

## NAPSEISComment Resource

---

**From:** PrecursorS@aol.com  
**Sent:** Monday, August 11, 2008 4:59 PM  
**To:** NorthAnnaCOLAEIS Resource  
**Subject:** Scoping Comments  
**Attachments:** comments on COL SDEIS 0808.pdf

Sent via email to [NORTHANNA.COLAEIS@nrc.gov](mailto:NORTHANNA.COLAEIS@nrc.gov)

11 August 2008

Chief, Rulemaking and Directives Branch  
Division of Administrative Services  
Office of Administration, Mailstop T-6D59  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Re: North Anna COL SDEIS

Thank you for the opportunity to provide scoping comments on the COL SDEIS.

In preparing these comments, I have tried to follow the section numbers in the ESL DEIS but since many items come up in several parts of the document, the comments should be considered to apply to all such occurrences. Furthermore, I apologize if comments may be referenced in the wrong section (for example, comments on impacts are given with cites to sections on the existing environment). Unless marked as "COL", references to the DEIS and the SDEIS are to the corresponding ESL document which I understand from your July 14 letter will form the basis for a SDEIS for the COL.

### MAJOR COMMENTS:

- 1. 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"). 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.
- 2. 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. The document does not address the life cycle costs of power and the amount of government subsidy involved.
- 3. 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.

4. **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. Emergency situations should include terrorist attacks. Shouldn't a worst case analysis be included for low-probability events?

5. **Throughout the ESL 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.

OTHER COMMENTS:

6. 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).

7. It seems that the ESL 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.

8. 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 set is inconsistent with other reporting periods (see DEIS section 5-58 line 38 e.g.) used elsewhere in the document.

9. The impacts to traffic from increased fog occurrence (Page 5-14 line 23) should be addressed.

10. Does the feeding range of bald eagles or loggerhead strikes extend to the North Anna vicinity (Page 2-13 line 32)?

11. 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.

12. 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.

13. 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?

14. 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?

15. 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?

16. 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.
17. 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.
18. Section 5.3 mentions that 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.
19. 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?
20. Along the lines of the prior 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.
21. 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.
22. Wouldn't the installation of new unit(s) be an opportunity to mitigate some of the existing problems with water temperature and lake level?
23. 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.
24. 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?
25. 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.
26. The SDEIS concluded on page 5-31, line 18 that “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.
27. Section 5.9 is hard to understand by lay persons. A summary is required that clearly sets out expected radiation impacts in the study area.

28. Section 5.10 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.
29. 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 person”s?
30. 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”.
31. Section 5.10 should include a worst case analysis for low-probability events.
32. A common-language summary of section 5.10.2 is required.
33. 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.
34. 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.
35. 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 US? What financial security does the operator post to assure successful decommissioning?
36. 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.
37. 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.
38. 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.
39. 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.
40. 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.

41. Table 10-1 acknowledges that increased traffic congestion is unavoidable. This is not congruous with the SMALL impact determination.

42. 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.

43. 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. 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.

44. 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.

45. 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.

46. 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?

I am available to clarify any of these comments. Thank you for your consideration.

Sincerely,

Aviv Goldsmith  
6147 Hickory Ridge Road  
Spotsylvania, VA 22551

---

Looking for a car that's sporty, fun and fits in your budget? [Read reviews on AOL Autos.](#)

**Federal Register Notice:** 73FR13589  
**Comment Number:** 18

**Mail Envelope Properties** (d0a.2fac2048.35d20218)

**Subject:** Scoping Comments  
**Sent Date:** 8/11/2008 4:59:04 PM  
**Received Date:** 8/11/2008 5:00:39 PM  
**From:** PrecursorS@aol.com

**Created By:** PrecursorS@aol.com

**Recipients:**  
"NorthAnnaCOLAEIS Resource" <NorthAnnaCOLAEIS.Resource@nrc.gov>  
Tracking Status: None

**Post Office:** aol.com

<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	15262	8/11/2008 5:00:39 PM
comments on COL SDEIS 0808.pdf		25251

**Options**  
**Priority:** Standard  
**Return Notification:** No  
**Reply Requested:** No  
**Sensitivity:** Normal  
**Expiration Date:**  
**Recipients Received:**

Sent via email to [NORTHANNA.COLAEIS@nrc.gov](mailto:NORTHANNA.COLAEIS@nrc.gov)

11 August 2008

Chief, Rulemaking and Directives Branch  
Division of Administrative Services  
Office of Administration, Mailstop T-6D59  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Re: North Anna COL SDEIS

Thank you for the opportunity to provide scoping comments on the COL SDEIS.

In preparing these comments, I have tried to follow the section numbers in the ESL DEIS but since many items come up in several parts of the document, the comments should be considered to apply to all such occurrences. Furthermore, I apologize if comments may be referenced in the wrong section (for example, comments on impacts are given with cites to sections on the existing environment). Unless marked as "COL", references to the DEIS and the SDEIS are to the corresponding ESL document which I understand from your July 14 letter will form the basis for a SDEIS for the COL.

MAJOR COMMENTS:

1. **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"). 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.
2. **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. The document does not address the life cycle costs of power and the amount of government subsidy involved.
3. **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.

**4. 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. Emergency situations should include terrorist attacks. Shouldn't a worst case analysis be included for low-probability events?

**5. Throughout the ESL 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.

OTHER COMMENTS:

6. 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).

7. It seems that the ESL 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.

8. 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 set is inconsistent with other reporting periods (see DEIS section 5-58 line 38 e.g.) used elsewhere in the document.

9. The impacts to traffic from increased fog occurrence (Page 5-14 line 23) should be addressed.

10. Does the feeding range of bald eagles or loggerhead strikes extend to the North Anna vicinity (Page 2-13 line 32)?

11. 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.
12. 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.
13. 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?
14. 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?
15. 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?
16. 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.
17. 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.
18. Section 5.3 mentions that 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.
19. 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?
20. Along the lines of the prior 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.

21. 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.
22. Wouldn't the installation of new unit(s) be an opportunity to mitigate some of the existing problems with water temperature and lake level?
23. 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.
24. 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?
25. 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.
26. The SDEIS concluded on page 5-31, line 18 that "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.
27. Section 5.9 is hard to understand by lay persons. A summary is required that clearly sets out expected radiation impacts in the study area.
28. Section 5.10 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.
29. 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 person"s?
30. 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”.

31. Section 5.10 should include a worst case analysis for low-probability events.
32. A common-language summary of section 5.10.2 is required.
33. 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.
34. 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.
35. 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 US? What financial security does the operator post to assure successful decommissioning?
36. 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.
37. 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.
38. 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.
39. 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.
40. 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.
41. Table 10-1 acknowledges that increased traffic congestion is unavoidable. This is not congruous with the SMALL impact determination.

42. 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.

43. 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. 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.

44. 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.

45. 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.

46. 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?

I am available to clarify any of these comments. Thank you for your consideration.

Sincerely,

Aviv Goldsmith  
6147 Hickory Ridge Road  
Spotsylvania, VA 22551