified energy portfolio. It is this industry that fuels the American business and industry in this country. (0034-213 (Cherry, Pratt))

Comment: And we [Clean and Safe Energy Coalition] locally support nuclear energy as well as the construction of new reactors and are actively engaged in generating a public dialogue to inform others about the ways nuclear power enhances America's energy security, growth, and development. (0034-215 (Richmond, Michelle))

Comment: The public perception of nuclear is that there is a growing recognition that nuclear power is the only large-scale generation source that will significantly lower global greenhouse gas emissions. (0034-219 (Harte, Vicky))

Comment: Nuclear industry cares for the environment and all of its activities. It can make an important contribution towards a sustainable energy supply for the future of the world and, in particular, Third World countries. (0034-220 (Harte, Vicky))

Comment: In the interest of energy security and to minimize environmental impacts, nuclear must continue to play a major role in supplying electrical energy through upgrades in life extension of existing facilities and existing units. It is interesting to me to note that Dominion has taken the effort and has put forth the effort to have its currently licensed units extended -- each of them, each of the four units -- for another years. (0034-4 (Watkins, John))

Comment: Nuclear power is a safe and effective way to generate reliable energy. As is already mentioned, this additional unit at North Anna would generate more than 1,500 megawatts net of electricity, enough power to -- enough energy to power the equivalent of 375,000 homes. (0034-48 (O'Hanlon, Jim))

Comment: There was a conference in Washington a couple of weeks ago, and there was a piece in the Richmond paper, and let me just quote briefly from that. It says Representative John Dingell, Democrat, Michigan, Chairman of the House Energy and Commerce Committee, and I quote, said, The future of this country is dark without nuclear power. (0034-57 (Tribble, Charles))

Comment: Nuclear power is vital, it's much cheaper than the alternatives, it's already here, it has been safe for 30-some years here in Louisa County, and I understand that the GE new ESBWR design is even more efficient. This is a critical investment, because it will provide increased generating capacity while not producing any greenhouse gas emissions in a time when carbon regulations are inevitable. Nuclear is a key component of a balanced energy strategy moving forward. (0034-58 (Tribble, Charles))

Comment: There are few power generating technologies that have as little adverse environmental impact as nuclear plants. It produces none of the Greenhouse gas emissions associated with fossil fuels, nor does it generate any of the highly regulated pollutants such as sulfur dioxide and nitrogen oxides. (0034-6 (Watkins, John))

Comment: Nuclear generation in general, and North Anna in particular, will of course help protect the environment. Nuclear is the only baseload source available at a reasonable cost to produce reliable power without significant greenhouse gas emissions. (0034-63 (Moore, Kenneth))

Comment: Nuclear energy is an important part of this energy mix, because today it is Dominion's lowest source of baseload electricity. Not only will the third reactor at North Anna provide affordable baseload power, but it will do so in a safe, environmentally acceptable manner. (0034-67 (Ellis, Larry))

Comment: I appreciate the fact that Dominion has selected nuclear for this county for the upcoming generations, because of its decreased carbon dioxide emissions and because of the cleaner air that is a result for myself and my family. (0034-73 (Taylor, Kelly))

Comment: When we talk about a balanced energy portfolio, and we need diverse sources, we need the renewables, we need to do more conservation, we need to maintain the fraction of our power that comes from nuclear because of its low CO2 emissions. We need to not replace that with something that is more damaging to the environment than nuclear is. I would also submit to you that the long term studies that talk about the increase in baseload use in Virginia probably do not account for another move that we really need to make, which is more electric vehicles. That doesn't figure into any of the baseload studies. So if you want to replace what we're using in foreign oil with electric vehicles and things that are battery-powered, that's going to be a significant increase in what our baseload power needs are nationwide. And that has to come from nuclear. We are now at the next opportunity for nuclear to replace more of the foreign oil and more of the national security issues that we have, because those electric vehicles are going to be using the extra power. (0034-76 (Taylor, Kelly))

Comment: In summary, nuclear power provides many economical benefits, such as maintaining low electricity costs, increased tax revenue, and providing job stimulus here in Virginia. Nuclear power has been proven to provide safe, clean, and reliable power, and it is an important part of our balanced energy mix in Virginia. (0034-83 (Fawls, Rebecca))

Response: *These comments provide general information in support of nuclear power. They provide no new and significant information; therefore, they will not be evaluated further.*

29. General Comments in Support of the Existing Plant

Comment: I can speak very positively about Dominion's stewardship of Lake Anna since I purchased my first waterfront lot there in 1987 and through to the present. I have a great deal of trust in that track record and their safety record. They have been an excellent Corporate citizen, and I'm certain it will continue through and well beyond the construction of a third reactor. (0011-2 (Romano, John))

Comment: Dominion is one of the nation's most experienced operators of nuclear reactors. The company's four nuclear power stations have a capacity to produce 5,726 megawatts of emissions-free electricity. Not only will this facility be a safe and reliable addition to Virginia's energy portfolio, but it will do so while being mindful of the local environment. (0034-102 (Marshall, Burton))

Comment: Dominion has been a good corporate citizen at the North Anna site since the first unit was built in 1978. And I expect the company will continue to uphold the environmental responsibility throughout the life of this reactor. (0034-104 (Marshall, Burton))

Comment: North Anna has been a reliable generator of electricity for Virginia for many years. And we hope it will continue to do so for many more in the future. (0034-216 (Richmond, Michelle))

Comment: Safety is Dominion's top priority. At North Anna power station, safety is planned into all work activities. Safe work practices are reinforced through training and continuous improvement measures. The Nuclear Regulatory Commission, the Institute of Nuclear Power Operations, and the World Association of Nuclear Operators, gives North Anna station high marks in safety. (0034-49 (O'Hanlon, Jim))

Comment: I really appreciate the fact that Dominion is considering nuclear for the county, for my family, for my environment. I particularly appreciate the fact that it is Dominion that's doing it, because they have already demonstrated a concern for the environment, they have demonstrated a concern for the local issues over water evaporation, local issues for heat rejection. (0034-77 (Taylor, Kelly))

Comment: You will not see either one of us speaking out against Dominion's proposals (0011-1 (Romano, John))

Comment: Though not vocal, the business community (and large 'stakeholders' in Lake Anna) generally supports Dominion. (0011-3 (Romano, John))

Comment: I would also compliment Dominion in its efforts to educate the public on conservation, which is a very important issue. Nuclear energy has been used safely throughout the world, and Dominion has lived up to all of the safety standards required of them. Nuclear energy seems to be the best vehicle to produce energy in that it does not produce any of the Greenhouse gases associated with other fossil fuel generation. (0034-28 (Manzari, Jack))

Response: *These comments express support for the existing units at the site or applicant. They provide no new and significant information; therefore, they will not be evaluated further.*

30. General Comments in Opposition to the Licensing Action

Comment: It is irresponsible of Dominion and the NRC to continue with the application to site new nukes on an already environmentally and hydrologically stressed watershed. (0017-10 (Day, Elena))

Comment: The NRC should take the advice of the governing bodies of the City of Charlottesville and Spotsylvania County when they passed resolutions calling for a moratorium on the construction of any new reactors. (0023-9, 0034-155 (Black, Betty))

Comment: I oppose this application. I believe the entire process is flawed. (0034-127 (Day, Donal))

Comment: I have canoed in those rivers. I would really like the opportunity to be able to continue to do that, to have my children do that and my grandchildren to do that. And the only way that can be guaranteed is for the NRC to make sure that they protect that natural resource and not provide it for wasteful, inefficient, and consumptive new and old nuclear units. (0034-160 (AuClair-Valdez, Miguel))

Comment: The Sierra Club is opposed to the construction of a new reactor at the North Anna Power Station. (0023-1, 0034-147 (Black, Betty))

Response: *These comments provide only general information in opposition to the Unit 3 COL application, or the construction and operation of a reactor at the site. They provide no new and significant information; therefore, they will not be evaluated further. The NRC will carefully review the COL application against its regulations that are intended to protect public health and safety and the environment.*

31. General Comments in Opposition to the Hearing Process

Comment: The hearing process has become a Dominion sideshow/carnival at the expense of citizens that are very concerned about this rush to build new nukes. Dominion supporters generally did not address any specific new or old environmental concerns. (0017-1 (Day, Elena))

Comment: The hearing process has become a Dominion sideshow/carnival at the expense of citizens that are very concerned about this rush to build new nukes. Dominion supporters generally did not address any specific new or old environmental concerns. (0017-13 (Day, Elena))

Response: *These comments provide general information in opposition to the NRC's hearing process and will not be evaluated further.*

32. General Comments in Opposition to Nuclear Power

Comment: is not a vision for the future. It's trying to keep the past current. Nuclear power technology is an old technology. It's an old technology that belongs in the past. Let me also point out that nuclear power leaves two-thirds of the energy it produces at the plant before one watt goes down the wire. So to the new students at Virginia Tech, I think the professors are going to have a hard time explaining to them why they're promoting an industry that dumps two-thirds of the energy at the site before it delivers one watt to somebody's hot water tank that needs a very low form of energy in order to accomplish the task. This is hardly a program for a rational and sustainable energy future. It is time for us to think creatively and to think outside the box. The future is not nuclear. (0034-132 (Day, Donal))

Comment: You're taking the highest form of energy and using it for a very low-grade use. And to suggest that we need more nuclear power to do similar tasks is, in fact, I think irresponsible. (0034-133 (Day, Donal))

Comment: The first is as a neighboring city council just down the road, there was a resolution signed and sealed on December 17th. And I would just like to read the most germane section. And that is, "Now, therefore, it is resolved that the City of Charlottesville shall petition the Commonwealth of Virginia to create a mandatory renewable portfolio standard for public utilities

and, further, to place a moratorium on new coal-fired power plants, such as proposed for Wise County and expansion of existing nuclear power plants, such as proposed for North Anna until there has first been a significant expansion of investment in energy conservation and energy efficiency efforts and development of renewable energy alternatives."
(0034-156 (AuClair-Valdez, Miguel))

Comment: All discussions of nuclear power and the abstracted debate going on in this room are not based on the conditions for human well-being and for planetary health and survival but on an illusion of mastery and control, on a pretense of russionality, and on an acceptance of the demented nuclear logic as normal. The result is that you are unconsciously compelled to entrust the future of all of life to a technology that is grossly out of scale with our experience as biological beings and with our capacity to grasp its implications. Industrial civilization confuses money with fulfillment, standards of living with quality of life, and painful cancer deaths with the natural death that comes as the closing of life. But this confusion is only a blip in the history of evolution. The proverb says no matter how far you have traveled down the wrong road, you can still turn back. So even at this point, you can still give up the illusion that nuclear power is a sane energy consideration. You can allow into your consciousness that radioactives cannot be isolated from the environment and that they forever damage the DNA of not only humans but of all living things. (0034-98 (Nguyen, Vanthi))

Response: *These comments provide only general information in opposition to nuclear power. They provide no new and significant information; therefore, they will not be evaluated further.*

33. Comments Concerning Issues Out of Scope – Emergency Preparedness

Comment: The lack of full-time hospitals and fire/rescue facilities in the immediate Lake Anna area creates a high potential for serious impacts from an accident at the project.
(0035-14 [Goldsmith, Aviv])

Response: *Comments on emergency preparedness are outside the scope of the COL SEIS and will not be considered further in the staff's environmental review. An evaluation of emergency preparedness issues will be part of the NRC's safety evaluation of the proposed action.*

Comment: The EIS should address the plans and current lack of plans to distribute protective potassium iodide pills to people living within 20 miles of North Anna.
(0026-12 (AuClair-Valdez, Miguel))

Comment: The EIS should describe North Anna-3's backup power systems for emergency sirens and address how the utility will ensure compliance with the requirement that it can notify members of the public in the event of an accident and concurrent loss of onsite/offsite power.
(0026-13 (AuClair-Valdez, Miguel))

Comment: Last November the NRC held a public meeting here at which time you informed us that you had sent our Potassium Iodide pills to the VA Dept of Health. That apparently satisfies your obligation to protect us. BUT, you should know that we have not received our pills! You may want to re-evaluate your methods of delivering this important safety measure.
(0031-13 (Crawford, Barbara))

Comment: Emergency evacuation on small 2 lane roads. Need for expanded road system to accommodate new workers, heavy construction equipment and subdivisions. An emergency evacuation plan needs to be developed with public participation, the three involved counties and Dominion. The plan should describe how over 20,000 users of the lake (on a typical summer weekend), plus over a thousand plant workers and 2,500 construction workers ,will safely evacuate the area on a winding 2 lane road that has no traffic control in a panic situation. (0033-39 (Ruth, Harry))

Comment: Another of my major concerns is the lack of any sort of a mass evacuation plan in the environmental impact statement. I was born in the shadow of Three Mile Island. Now, granted, when I was born, it wasn't there yet. But during that near-catastrophic incident, my folks were still there. They were not evacuated. The NRC decided that in the interest of national security, the citizens of central Pennsylvania were written off as collateral damage. I want to believe that that is no longer the policy of the NRC. I want to believe that there is a plan to get us the heck out of here as fast as possible in the event of a terrorist attack, either on the reactors, on the pools of spent nuclear fuel rods, on the dam. I would like to believe that there is a plan. And I bring this up whenever we have a meeting. I bring it up in front of the Board of Supervisors. I bring it up in front of the NRC. And I to date have heard nothing. (0034-199 (Crawford, Barbara))

Comment: Now, we finally have sirens that most people can hear. And that is a big improvement. In the last couple of years, when that siren is practiced, it knocks you right out of your socks, and that is terrific. But nobody knows when we head for the hills, get as far away from here as possible. How quickly are all the roads going to be two lanes going one way away from Louisa County? And I don't have to say it, I'm sure. You know, we need the cooperation of all the surrounding counties, from Hanover; Goochland; Fluvanna; Albemarle; Orange; Spotsylvania; Caroline; and, of course, the Cities of Fredericksburg and Richmond and Charlottesville. I mean, is there cooperation in this plan? Does this plan exist? And why doesn't the environmental impact statement talk about it? I think we have a right to know. I feel very strongly about that. (0034-200 (Crawford, Barbara))

Comment: When you guys were here in October, you represented to us that, in fact, you would send our potassium iodide pills to the Department of Health. And I brought it up to the Board of Supervisors. I want you to bear in mind we don't have our pills. I think the NRC needs to look at its manner of distributing the potassium iodine pills because we need them. It's part of a level of safety that you promised us. (0034-207 (Crawford, Barbara))

Comment: One of the safety rules that the NRC has put for Louisa County, they are to distribute KI, potassium iodide, in the event of an accident. Our potassium iodide has expired 18 months ago. It has been brought up. Where is the NRC? Distributing this. These are the safety concerns of this organization? We don't have the mandatory items right at our hand. Let's use some real independent sources when they're getting information. PNNL is -- it's a joke organization. Let's get some independent organizations in here to do some real work to get the information to the NRC and move forward. The NRC's goals are the adequate protection of human health and safety, to promote the common defense and security, and to protect the environment. They're not doing a very good job, and we all know it. We need to sit back, take a deep breath, and use some good common sense. (0034-42 (Rosenthal, Jerry))

Comment: I would also like to address the issue in context of emergency planning. It was brought out earlier that this is a high growth area. That growth affects emergency planning. And, clearly, one of the concerns that we have, again supporting what Jerry said, but amplifying on it, Congress passed in 2002 a public law which requires the distribution of potassium iodide out to 20 miles. So Jerry's point that it's not being provided out to 10 miles currently is amplified by the fact that the Nuclear Regulatory Commission and the Department of Homeland Security have not complied with the Congressional law as it provides to the Bioterrorism Protection Act. (0034-45 (Gunter, Paul))

Response: *These comments relate to the adequacy of emergency plans, which is a safety issue that is outside the scope of the staff's environmental review. As part of its site safety review, the NRC staff will determine, after consultation with the U.S. Department of Homeland Security (DHS) and the Federal Emergency Management Agency (FEMA), whether there are any significant impediments to the development of emergency plans and whether the major features of emergency plans submitted by the applicant are acceptable. The currently operating units have emergency plans in place that have been reviewed and approved by both the NRC and DHS/FEMA.*

In regard to the comments concerning distribution of potassium iodide (KI), the NRC has supplied KI tablets to States requesting it for the population within the 10-mile emergency planning zone. The Commonwealth of Virginia provides KI tablets to individuals who live or work within 10 miles of a nuclear power station (NAPS or Surry). Persons who live or work within the 10 mile zones and need KI should contact a local health directory (<http://www.vdh.state.va.us/lhd/>) or emergency management coordinator for distribution locations. The local health district for Louisa County is the Thomas Jefferson Health District, which can be reached by telephone at 434-972-6219.

34. Comments Concerning Issues Out of Scope – Miscellaneous

Comment: Last but not least, Global Warming must be considered as part of the new EIS. We are seeing evidence that the effects are taking place much more quickly than previously thought. (0031-14 (Crawford, Barbara))

Comment: The projected accumulative impacts of global warming should also be included in these lake water temperature calculations. (0033-10 (Ruth, Harry))

Comment: I just wanted to bring up is the fact that we have talked a lot about CO2 emissions and the global warming effects of nuclear power. And a lot of people have stood up and said that nuclear power doesn't have a net carbon emission, a net carbon imprint. Let me back up just one second and just say science has already demonstrated that global warming is real. It's affecting us right now. And it's an issue that we have got to take action on immediately. To avoid the worst consequences, we need to stabilize emissions of pollutants within a decade and decrease those pollutants by 80 percent by 2050. (0034-208 (Tolbert, J.R.))

Comment: One thing that we haven't talked about here is our CO2 impact. And everybody keeps saying this is a carbon-free source of energy. There are no carbon-free sources of generation. Zero, none. It's boring to hear them say, This is carbon-free, so let's get on with it. You want to go? Hit a site ieer.org, and it will tell you pretty much where the carbon is. When

you pour concrete, you make carbon. There is a lot of concrete that goes into the plant. A quick study should be done showing how much is being used after one year, three years, five years, 10 years. Show how much carbon is put in before one little kilowatt comes out. We can also do a CO2 impact just of this process. How many NRC people drove down here? How much paper is being used? We ought to know. This is part of our carbon end stuff. (0034-39 (Rosenthal, Jerry))

Response: *The NRC is responsible for the review of the environmental report for the COL application and to conduct an environmental review, but is not responsible for establishing policies related to global warming or emission of non-radiological pollutants. While it is recognized that this issue is of national importance, it is outside the scope of this review. It does not provide specific information relating to new and significant information; therefore, it will not be evaluated further.*

Comment: ESL SDEIS Page 1-5 stated that an EIS must include an evaluation of alternative sites to determine whether there are any obvious superior alternatives. Although Chapter 9 determines that there are none, it also does not show that the Lake Anna site is clearly superior to many of the alternatives. Further discussion is required. (0035-43 [Goldsmith, Aviv])

Response: *This comment refers to information in the NAPS draft ESP EIS that was published in July 2006. That document was superseded by the ESP FEIS (NUREG-1811) that was published by the NRC in December 2006. Information regarding comparison of the impacts of the proposed action at the NAPS site and various alternative sites is provided in Chapter 9 of the ESP FEIS (NUREG-1811). Section 9.3 indicates that none of the alternative sites were determined to be environmentally preferable to the proposed Unit 3 site.*

35. Comments Concerning Out of Scope – NRC Oversight

Comment: We support the legal appeal that has been filed in state court by the Blue Ridge Environmental Defense League and the People's Alliance for Clean Energy. Permits for new reactors should not be considered until this issue has been resolved. (0023-8 (Black, Betty))

Comment: We support the legal appeal that has been filed in state court by the Blue Ridge Environmental Defense League and the People's Alliance for Clean Energy. Permits for new reactors should not be considered until this issue has been resolved. (0034-154 (Black, Betty))

Comment: Another thing we have to look at is our good old friends, the NRC. How have they been doing? What are their responsibilities? What has been their record? What are they responsible for? Well, they're responsible for low-level waste. What's the record? Pretty bad. Zero out of eight. No low-level sites selected. North Anna doesn't have anywhere for the low-level waste to go, and they want to put more here. High-level waste --1982 is when it started. Ten years behind at this date, estimated 20 years behind and it's not ever going to open. Where are they going to put the waste? (0034-41 (Rosenthal, Jerry))

Response: *These comments fall outside the scope of this environmental review as set forth in 10 CFR 51 and 52. The comments do not provide new and significant information and will not be evaluated further.*

Comment: The NRC needs to stop passing the buck to the State of Virginia and deal with our water crisis. You can't ignore it anymore. The previous EIS gave this issue short-shrift, stating if there is a water problem, it is Virginia's problem. Well, maybe it is Virginia's problem, but for you to say that all the DEQ has to do is tell Dominion to take one or more reactors offline, does it make sense to build another reactor? Does it? If your solution to water problems is, oh, the DEQ can tell Dominion to take a reactor offline, I mean, come on. It's not going to happen. We're going to continue to have these water problems. (0034-202 (Crawford, Barbara))

Response: *The mission of the NRC is to license and regulate the nation's civilian use of byproduct, source, and special nuclear materials to ensure adequate protection of public health and safety, promote the common defense and security, and protect the environment. The NRC has established an extensive regulatory process to ensure the integrity of each review. The NRC will carefully review the application against its regulations that are intended to protect public health and safety and the environment. This comment provides no new and significant information and will not be evaluated further.*

Comment: One of the main problems I have is that this whole process is being run by the NRC. And I think we have to question its competency to regulate this industry. We only have to remember Davis-Besse. Davis-Besse is a reactor in which corrosion due to poor water chemistry came within a few millimeters of revealing the reactor to the reactor building. And when this was exposed, the NRC reacted and ran around the country, finding, in fact, that this corrosion had occurred at many reactors, including North Anna. And the only reason a disaster was averted wasn't because of the NRC but, rather, because of different corrosion rates at different reactors around the country. (0034-128 (Day, Donal))

Comment: I mean, these corruptions at the reactor facilities were under the eyes of the safety watchdogs hired by, paid for by Dominion or elsewhere at Davis-Besse by other reactor operators. (0034-130 (Day, Donal))

Response: *The comment is regarding the role and responsibility of the NRC. It does not provide any new or significant information related to the proposed Unit 3. Therefore, it will not be evaluated further.*

Comment: It is requested that you use all available means at your disposal to find the methods to negate each of our concerns. (0033-87 (Ruth, Harry))

Response: *The mission of the NRC is to license and regulate the nation's civilian use of byproduct, source, and special nuclear materials to ensure adequate protection of public health and safety, promote the common defense and security, and protect the environment. The NRC has established an extensive regulatory process to ensure the integrity of each review. The NRC will carefully review the application against its regulations that are intended to protect public health and safety and the environment.*

36. Comments Concerning Issues Out of Scope – Safety

Comment: And with this --and I'm not presumptuous enough to tell you how to do your work. I'm convinced that you will do it thoroughly, and I'm comfortable with how you approach it. And one of the things I will say -- that from a safety standpoint, you can make all the regulations you

want to, but unless you have a total commitment from the organization involved, from the top down, it's worthless. (0034-16 (Wright, Jack))

Comment: The existing nuclear facilities in our region have an outstanding safety record, and the new reactor designs like those that are being proposed promise to be even safer than the current designs. The economic simplified boiling water reactor, or ESBWR, as has been talked about earlier, was pioneered by General Electric. It has been selected for the new unit at North Anna. It is a third generation plus design that already has proven itself in many Asian -- in several Asian countries. It exceeds the safety criteria set by the NRC for existing boiling water reactor designs by more than 100-fold. (0034-3 (Watkins, John))

Comment: We will be submitting written comments before the close of the comment deadline, but we found that, of course, many people may know that North Anna's nuclear reactor is built on stable ground that Virginia Electric Power Company, now Dominion, was the center of a decade-long struggle, which ended in two nuclear reactors being built on top of an earthquake fault. (0034-86 (Zeller, Lou))

Response: *The issues raised in the comments are safety issues and, as such, are outside the scope of the environmental review. Accordingly, these issues will not be addressed in the COL SEIS.*

Comment: Mass Evacuation Plan. The EIS is silent concerning the evacuation of the public in the event of an accident or terror attack on the plant, the pools of spent fuel rods or the Lake Anna Dam, any of which could result in the release of dangerous amounts of radiation. The citizens of Louisa County as well as all of the surrounding counties are entitled to know about and participate in the plans for a mass evacuation of this area. The plan should be evaluated as part of the new EIS. (0031-2 (Crawford, Barbara))

Response: *This comment regarding emergency preparedness is outside the scope of the environmental review and will not be considered further. An evaluation of emergency preparedness issues will be part of the safety evaluation report as outlined in 10 CFR 52.18.*

37. Comments Concerning Issues Out of Scope – Security and Terrorism

Comment: Are water pools and dry casks accumulating on the Lake targets for terrorist attacks? Will additional storage be adequately protected? (0017-7 (Day, Elena))

Comment: The EIS should address the potential consequences of a jumbo jet assault on North Anna-3. (0026-10 (AuClair-Valdez, Miguel))

Comment: One alternative discussed, but not proposed by Dominion for the 3rd reactor's cooling method is to exclusively use Dry Air Cooling for the 3rd unit, which would hopefully reduce major safety problems in the event that the dam would break or be blown-up by a terrorist attack, causing sudden loss of water for cooling any of the reactors. (0033-30 (Ruth, Harry))

Comment: Also the question of national security. If you go outside here, you see thousands of dollars worth of glossy material about national security and supporting force on force at the

reactors. Well, if you go to You Tube, you will find videos of reactor guards sleeping on duty. And this is an industry. This is a responsibility of the NRC. So I wonder how this review is going to account for these sleeping guards, for the failure of the NRC to do its job; or, in fact, for Dominion. (0034-129 (Day, Donal))

Comment: Are water pools and dry casks accumulating on the lake targets for terrorist attacks? Will additional storage be adequately protected? (0034-140 (Day, Elena))

Comment: We acknowledged the anniversary of Three Mile Island. And I found it ironic that Three Mile Island made the news almost exactly on the anniversary date. They had a security lapse. You know, we should not pretend that the nuclear industry is entirely safe. We need to keep our eyes open, and we need to ask you, the Nuclear Regulatory Commission, to be the watchdogs we need you to be. (0034-198 (Crawford, Barbara))

Comment: We have ongoing concerns with regard to security issues, in particular the fact that there is --we will be watching very closely the design certification process in context of a new rulemaking, which you might be aware of, that new designs that have not been certified will be required to address aircraft impact hazards analysis as a result of the 9/11 crash. Now, the ESBWR will have to go through that process, although the criteria have not been established at this point. However, the North Anna sites 1 and 2 have been exempted from any reanalysis on aircraft impact hazards analysis, so our concern is that the EIS should fully address the consequences of an aircraft attack, a crash, on Units 1 and 2 and its impact on the safe operations of Unit 3. (0034-46 (Gunter, Paul))

Comment: The continued lack of analysis and discussion of security against terrorist threats in Section 5.10 is a major omission. This subject is clearly part of today's "human environment." I would argue that terrorism is not an "accident." Terrorist attacks are deliberate and numerous. The proximity to DC could make North Anna an attractive target." Even FBI Director Mueller stated that a terrorist attack on a nuclear facility can be "postulated." (0035-33 [Goldsmith, Aviv])

Comment: Emergency situations should include terrorist attacks. Shouldn't a worst case analysis be included for low-probability events? (0035-7 [Goldsmith, Aviv])

Response: *Comments related to security and terrorism are safety issues that are not within the scope of the staff's environmental review. The NRC is devoting substantial time and attention to terrorism-related matters, including coordination with the DHS. As part of its mission to protect public health and safety and the common defense and security pursuant to the Atomic Energy Act, the NRC staff is conducting vulnerability assessments for the domestic utilization of radioactive material. Since the events of September 11, 2001, the NRC has identified the need for license holders to implement compensatory measures and has issued several orders to license holders imposing enhanced security requirements. Finally, the NRC has taken actions to ensure that applicants and license holders maintain vigilance and a high degree of security awareness. Consequently, the NRC will continue to consider measures to prevent and mitigate the consequences of acts of terrorism in fulfilling its safety mission. Additional information about the NRC staff's actions regarding physical security since September 11, 2001, can be found on the NRC's public web site <http://www.nrc.gov>.*

Summary

On November 27, 2007, the NRC received an application from the applicants for a COL for the proposed Unit 3 to be located adjacent to existing Units 1 and 2 at NAPS. On March 13, 2008, in accordance with 10 CFR 51.26, the NRC initiated the scoping process by publishing a Notice of Intent to Prepare an Environmental Impact Statement and Conduct Scoping Process in the Federal Register (73 FR 9604). The Notice of Intent notified the public of the staff's intent to prepare an SEIS and conduct scoping for the COL application. Through the notice, the NRC also invited the applicants; Federal, Tribal, State, and local government agencies; local organizations; and individuals to participate in the scoping process by providing oral comments at the public meetings and/or submitting written suggestions and comments no later than May 16, 2008. A public scoping meeting was held at the Louisa County High School Auditorium in Mineral, Virginia, on April 16, 2008.

The scoping was reopened through August 15, 2008 under a revised Notice of Intent published in the *Federal Register* on July 17, 2008 that provided corrected and supplemental information to the initial published Notice of Intent. All comments received were consolidated and categorized according to topic within the COL SEIS or according to the general topic if outside the scope of the SEIS. Those comments along with the responses prepared by NRC staff are presented in this Scoping Summary Report.

The draft SEIS for Dominion's COL application will address the relevant environmental issues raised during the scoping process. The draft COL SEIS will be made available for public comment. Interested Federal, Tribal, State, and local government agencies; local organizations; and members of the public will be given the opportunity to provide comments on the draft COL SEIS that will be considered during the development of the final COL SEIS.