

## 7.0 Environmental Impacts of Decommissioning

Environmental issues associated with decommissioning resulting from continued plant operation during the renewal term were discussed in the *Generic Environmental Impact Statement for License Renewal of Nuclear Plants* (GEIS), NUREG-1437 (NRC 1996; 1999).<sup>(a)</sup> The GEIS included 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 were 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 characteristics.
- (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 not likely 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 of Category 1, and therefore, additional plant-specific review for these issues is required. There are no Category 2 issues related to decommissioning at Edwin I. Hatch Nuclear Plant (HNP).

Category 1 issues in 10 CFR Part 51, Subpart A, Appendix B, Table B-1 that are applicable to HNP decommissioning following the renewal term are listed in Table 7-1. The Southern Nuclear Operating Company (SNC) stated in its Environmental Report (ER; SNC 2000) that it is not aware of any new and significant information associated with the renewal of the HNP operating licenses (OLs). No significant new information has been identified by the staff during its review. Therefore, the staff concludes that there are no impacts related to these issues beyond those discussed in the GEIS. For all of those issues, the staff concluded in the GEIS that the impacts are SMALL, and plant-specific mitigation measures are not likely to be sufficiently beneficial to be warranted.

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(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.

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**Table 7-1.** Category 1 Issues Applicable to the Decommissioning of HNP Following the Renewal Term

| <b>ISSUE—10 CFR Part 51, Subpart A, Appendix B,<br/>Table B-1</b> | <b>GEIS Sections</b> |
|---|----------------------|
| <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           |

A brief description of the staff's review and the GEIS conclusions, as codified in 10 CFR Part 51, Subpart A, Appendix B, Table B-1, for each of the issues follows:

- Radiation doses. Based on information in the GEIS, the Commission found that “Doses to the public will be well below applicable regulatory standards regardless of which decommissioning method is used. Occupational doses would increase no more than 1 man-rem [0.01 person-Sv] caused by buildup of long-lived radionuclides during the license renewal term.” The staff has not identified any significant new information during its independent review of the SNC ER (SNC 2000), the staff's site visit, the scoping process, its review of public comments, or its evaluation of other available information. Therefore, the staff concludes that there are no radiation doses associated with decommissioning following license renewal beyond those discussed in the GEIS.
- Waste management. Based on information in the GEIS, the Commission found that “Decommissioning at the end of a 20-year license renewal period would generate no more solid wastes than at the end of the current license term. No increase in the quantities of Class C or greater than Class C wastes would be expected.” The staff has not identified any significant new information during its independent review of the SNC ER (SNC 2000), the staff's site visit, the scoping process, its review of public comments, or its evaluation of other available information. Therefore, the staff concludes that there are no impacts of solid waste associated with decommissioning following the license renewal term beyond those discussed in the GEIS.

- Air quality. Based on information in the GEIS, the Commission found that “Air quality impacts of decommissioning are expected to be negligible either at the end of the current operating term or at the end of the license renewal term.” The staff has not identified any significant new information during its independent review of the SNC ER (SNC 2000), the staff’s site visit, the scoping process, its review of public comments, or its evaluation of other available information. Therefore, the staff concludes that there are no impacts of license renewal on air quality during decommissioning beyond those discussed in the GEIS.
- Water quality. Based on information in the GEIS, the Commission found that “The potential for significant water quality impacts from erosion or spills is no greater whether decommissioning occurs after a 20-year license renewal period or after the original 40-year operation period, and measures are readily available to avoid such impacts.” The staff has not identified any significant new information during its independent review of the SNC ER (SNC 2000), the staff’s site visit, the scoping process, its review of public comments, or its evaluation of other available information. Therefore, the staff concludes that there are no impacts of the license renewal term on water quality during decommissioning beyond those discussed in the GEIS.
- Ecological resources. Based on information in the GEIS, the Commission found that “Decommissioning after either the initial operating period or after a 20-year license renewal period is not expected to have any direct ecological impacts.” The staff has not identified any significant new information during its independent review of the SNC ER (SNC 2000), the staff’s site visit, the scoping process, its review of public comments, or its evaluation of other available information. Therefore, the staff concludes that there are no impacts of the license renewal term on ecological resources during decommissioning beyond those discussed in the GEIS.
- Socioeconomic impacts. Based on information in the GEIS, the Commission found that “Decommissioning would have some short-term socioeconomic impacts. The impacts would not be increased by delaying decommissioning until the end of a 20-year relicense period, but they might be decreased by population and economic growth.” The staff has not identified any significant new information during its independent review of the SNC ER (SNC 2000), the staff’s site visit, the scoping process, its review of public comments, or its evaluation of other available information. Therefore, the staff concludes that there are no impacts of license renewal on the socioeconomic impacts of decommissioning beyond those discussed in the GEIS.

## 7.1 References

10 CFR Part 51, Subpart A, Appendix B, "Environmental effect of renewing the operating license of a nuclear power plant."

Southern Nuclear Operating Company (SNC). 2000. *Application for License Renewal for the Edwin I. Hatch Nuclear Plant, Units 1 and 2. Appendix D, Applicant's Environmental Report—Operating License Renewal Stage, Edwin I. Hatch Nuclear Plant.*

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

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