

**Lewis Sumner**  
Vice President  
Hatch Project Support

**Southern Nuclear  
Operating Company, Inc.**  
40 Inverness Parkway  
Post Office Box 1295  
Birmingham, Alabama 35201  
  
Tel 205.992.7279  
Fax 205.992.0341

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**Edwin I. Hatch Nuclear Plant**  
**Additional Information Supporting License Renewal Environmental Report**

Gentlemen:

The NRC conducted a site environmental review for the License Renewal application Environmental Report on May 11, 2000. During the site review, the NRC review team requested a copy of a matrix developed during Southern Nuclear's review of Category 1 items for new and significant information. This letter formally submits the requested document.

If you have any questions regarding this submittal, please contact this office.

Respectfully submitted,

A handwritten signature in cursive script that reads "Lewis Sumner".

H. L. Sumner, Jr.

HLS/JTD

Enclosure: NEPA Issues for License Renewal of Nuclear Power Plants

cc: Southern Nuclear Operating Company  
Mr. P. H. Wells, Nuclear Plant General Manager  
Mr. C. R. Pierce, License Renewal Services Manager  
SNC Document Management (R-Type A02.001)

U. S. Nuclear Regulatory Commission, Washington, D.C.  
Mr. C. I. Grimes, Branch Chief, License Renewal and Standardization Branch  
Mr. L. N. Olshan, Project Manager - Hatch  
Mr. W. F. Burton, Project Manager - Hatch License Renewal  
Mr. J. H. Wilson, Environmental Project Manager – Hatch License Renewal  
Ms. Brenda J. Shelton, Chief, Information and Records Management Branch

U. S. Nuclear Regulatory Commission, Region II  
Mr. L. A. Reyes, Regional Administrator  
Mr. J. T. Munday, Senior Resident Inspector – Hatch

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## NEPA Issues for License Renewal of Nuclear Power Plants

### Surface Water Quality, Hydrology, and Use (for all plants)

Issue	Sections	Findings of the GEIS	SNC Findings
Impacts of refurbishment on surface water quality	3.4.1	Impacts are expected to be negligible during refurbishment because best management practices are expected to be employed to control soil erosion and spills.	There are no refurbishment activities associated with HNP license renewal.
Impacts of refurbishment on surface water use	3.4.1	Water use during refurbishment will not increase appreciably or will be reduced during plant outage.	There are no refurbishment activities associated with HNP license renewal.
Altered current patterns at intake and discharge structures	4.2.1.2.1 4.3.2.2 4.4.2	Altered current patterns have not been found to be a problem at operating nuclear power plants and are not expected to be a problem during the license renewal term.	The GEIS indicates that this is primarily a once-through plant issue. HNP utilizes a Best Available Technology (BAT) design and discharges into a riverine section of a large river. No new and significant information relative to altered current patterns has been identified.
Altered salinity gradients	4.2.1.2.2 4.4.2	Salinity gradients have not been found to be a problem at operating nuclear power plants and are not expected to be a problem during the license renewal term.	HNP is located above the point of tidal influence on the Altamaha River. Salinity gradient is not an issue for HNP license renewal.
Altered thermal stratification of lakes	4.2.1.2.3 4.4.2.2	Generally, lake stratification has not been found to be a problem at operating nuclear power plants and is not expected to be a problem during the license renewal term.	HNP is not located on a lake. As such, this issue is not applicable to HNP license renewal.
Temperature effects on sediment transport capacity	4.2.1.2.3 4.4.2.2	These effects have not been found to be a problem at operating nuclear power plants and are not expected to be a problem during the license renewal term.	HNP has recirculating cooling towers. As such, this issue is not applicable to HNP license renewal.

Issue	Sections	Findings of the GEIS	SNC Findings
Scouring caused by discharged cooling water	4.2.1.2.3 4.4.2.2	Scouring has not been found to be a problem at most operating nuclear power plants and has caused only localized effects at a few plants. It is not expected to be a problem during the license renewal term.	HNP has recirculating cooling towers. As such, this issue is not applicable to HNP license renewal.
Eutrophication	4.2.1.2.3 4.4.2.2	Eutrophication has not been found to be a problem at operating nuclear power plants and is not expected to be a problem during the license renewal term.	HNP is located on a riverine section of the Altamaha River. Eutrophication is not an issue for HNP license renewal.
Discharge of chlorine or other biocides	4.2.1.2.4 4.4.2.2	Effects are not a concern among regulatory and resource agencies and are not expected to be a problem during the license renewal term.	Discharge of chlorine and other biocide residuals is governed by NPDES permit GA0004120. This permit is administered by Georgia Department of Natural Resources (DNR) and is renewed every 5 years. Changes to the permit and renewals are submitted to the NRC per Environmental Protection Plan (EPP) requirements. No new and significant information relative to discharge of chlorine/biocide residuals has been identified by DNR or HNP.
Discharge of sanitary wastes and minor chemical spills	4.2.1.2.4 4.4.2.2	Effects are readily controlled through NPDES permit and periodic modifications, if needed, and are not expected to be a problem during the license renewal term.	Discharges of sanitary waste are governed by NPDES permit GA0004120. The permit does not contain monitoring requirements. There is narrative requiring that the sewage treatment plant be properly operated at all times. Sludge disposal is reported quarterly. Land application of sludge is authorized but is not currently practiced. Spill response and cleanup is governed by the HNP SPCC/Hazardous Material Contingency Plan. This plan contains response, reporting, and cleanup requirements for spills of oil, hazardous materials and hazardous waste. No major oil or chemical spills have occurred at HNP.

Issue	Sections	Findings of the GEIS	SNC Findings
Discharge of metals in waste water	4.2.1.2.4 4.3.2.2 4.4.2.2	These discharges have not been found to be a problem at operating nuclear power plants with cooling-tower-based heat dissipation systems and have been satisfactorily mitigated at other plants. They are not expected to be a problem during the license renewal term.	Discharge of metals in wastewater is governed by NPDES permit GA0004120. HNP has a titanium condenser. Zinc is no longer used as a corrosion inhibitor in service water and circulating water systems. Chromium compounds have never been used. Changes to and renewals to the NPDES permit are provided to the NRC per EPP requirements.
Water use conflicts (plants with once-through cooling systems)	4.2.1.3	These conflicts have not been found to be a problem at operating nuclear power plants with once-through heat dissipation systems.	HNP has recirculating cooling towers. As such, this issue is not applicable to HNP license renewal.

**Aquatic Ecology  
(for all plants)**

Issue	Sections	Findings of the GEIS	SNC Findings
Refurbishment	3.5	During plant shutdown and refurbishment there will be negligible effects on aquatic biota because of a reduction of entrainment and impingement of organisms or a reduced release of chemicals.	There are no refurbishment activities associated with HNP license renewal.
Accumulation of contaminants in sediments or biota	4.2.1.2.4 4.3.3 4.4.3 4.4.2.2	Accumulation of contaminants has been a concern at a few nuclear power plants but has been satisfactorily mitigated by replacing copper alloy condenser tubes of another metal. It is not expected to be problem during the license renewal term.	The GEIS indicates that this issue has primarily been associated with copper alloy main condensers. HNP has titanium main condensers and utilizes BAT with lower flows. NPDES permit GA0004120 does not contain limits for copper. There is no indication that accumulation of metals or other contaminants in sediments or biota has been or is anticipated to be a concern for HNP.
Entrainment of phytoplankton and zooplankton	4.2.2.1.1 4.3.3 4.4.3	Entrainment of phytoplankton and zooplankton has not been found to be a problem at operating nuclear power plants and is not expected to be a problem during the license renewal term.	Studies of entrainment were conducted in 1981. These studies did not indicate any concern with entrainment at HNP. This issue was revisited during power uprate and operation at the uprated condition was determined to have negligible effect on entrainment. There is no indication that entrainment will be a concern during the license renewal term.
Cold shock	4.2.2.1.5 4.3.3 4.4.3	Cold shock has been satisfactorily mitigated at operating nuclear plants with once-through cooling systems, has not endangered fish populations or been found to be a problem at operating nuclear power plants with cooling towers or cooling ponds, and is not expected to be problem during the license renewal term.	The GEIS indicates that this is primarily an issue for once-through plants. HNP utilizes BAT design with a submerged discharge and no discharge canal. Studies conducted during 1981 indicate that the thermal impact from HNP is minimal. This issue was revisited for power uprate and the thermal effect was confirmed to be minimal.

Issue	Sections	Findings of the GEIS	SNC Findings
Thermal plume barrier to migrating fish	4.2.2.1.6 4.4.3	Thermal plumes have not been found to be problem at operating nuclear power plants and is not expected to be a problem during the license renewal term.	HNP has recirculating cooling towers. As such, this issue is not applicable to HNP license renewal. Initial thermal models developed for the Environmental Report (ER) concluded no thermal blockage would occur. These conclusions were confirmed in 1981 with field studies. This issue was revisited for power uprate and the original conclusion was determined to be bounding for the uprated condition. There is no indication of changes in this conclusion for the license renewal term. This is not an issue for plants with cooling towers.
Distribution of aquatic organisms	4.2.2.1.6 4.4.3	Thermal discharges may have localized effects but are not expected to effect the larger geographical distribution of aquatic organisms.	HNP has recirculating cooling towers. This is not an issue for plants with cooling towers.
Premature emergence of aquatic insects	4.2.2.1.7 4.4.3	Premature emergence has been found to be a localized effect at some operating nuclear power plants but has not been a problem and is not expected to be a problem during the license renewal term.	HNP has recirculating cooling towers. This is not an issue for plants with cooling towers.
Gas supersaturation (gas bubble disease)	4.2.2.1.8 4.4.3	Gas supersaturation was a concern at a small number of operating nuclear power plants with once-through cooling systems but has been satisfactorily mitigated. It has not been found to be a problem at operating nuclear power plants with cooling towers or cooling ponds and is not expected to be a problem during the license renewal term.	HNP has recirculating cooling towers. This is not an issue for plants with cooling towers.

Issue	Sections	Findings of the GEIS	SNC Findings
Low dissolved oxygen in the discharge	4.2.2.1.9 4.3.3 4.4.3	Low dissolved oxygen has been a concern at one nuclear power plant with a once-through cooling system but has been effectively mitigated. It has not been found to be problem at operating nuclear power plants with cooling towers or cooling ponds and is not expected to be a problem during the license renewal term.	Models developed for the ER concluded that adequate dissolved oxygen existed for all conditions in the Altamaha River. These models were confirmed by field studies in 1981. This issue was revisited for power uprate and the original conclusions were determined to be bounding for the uprated condition. The GEIS indicates that this is primarily an issue for once-through plants.
Losses from predation, parasitism, and disease among organisms exposed to sublethal stresses	4.2.2.1.10 4.4.3	These types of losses have not been found to be a problem at operating nuclear power plants and are not expected to be a problem during the license renewal term.	HNP has recirculating cooling towers. This is not an issue for plants with cooling towers.
Stimulation of nuisance organisms (e.g., shipworms)	4.2.2.1.11 4.4.3	Stimulation of nuisance organisms has been satisfactorily mitigated at the single nuclear power plant with a once-through cooling system where previously it was a problem. It has not been found to be problem at operating nuclear power plants with cooling towers or cooling ponds and is not expected to be problem during the license renewal term.	HNP has recirculating cooling towers. This is not an issue for plants with cooling towers.

**Aquatic Ecology**  
**(for plants with once-through and cooling pond heat dissipation systems)**

Issue	Sections	Findings of the GEIS	SNC Findings
Entrainment of fish and shellfish in early life stages	4.3.3	Entrainment of fish has not been found to be a problem at operating nuclear power plants with this type of cooling system and is not expected to be a problem during the license renewal term.	Studies conducted in support of the ER and subsequent studies in 1981 confirmed that the effect of entrainment of fish and shellfish at HNP was minimal. This issue was revisited during power uprate and the conclusions were still bounding for the uprated condition. There is no indication of new and significant information which would alter this conclusion for the license renewal term.
Impingement of fish and shellfish	4.3.3	The impingement has not been found to be a problem at operating nuclear power plants with this type of cooling system and is not expected to be a problem during the license renewal term.	Studies conducted in support of the ER and subsequent studies in 1981 conclude that the effect of HNP operation on impingement of fish and shellfish is minimal. This issue was revisited for power uprate and the conclusion was determined to be bounding for the uprated condition. There is no indication of new and significant information which would alter this conclusion for the license renewal term.
Heat shock	4.3.3	Heat shock has not been found to be a problem at operating nuclear power plants with this type of cooling system and is not expected to be a problem during the license renewal term.	Studies conducted in support of the ER and subsequent studies in 1981 concluded that the thermal effects of the HNP discharge were minimal. This issue was revisited for power uprate and the conclusion was determined to be bounding for the uprated condition. There is no indication of new and significant information which would alter this conclusion for the license renewal term. The GEIS indicates that this is primarily a concern for once-through plants. HNP has recirculating cooling towers.

### Groundwater Use and Quality

Issue	Sections	Findings of the GEIS	SNC Findings
Impacts of refurbishment on groundwater use and quality	3.4.2	Extensive dewatering during the original construction on some sites will not be repeated during refurbishment will be handled in the same manner as in current operating practices and are not expected to be problem during the license renewal term.	There are no refurbishment activities associated with HNP license renewal.
Groundwater use conflicts (potable and service water; plants that use < 100 gpm)	4.8.1.1 4.8.1.2	Plants using less than 100 gpm are not expected to cause any groundwater use conflicts.	HNP withdraws more than 100 gpm of groundwater. This is a Category 2 issue for HNP.
Groundwater quality degradation (Ranney wells)	4.8.2.2	Groundwater quality at river sites may be degraded by induced infiltration of poor-quality river water into an aquifer that supplies large quantities of reactor cooling water. However, the lower quality infiltrating water would not preclude the current uses of groundwater and is not expected to be a problem during the license renewal term.	Ranney wells are not in use at HNP.

Issue	Sections	Findings of the GEIS	SNC Findings
Groundwater quality degradation (saltwater intrusion)	4.8.2.1	Nuclear power plants do not contribute significantly to saltwater intrusion.	HNP withdraws water from the Floridan aquifer which has been identified as subject to saltwater intrusion problems in the coastal region of Georgia. HNP withdraws groundwater in accordance with permit GA000-001. The permit and associated regulations provide the necessary contingencies to manage saltwater intrusion concerns. HNP groundwater withdrawals are small in relation to the total withdrawals from this aquifer. There are no anticipated increases in groundwater withdrawal for the license renewal term. In the unlikely event additional groundwater use was needed, it would be addressed under DNR regulations/permit process. HNP's current permitted withdrawal limits provide some margin for growth.
Groundwater quality degradation (cooling ponds in salt marshes)	4.8.3	Sites with closed-cycle cooling ponds may degrade groundwater quality. Because water in salt marshes is brackish, this is not a concern for plants located in salt marshes.	HNP does not utilize closed-cycle cooling ponds.

## Terrestrial Resources

Issue	Sections	Findings of the GEIS	SNC Findings
Cooling tower impacts on crops and ornamental vegetation	4.3.4	Impacts from salt drift, icing, fogging, or increased humidity associated with cooling tower operation have not been found to be problem at operating nuclear power plants and are not expected to be a problem during the license renewal term.	Studies were conducted in support of the ER and post operational to evaluate concerns associated with cooling tower drift. These studies confirmed that no significant problems were attributed to drift from the HNP cooling towers. This issue was revisited for power uprate and the conclusion was determined to be bounding for the uprated condition. There is no indication of new and significant information which would alter this conclusion for the license renewal term.
Cooling tower impacts on native plants	4.3.5.1	Impacts from salt drift, icing, fogging, or increased humidity associated with cooling tower operation have not been found to be a problem at operating nuclear power plants and are not expected to be a problem during the license renewal term.	Studies were conducted in support of the ER and post operational to evaluate concerns associated with cooling tower drift on native plants. These studies confirmed that no significant problems were attributed to drift from the HNP cooling towers. This issue was revisited for power uprate and the conclusion was determined to be bounding for the uprated condition. There is no indication of new and significant information which would alter this conclusion for the license renewal term.
Bird collisions with cooling towers	4.3.5.2	These collisions have not been found to be a problem at operating nuclear power plants and are not expected to be a problem during the license renewal term.	HNP utilizes mechanical draft recirculating cooling towers which have a low vertical profile. The GEIS indicates that this issue is associated with natural draft cooling towers and further concludes that it has not been a problem even for plants with natural draft cooling towers.
Cooling pond impacts on terrestrial resources	4.4.4	Impacts of cooling ponds on terrestrial ecological resources are considered to be of small significance at all sites.	HNP does not utilize cooling ponds.

Issue	Sections	Findings of the GEIS	SNC Findings
Power line right-of-way management (cutting and herbicide application)	4.5.6.1	The impacts of right-of-way maintenance on wildlife are expected to be of small significance at all sites.	Only EPA approved herbicides are used on HNP related transmission right-of -ways. Mowing and clearing is done with low ground pressure tires in wetland areas. Endangered species issues for transmission right of ways are addressed as a Category 2 issue for HNP. Transmission line maintenance activities are governed by GPC Transmission Bulletin T-45 and summarized in the EPP Annual Nonradiological Environmental Report.
Bird collision with power lines	4.5.6.2	Impacts are expected to be of small significance at all sites.	No significant bird mortality of any kind has been experienced at HNP. Mortality due to collision with power lines has not been a problem during the current license term. There is no indication of new and significant information regarding bird mortality from collision with power lines for the license renewal term.
Impacts of electromagnetic fields on flora and fauna (plants, agricultural crops, honeybees, wildlife, livestock)	4.5.6.3	No significant impacts of electromagnetic fields on terrestrial flora and fauna have been identified. Such effects are not expected to be a problem during the license renewal term.	EMF produced by operating transmission lines up to 1100kV have not been reported to have any biologically or economically significant impact on plants, wildlife, agricultural crops, or livestock (NUREG 1437, Vol. 1 pp 4-78). There is no indication of new and significant information relative to HNP which would alter this conclusion for the license renewal term.

<b>Issue</b>	<b>Sections</b>	<b>Findings of the GEIS</b>	<b>SNC Findings</b>
Floodplains and wetland on power line right of way	4.5.7	Periodic vegetation control is necessary in forested wetlands underneath power lines and can be achieved with minimal damage to the wetland. No significant impact is expected at any nuclear power plant during the license renewal phase.	Activities on transmission right of ways in floodplains and wetlands are managed in accordance with GPC Transmission Bulletin T-45. These activities are reviewed on an annual basis in accordance with EPP requirements and summarized in the Annual Nonradiological Environmental Report. There is no indication of new and significant information regarding vegetation control in wetland areas which would alter this current practice for the license renewal term.

## Air Quality

<b>Issue</b>	<b>Sections</b>	<b>Findings of the GEIS</b>	<b>SNC Findings</b>
Air quality effects of transmission lines	4.5.2	Production of ozone and oxides of nitrogen is insignificant and does not contribute measurably to ambient levels of these gases.	Studies have been conducted which quantify the amount of ozone and other air pollutants produced by high voltage lines and concluded that even the largest lines (765kV) produce insignificant amounts of these chemicals (NUREG 1437, Vol. 1, pp 4-62). There is no indication of new and significant information which would alter this conclusion for the HNP license renewal term.

## Land Use

Issue	Sections	Findings of the GEIS	SNC Findings
On-site land use	3.2	Projected on-site land use changes would require a small fraction of any nuclear plant site and would involve land that is controlled by the applicant.	There are no onsite land use changes projected for the license renewal term. There are no refurbishment activities associated with HNP license renewal.
Power line right-of-ways	4.5.3	Ongoing uses of power line right-of-ways would continue with no change in restrictions. The effects of those restrictions are of small significance.	On-going use of HNP related transmission lines would occur with or without license renewal. There are no changes in transmission line land use issues associated with license renewal. There is no indication of new and significant information relative to transmission line land use for the license renewal term.

## Human Health

Issue	Sections	Findings of the GEIS	SNC Findings
Radiation exposures to the public during refurbishment	3.8.1	During refurbishment, the gaseous effluents would result in doses that are similar to those from current operation. Applicable regulatory dose limits to the public are not expected to be exceeded.	There are no refurbishment activities associated with HNP license renewal.
Occupational radiation exposures during refurbishment	3.8.2	Occupational doses from refurbishment are expected to be within the range of annual average collective doses experienced for pressurized-water reactors and boiling-water reactors. Occupational mortality risks from all causes including radiation is in the mid-range for industrial settings.	There are no refurbishment activities associated with HNP license renewal.
Microbiological organisms (occupational health)	4.3.6	Occupational health impacts are expected to be controlled by continued application of accepted industrial hygiene practices to minimize worker exposures.	The effect of thermophillic organisms has been evaluated as a Category 2 issue for HNP. This effect was determined to be insignificant. The potential health effects of microorganisms in cooling towers is currently addressed in procedural guidance. There is no indication of new and significant information which would change the mechanism currently in place to address occupational health issues associated with microorganisms.
Noise	4.3.7	Noise has not been found to be a problem at operating plants and is not expected to be a problem at any plant during the license renewal term.	The ER evaluated the issue of noise at the site boundary and determined that noise levels associated with HNP operation were insignificant. There is no projected increase in noise level during the license renewal term. There is no indication of new and significant information relative to noise levels which will alter the original conclusions for the license renewal term.

Issue	Sections	Findings of the GEIS	SNC Findings
Radiation exposures to public (license renewal term)	4.6.2	Radiation doses to the public will continue at current levels associated with normal operations.	Current radiation dose levels are not expected to change during the renewal term.
Occupational radiation exposures (license renewal term)	4.6.3	Projected maximum occupational doses during the license renewal term are within the range of doses recently experienced during normal operations and normal maintenance outages, and would be well below regulatory limits.	There will be no increase in projected maximum occupation dose during the license renewal term.

## Socioeconomics

Issue	Sections	Findings of the GEIS	SNC Findings
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 4.7.3 4.7.3.3 4.7.3.4 4.7.3.6	Impacts to public safety, social services, and tourism and recreation are expected to be of small significance at all sites.	There are no refurbishment activities associated with HNP license renewal and no significant changes in staffing levels will occur. There is no indication of new and significant information which would alter the impacts to public safety, social services, tourism, and recreation during the license renewal term. Socioeconomic issue which were evaluated as Category 2 issues support this conclusion.
Public services, education (license renewal term)	4.7.3.1	Only impacts of small significance are expected.	There are no refurbishment activities associated with HNP license renewal and no significant changes in staffing will occur during the license renewal term. There is no indication of new and significant information which would alter the impacts to public services and education during the license renewal term.
Aesthetic impacts (refurbishment)	3.7.8	No significant impacts are expected during refurbishment.	There are no refurbishment activities associated with HNP license renewal.
Aesthetic impacts (license renewal term)	4.7.6	No significant impacts are expected during the license renewal term.	The ER provided an evaluation of the aesthetic appearance of HNP and concluded that the plant employs a clean functional design to blend harmoniously with its surroundings. HNP has been and will continue to be well maintained such that the aesthetic impact of the plant during the license renewal term will not differ significantly from the impact evaluated for the current license term.

<b>Issue</b>	<b>Sections</b>	<b>Findings of the GEIS</b>	<b>SNC Findings</b>
Aesthetic impacts of transmission lines (license renewal term)	4.5.8	No significant impacts are expected during the license renewal term.	There are no changes to transmission lines required for license renewal. As such, the conclusions of the ER relative to aesthetic impacts of transmission lines remain bounding for the license renewal term. There is no indication of new and significant information relative to transmission line aesthetics.

### Postulated Accidents

<b>Issue</b>	<b>Sections</b>	<b>Findings of the GEIS</b>	<b>SNC Findings</b>
Design basis accidents	5.3.2 5.5.1	The NRC staff has concluded that the environmental impacts of design basis accidents are of small significance for all plants.	No change in the original design basis accident environmental impacts will occur as a result of license renewal.

## Uranium Fuel Cycle and Waste Management

Issue	Sections	Findings of the GEIS	SNC Findings
Nonradiological waste		No changes to generating systems are anticipated for license renewal. Facilities and procedures are in place to ensure continued proper handling and disposal at all plants.	The management of nonradiological waste is governed by Georgia DNR regulations. There are facilities and procedures in place to govern management of hazardous waste, solid waste, and other nonradiological waste forms at HNP. No changes will occur to these practices as a result of license renewal. There is no indication of new and significant information relative to nonradiological waste management which will affect this process during the license renewal term.
Low-level waste storage and disposal		The comprehensive regulatory controls that are in place and the low public doses being achieved at reactors ensure that the radiological impacts to the environment will remain small during the term of a renewed license. The maximum additional on-site land that may be required for low-level waste storage during the term of a renewed license and associated impacts will be negligible. The radiological and nonradiological environmental impacts of long-term disposal of low-level waste from any individual plant at licensed sites are small. In addition, the Commission concludes that there is reasonable assurance that sufficient low-level waste disposal capacity will be made available when needed for facilities to be decommissioned consistent with NRC decommissioning requirements.	Disposal capacity for Class B and C waste is threatened by the potential closure of the Barnwell, SC facility. However, the Envirocare facility in Utah proposes to expand its capabilities to include Class B and C waste. This is an issue for the current licensing term. There is no new and significant information which indicates that this issue will be any different for the licensing renewal term than it is for the current licensing term. Significant resources are being devoted to resolve this problem from an industrywide perspective.

Issue	Sections	Findings of the GEIS	SNC Findings
Mixed waste storage and disposal		<p>The comprehensive regulatory controls and the facilities and the procedures that are in place ensure proper handling and storage, as well as negligible doses and exposure to toxic materials for the public and the environment at all plants. License renewal will not increase the small, continuing risk to human health and the environment posed by mixed waste at all plants. The radiological and nonradiological environmental impacts of long-term disposal of mixed waste from any individual plant at licensed sites are small. In addition, the Commission concludes that there is reasonable assurance that sufficient mixed waste disposal capacity will be made available when needed for facilities to be decommissioned consistent with NRC decommissioning requirements.</p>	<p>HNP generates only very small quantities of mixed waste which are managed under the existing rules for mixed waste. HNP does not have a permit to treat, store, or dispose mixed waste on site. There is procedural guidance in place to minimize generation of mixed waste and to ensure generated mixed waste is properly managed and disposed. EPA and NRC have proposed regulations which, if implemented, will greatly enhance mixed waste management. However, absent changes in the regulations, there is no new and significant information which would alter the ability to manage mixed waste effectively during the license renewal term.</p>
On-site spent fuel		<p>The expected increase in the volume of spent fuel from an additional 20 years of operation can be safely accommodated on site with small environmental effects through dry or pool storage at all plants if a permanent repository or monitored retrievable storage is not available.</p>	<p>HNP has constructed a dry storage facility for onsite storage of spent fuel. Environmental impacts from this facility were evaluated in detail prior to construction and determined to insignificant. There is no indication of new and significant information relative to onsite storage of spent fuel which would alter the conclusions of the original evaluation of the dry storage facility environmental impacts.</p>

## Decommissioning

Issue	Sections	Findings of the GEIS	SNC Findings
Radiation doses	7.3.1 7.4	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 caused by buildup of long-lived radionuclides during the license renewal term.	The GEIS concluded that “doses to the public will be below applicable regulatory standards regardless of which decommissioning method is used. Occupational doses would increase no more than 1 man-rem caused by buildup of long lived radionuclides during the license renewal term.” Radiation doses will continue to be regulated by the NRC during decommissioning. There is no indication of new and significant information which would alter this conclusion for the decommissioning term following license renewal.
Waste management	7.3.2 7.4	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 GEIS concluded that decommissioning at the end of a 20 year license renewal period would generate no more waste than decommissioning at the end of the current license term. There is no indication of new and significant information that would alter this conclusion in the GEIS for HNP.
Air quality	7.3.3 7.4	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 GEIS concluded 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 license renewal term. There is no indication of new and significant information which would alter this GEIS conclusion for HNP.

Issue	Sections	Findings of the GEIS	SNC Findings
Water quality	7.3.4 7.4	The potential for significant water quality impacts from erosion or spills is no greater whether decommissioning occurs after a 20-year license period or after the original 40-year operation period, and measures are readily available to avoid such impacts.	The GEIS concluded 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 40 year operation period and measures are readily available to avoid such impacts.” There is no indication of new and significant information which would alter this GEIS conclusion for HNP.
Ecological resources	7.3.5 7.4	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 GEIS concluded 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.” There is no indication of new and significant information which would alter this GEIS conclusion for HNP.
Socioeconomic impacts	7.3.7 7.4	Decommissioning would have some short-term socioeconomic impacts. The impacts would not be increased by delaying decommissioning until the end of a 20-year relicensing period, but they might be decreased by population and economic growth.	The GEIS concluded 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 license renewal period, but they might be decreased by population and economic growth.” The work force reduction associated with decommissioning could potentially impact the local economy, but this impact should be essentially the same at the end of the current license period as it would be at the end of a 20 year license renewal period. There is no indication of new and significant information which would alter the conclusions of the GEIS on this issue for HNP.