

3.0 Environmental Impacts of Refurbishment

Environmental issues associated with refurbishment activities were discussed in the *Generic Environmental Impact Statement for License Renewal of Nuclear Plants* (GEIS), NUREG-1437 (NRC 1996; 1999).^(a) The GEIS included a determination of whether the analysis of the environmental issues 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 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 did not meet one or more of the criteria of Category 1, and therefore, additional plant-specific review for these issues is required.

License renewal actions may require refurbishment activities for the extended plant life. These actions may have an impact on the environment that requires evaluation, depending on the type of action and the plant-specific design. Environmental issues associated with refurbishment that were determined to be Category 1 issues are listed in Table 3-1.

Environmental issues related to refurbishment considered in the GEIS for which these conclusions could not be reached for all plants, or for specific classes of plants, are Category 2 issues. These are listed in Table 3-2. Category 1 and Category 2 issues related to refurbishment that are not applicable to the Edwin I. Hatch Nuclear Plant (HNP) because they are related to plant design features or site characteristics not found at HNP are listed in Appendix F.

(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 3-1. Category 1 Issues for Refurbishment Evaluation

ISSUE—10 CFR Part 51, Subpart A, Appendix B, Table B-1	GEIS Sections
SURFACE-WATER QUALITY, HYDROLOGY, AND USE (FOR ALL PLANTS)	
Impacts of refurbishment on surface-water quality	3.4.1
Impacts of refurbishment on surface-water use	3.4.1
AQUATIC ECOLOGY (FOR ALL PLANTS)	
Refurbishment	3.5
GROUNDWATER USE AND QUALITY	
Impacts of refurbishment on groundwater use and quality	3.4.2
LAND USE	
Onsite land use	3.2
HUMAN HEALTH	
Radiation exposures to the public during refurbishment	3.8.1
Occupational radiation exposures during refurbishment	3.8.2
SOCIOECONOMICS	
Public services: public safety, social services, and tourism and recreation	3.7.4; 3.7.4.3 3.7.4.4; 3.7.4.6
Aesthetic impacts (refurbishment)	3.7.8

The potential environmental effects of refurbishment actions would be identified, and the analysis would be summarized within this section, if such actions were planned. The Southern Nuclear Operating Company (SNC) indicated that it has performed an evaluation of structures and components pursuant to 10 CFR 54.21 to identify activities that are necessary to continue operation of HNP, Units 1 and 2, during the requested 20-year period of extended operation. SNC indicated that existing plant programs will result in modifications to plant systems, structures, and components that are required by changes in regulations or to achieve performance improvements in the plant systems (SNC 2000).

However, SNC stated that the modifications of these components are within the bounds of normal plant maintenance activities; therefore, they are not expected to affect the environment outside the bounds of plant operations as evaluated in the final environmental statements (FESs) (AEC 1972; NRC 1978). In addition, the SNC evaluation of structures and components

Table 3-2. Category 2 Issues for Refurbishment Evaluation

ISSUE—10 CFR Part 51, Subpart A, Appendix B, Table B-1	GEIS Section	10 CFR 51.53 (c)(3)(ii) Subparagraph
TERRESTRIAL RESOURCES		
Refurbishment impacts	3.6	E
THREATENED OR ENDANGERED SPECIES (FOR ALL PLANTS)		
Threatened or endangered species	3.9	E
AIR QUALITY		
Air quality during refurbishment (nonattainment and maintenance areas)	3.3	F
SOCIOECONOMICS		
Housing impacts	3.7.2	I
Public services: public utilities	3.7.4.5	I
Public services: education (refurbishment)	3.7.4.1	I
Offsite land use (refurbishment)	3.7.5	I
Public services, transportation	3.7.4.2	J
Historic and archaeological resources	3.7.7	K
ENVIRONMENTAL JUSTICE		
Environmental justice	Not addressed	

as required by 10 CFR 54.21 did not identify any major plant refurbishment activities or modifications necessary to support the continued operation of HNP beyond the end of the existing operating licenses. Therefore, refurbishment is not considered in this draft supplemental environmental impact statement (SEIS).

3.1 References

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

10 CFR 54.21, “Contents of application - technical information.”

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- 1 Southern Nuclear Operating Company (SNC). 2000. *Application for License Renewal for the*
2 *Edwin I. Hatch Nuclear Plant Units 1 and 2. Appendix D, Applicant's Environmental*
3 *Report—Operating License Renewal Stage Edwin I. Hatch Nuclear Plant.*
4
- 5 U.S. Atomic Energy Commission (AEC). 1972. *Final Environmental Statement for the Edwin I.*
6 *Hatch Nuclear Plant Units 1 and 2.* Washington, D.C.
7
- 8 U.S. Nuclear Regulatory Commission (NRC). 1978. *Final Environmental Statement related to*
9 *Operation of Edwin I. Hatch Nuclear Plant Unit No. 2. Georgia Power Company.* Docket No.
10 50-366, NUREG-0417, Office of Nuclear Reactor Regulation. Washington, D.C.
11
- 12 U.S. Nuclear Regulatory Commission (NRC) 1996. *Generic Environmental Impact Statement*
13 *for License Renewal of Nuclear Plants.* NUREG-1437, Washington, D.C.
14
- 15 U.S. Nuclear Regulatory Commission (NRC) 1999. *Generic Environmental Impact Statement*
16 *for License Renewal of Nuclear Plants, Main Report, Section 6.3 - Transportation, Table 9.1,*
17 *Summary of findings on NEPA issues for license renewal of nuclear power plants.*
18 NUREG-1437, Vol. 1, Addendum 1, Washington, D.C.