

7.0 Environmental Impacts of Decommissioning

Environmental issues associated with decommissioning, which result from continued plant operation during the renewal term are discussed in the *Generic Environmental Impact Statement for License Renewal of Nuclear Plants* (GEIS), NUREG-1437, Volumes 1 and 2 (NRC 1996; 1999).^(a) 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.

Category 1 issues in Table B-1 of 10 CFR Part 51, Subpart A, Appendix B that are applicable to Peach Bottom Units 2 and 3 decommissioning following the renewal term are listed in Table 7-1. Exelon Generation Company, LLC (Exelon) stated in its Environmental Report (ER; Exelon 2001) that it is aware of no new and significant information regarding the environmental impacts of Peach Bottom Units 2 and 3 license renewal. The staff has not identified any significant new information during its independent review of the Exelon ER (Exelon 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

(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 GEIS. For all of these issues, the staff concluded in the GEIS that the impacts are SMALL,
2 and additional plant-specific mitigation measures are not likely to be sufficiently beneficial to be
3 warranted.

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5 **Table 7-1.** Category 1 Issues Applicable to the Decommissioning of Peach Bottom
6 Units 2 and 3 Following the Renewal Term
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ISSUE—10 CFR Part 51, Subpart A, Appendix B, Table B-1	GEIS Section
DECOMMISSIONING	
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

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

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21 • Radiation doses. Based on information in the GEIS, the Commission found that

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

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

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34 • Waste management. Based on information in the GEIS, the Commission found that
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1 Decommissioning at the end of a 20-year license renewal period would generate
2 no more solid wastes than at the end of the current license term. No increase in
3 the quantities of Class C or greater than Class C wastes would be expected.
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5 The staff has not identified any new and significant information during its independent
6 review of the Exelon ER, the staff's site visit, the scoping process, or its evaluation of other
7 available information. Therefore, the staff concludes that there are no impacts of solid
8 waste associated with decommissioning following the license renewal term beyond those
9 discussed in the GEIS.
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- 11 • Air quality. Based on information in the GEIS, the Commission found that
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13 Air quality impacts of decommissioning are expected to be negligible either at
14 the end of the current operating term or at the end of the license renewal term.
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16 The staff has not identified any new and significant information during its independent
17 review of the Exelon ER, the staff's site visit, the scoping process, or its evaluation of other
18 available information. Therefore, the staff concludes that there are no impacts of license
19 renewal on air quality during decommissioning beyond those discussed in the GEIS.
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- 21 • Water quality. Based on information in the GEIS, the Commission found that
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23 The potential for significant water quality impacts from erosion or spills is no
24 greater whether decommissioning occurs after a 20-year license renewal period
25 or after the original 40-year operation period, and measures are readily available
26 to avoid such impacts.
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28 The staff has not identified any new and significant information during its independent
29 review of the Exelon ER, the staff's site visit, the scoping process, or its evaluation of other
30 available information. Therefore, the staff concludes that there are no impacts of the
31 license renewal term on water quality during decommissioning beyond those discussed in
32 the GEIS.
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- 34 • Ecological resources. Based on information in the GEIS, the Commission found that
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36 Decommissioning after either the initial operating period or after a 20-year
37 license renewal period is not expected to have any direct ecological impacts.

Environmental Impacts of Decommissioning

1 The staff has not identified any new and significant information during its independent
2 review of the Exelon ER, the staff's site visit, the scoping process, or its evaluation of
3 other available information. Therefore, the staff concludes that there are no impacts of
4 the license renewal term on ecological resources during decommissioning beyond those
5 discussed in the GEIS.

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- 7 • Socioeconomic impacts. Based on information in the GEIS, the Commission found that
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9 Decommissioning would have some short-term socioeconomic impacts. The
10 impacts would not be increased by delaying decommissioning until the end of a
11 20-year relicense period, but they might be decreased by population and
12 economic growth.

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14 The staff has not identified any new and significant information during its independent
15 review of the Exelon ER, the staff's site visit, the scoping process, or its evaluation of other
16 available information. Therefore, the staff concludes that there are no impacts of license
17 renewal on the socioeconomic impacts of decommissioning beyond those discussed in the
18 GEIS.

20 7.1 References

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22 10 CFR 51. Code of Federal Regulations, Title 10, *Energy*, Part 51, "Environmental Protection
23 Regulations for Domestic Licensing and Related Regulatory Functions."

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25 Exelon Generation Company, LLC (Exelon). 2001. *Applicant's Environmental Report –*
26 *Operating License Renewal Stage Peach Bottom Units 2 and 3*. Kennett Square,
27 Pennsylvania.

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

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