

## 7.0 Environmental Impacts of Decommissioning

Environmental issues associated with decommissioning, which result from continued plant operation during the renewal terms are discussed in the *Generic Environmental Impact Statement for License Renewal of Nuclear Plants* (GEIS), NUREG-1437, Volumes 1 and 2 (NRC 1996; 1999).<sup>(a)</sup> The GEIS includes a determination of whether the analysis of the environmental issue could be applied to all plants and whether additional mitigation measures would be warranted. Issues are then assigned a Category 1 or a Category 2 designation. As set forth in the GEIS, Category 1 issues are those that meet all of the following criteria:

- (1) The environmental impacts associated with the issue have been determined to apply either to all plants or, for some issues, to plants having a specific type of cooling system or other specified plant or site characteristic.
- (2) A single significance level (i.e., SMALL, MODERATE, or LARGE) has been assigned to the impacts (except for collective offsite radiological impacts from the fuel cycle and from high level waste and spent fuel disposal).
- (3) Mitigation of adverse impacts associated with the issue has been considered in the analysis, and it has been determined that additional plant-specific mitigation measures are likely not to be sufficiently beneficial to warrant implementation.

For issues that meet the three Category 1 criteria, no additional plant-specific analysis is required unless new and significant information is identified.

Category 2 issues are those that do not meet one or more of the criteria for Category 1, and therefore, additional plant-specific review of these issues is required. There are no Category 2 issues related to decommissioning North Anna Power Station, Units 1 and 2.

Category 1 issues in Table B-1 of 10 CFR Part 51, Subpart A, Appendix B that are applicable to North Anna Power Station, Units 1 and 2, decommissioning following the renewal term are listed in Table 7-1. The Virginia Electric and Power Company (VEPCo) stated in its Environmental Report (ER) (VEPCo 2001) that it is aware of no new and significant information regarding the environmental impacts of North Anna Power Station, Units 1 and 2 license renewal. The staff has not identified any significant new information on these issues during its independent review of the VEPCo ER (VEPCo 2001), the staff's site visit, the scoping process, or its evaluation of other available information. Therefore, the staff concludes that there are no impacts related to these issues beyond those discussed in the GEIS. For all of these issues,

---

(a) The GEIS was originally issued in 1996. Addendum 1 to the GEIS was issued in 1999. Hereafter, all references to the "GEIS" include the GEIS and its Addendum 1.

## Environmental Impacts of Decommissioning

1 the staff concluded in the GEIS that the impacts are SMALL, and plant-specific mitigation  
2 measures are not likely to be sufficiently beneficial to be warranted.

3  
4 **Table 7-1.** Category 1 Issues Applicable to the Decommissioning of North Anna Power  
5 Station, Units 1 and 2, Following the Renewal Term

6

ISSUE—10 CFR Part 51, Subpart A, Appendix B, Table B-1	GEIS Section
<b>DECOMMISSIONING</b>	
Radiation Doses	7.3.1; 7.4
Waste Management	7.3.2; 7.4
Air Quality	7.3.3; 7.4
Water Quality	7.3.4; 7.4
Ecological Resources	7.3.5; 7.4
Socioeconomic Impacts	7.3.7; 7.4

7  
8  
9  
10  
11  
12  
13  
14  
15  
16

17 A brief description of the staff's review and the GEIS conclusions, as codified in Table B-1, for  
18 each of the issues follows:

- 19
- 20 • Radiation doses. Based on information in the GEIS, the Commission found that

21  
22 Doses to the public will be well below applicable regulatory standards regardless  
23 of which decommissioning method is used. Occupational doses would increase  
24 no more than 1 man-rem [0.01 person-Sv] caused by buildup of long-lived  
25 radionuclides during the license renewal term.

26  
27 The staff has not identified any new and significant information on this issue during its  
28 independent review of the VEPCo ER (VEPCo 2001), the staff's site visit, the scoping  
29 process, or its evaluation of other available information. Therefore, the staff concludes that  
30 there are no radiation doses associated with decommissioning following license renewal  
31 beyond those discussed in the GEIS.

- 32
- 33 • Waste management. Based on information in the GEIS, the Commission found that

34  
35 Decommissioning at the end of a 20-year license renewal period would generate  
36 no more solid wastes than at the end of the current license term. No increase in  
37 the quantities of Class C or greater than Class C wastes would be expected.

1 The staff has not identified any new and significant information on this issue during its  
2 independent review of the VEPCo ER (VEPCo 2001), the staff's site visit, the scoping  
3 process, or its evaluation of other available information. Therefore, the staff concludes that  
4 there are no impacts of solid waste associated with decommissioning following the license  
5 renewal term beyond those discussed in the GEIS.

- 6  
7 • Air quality. Based on information in the GEIS, the Commission found that

8  
9 Air quality impacts of decommissioning are expected to be negligible either at  
10 the end of the current operating term or at the end of the license renewal term.

11  
12 The staff has not identified any new and significant information on this issue during its  
13 independent review of the VEPCo ER (VEPCo 2001), the staff's site visit, the scoping  
14 process, or its evaluation of other available information. Therefore, the staff concludes that  
15 there are no impacts of license renewal on air quality during decommissioning beyond those  
16 discussed in the GEIS.

- 17  
18 • Water quality. Based on information in the GEIS, the Commission found that

19  
20 The potential for significant water quality impacts from erosion or spills is no  
21 greater whether decommissioning occurs after a 20-year license renewal period  
22 or after the original 40-year operation period, and measures are readily available  
23 to avoid such impacts.

24  
25 The staff has not identified any new and significant information on this issue during its  
26 independent review of the VEPCo ER (VEPCo 2001), the staff's site visit, the scoping  
27 process, or its evaluation of other available information. Therefore, the staff concludes that  
28 there are no impacts of the license renewal term on water quality during decommissioning  
29 beyond those discussed in the GEIS.

- 30  
31 • Ecological resources. Based on information in the GEIS, the Commission found that

32  
33 Decommissioning after either the initial operating period or after a 20-year  
34 license renewal period is not expected to have any direct ecological impacts.

35  
36 The staff has not identified any new and significant information on this issue during its  
37 independent review of the VEPCo ER (VEPCo 2001), the staff's site visit, the scoping  
38 process, or its evaluation of other available information. Therefore, the staff concludes that  
39 there are no impacts of the license renewal term on ecological resources during  
40 decommissioning beyond those discussed in the GEIS.

## Environmental Impacts of Decommissioning

- 1 • Socioeconomic Impacts. Based on information in the GEIS, the Commission found that  
2  
3 Decommissioning would have some short-term socioeconomic impacts. The  
4 impacts would not be increased by delaying decommissioning until the end of a  
5 20-year relicense period, but they might be decreased by population and  
6 economic growth.  
7

8 The staff has not identified any new and significant information on this issue during its  
9 independent review of the VEPCo ER (VEPCo 2001), the staff's site visit, the scoping  
10 process, or its evaluation of other available information. Therefore, the staff concludes that  
11 there are no impacts of license renewal on the socioeconomic impacts of decommissioning  
12 beyond those discussed in the GEIS.  
13

## 14 7.1 References

15  
16 10 CFR Part 51. Code of Federal Regulations, Title 10, *Energy*, Part 51, "Environmental  
17 Protection Regulations for Domestic Licensing and Related Regulatory Functions."

18  
19 U.S. Nuclear Regulatory Commission (NRC). 1996. *Generic Environmental Impact Statement*  
20 *for License Renewal of Nuclear Plants*. NUREG-1437, Volumes 1 and 2, Washington, D.C.  
21

22 U.S. Nuclear Regulatory Commission (NRC). 1999. *Generic Environmental Impact Statement*  
23 *for License Renewal of Nuclear Plants, Main Report*, "Section 6.3 – Transportation, Table 9.1,  
24 Summary of findings on NEPA issues for license renewal of nuclear power plants, Final  
25 Report." NUREG-1437, Volume 1, Addendum 1, Washington, D.C.  
26

27 Virginia Electric and Power Company (VEPCo). 2001. *Application for License Renewal for*  
28 *North Anna Power Station, Units 1 and 2*, "Appendix E, Environmental Report - Operating  
29 License Renewal Stage." Richmond, Virginia.