

# **Preliminary Results of the Environmental Review for Shearon Harris Nuclear Power Plant**

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U.S. Nuclear Regulatory Commission  
January 30, 2008

## **Purpose of Today's Meeting**

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- Discuss the results of environmental review
- Provide the review schedule
- Describe how to submit comments in the future
- Accept oral and written comments today

## SHEARON HARRIS

- Current operating license expires in **October 24, 2026**.
- Application requests authorization to operate Shearon Harris for an additional 20 years.

## Environmental Review



## Environmental Review

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- National Environmental Policy Act requires Federal agencies to use a systematic approach to consider environmental impacts.
- NRC prepares an Environmental Impact Statement (EIS) for all proposed license renewals.
- Scope
  - Generic Environmental Impact Statement (GEIS)
  - Site-specific Supplemental Environmental Impact Statement (SEIS)

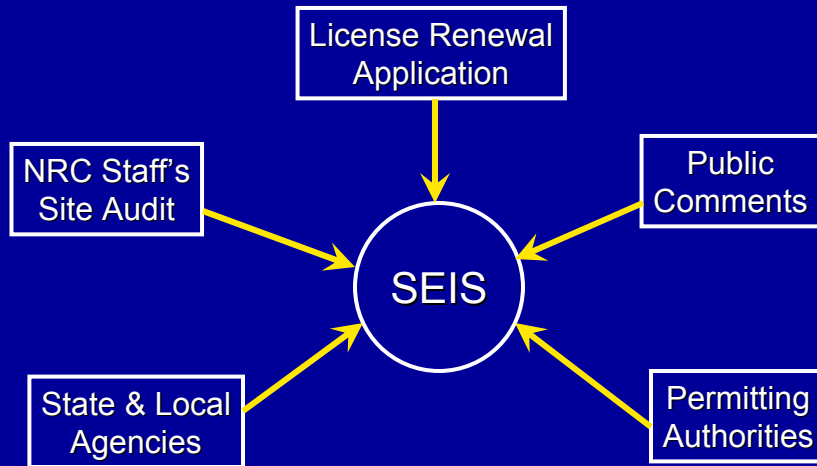
## Decision Standard for Environmental Review

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To determine whether or not the adverse environmental impacts of license renewal for Shearon Harris are so great that preserving the option of license renewal for energy planning decisionmakers would be unreasonable.

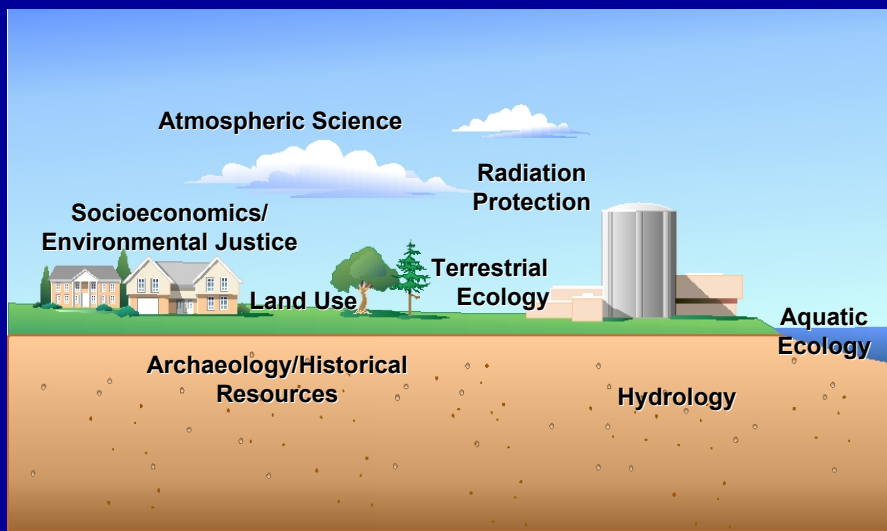
# Information Gathering

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# Team Expertise

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## Environmental Impacts of Continued Operation

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- Cooling system
- Radiological Impacts
- Threatened or Endangered Species
- Postulated Accidents
- Cumulative Impacts

## How Impacts are Quantified

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- NRC-defined impact levels:
  - **SMALL**: *Effect is not detectable or too small to destabilize or noticeably alter any important attribute of the resource.*
  - **MODERATE**: *Effect is sufficient to alter noticeably, but not destabilize important attributes of the resource.*
  - **LARGE**: *Effect is clearly noticeable and sufficient to destabilize important attributes of the resource.*

## Cooling System Impacts

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- Twenty Six Category 1 issues
- Preliminary findings
  - No new and significant information identified
  - GEIS concluded impacts are SMALL

## Radiological Impacts

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- Category 1 issues
  - Radiation exposures to the public
  - Occupational radiation exposures
- Preliminary findings
  - No new and significant information identified
  - GEIS concluded impacts are SMALL

## Threatened or Endangered Species

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- Category 2 issue
  - 2 Federal T&E terrestrial species identified as historically occurring on or near Harris site or associated transmission lines
    - Red-cockaded woodpecker
    - Michaux's sumac
  - No aquatic T&E species
- Preliminary findings
  - Impacts are SMALL on terrestrial T&E species



## Postulated Accidents

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- Category 1 issues
  - Design-basis accidents
  - Severe Accidents
- Severe accidents
  - Severe accident mitigation alternatives (SAMAs)

## SAMA Evaluation Process

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- Preliminary Findings
  - 22 potential SAMAs considered
  - After screening, number of SAMAs reduced to 20
  - 3 SAMAs are cost-beneficial based on detailed, cost-benefit analysis
  - None of the SAMAs relate to managing the effects of aging; therefore, none are required to be implemented as part of license renewal.

## Cumulative Impacts of Operation

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- Considered impacts of renewal term operations combined with other past, present, and reasonably foreseeable future actions.
- Evaluated to end of 20-year renewal term.
- Preliminary Findings
  - Considered potential construction of New Nuclear Units
  - Impacts could range from SMALL to LARGE



## Alternatives

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- No-action (license not renewed)
- Conservation
- Alternative energy sources
  - New generation (Coal, Natural Gas, Nuclear)
  - Purchased electrical power
  - Other alternatives (Wind, Solar, Wood Waste)
  - Combination of alternatives
- Preliminary Findings
  - Environmental impacts of likely power-generation alternatives could reach MODERATE to LARGE significance in some impact areas
  - Impacts of the No-action alternative as well as the Conservation alternative are SMALL for all impact areas

## Preliminary Conclusions

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- Impacts of license renewal are SMALL for all impact areas.
- Impacts of likely power-generation alternatives may reach MODERATE to LARGE in some impact areas.
- Impacts of the No-action alternative as well as the Conservation alternative are SMALL for all impact areas
- The NRC staff's preliminary recommendation is that the environmental impacts of license renewal for Shearon Harris are not so great that license renewal would be unreasonable.

## Shearon Harris Environmental Review Milestones

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- Draft Supplemental EIS issued
  - December 11, 2007
- Comment Period ends
  - March 5, 2008
- Final Supplemental EIS to be issued
  - August 13, 2008

## Additional Information

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- Environmental PM:  
**Samuel Hernandez**  
**(800) 368-5642, Ext. 4049**  
**shq@nrc.gov**
- Safety PM:  
**Maurice Heath**  
**(800) 368-5642, Ext. 3137**  
**mlh5@nrc.gov**
- The draft SEIS and GEIS can be viewed at:
  - West Regional Library – 4000 Louis Stephens Dr, Cary
  - Eva H. Perry Library – 2100 Shepherd's Vineyard Dr, Apex
  - Online: NRC Reading Room  
<http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1437>

## Submitting Comments

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- By e-mail: [ShearonHarrisEIS@nrc.gov](mailto:ShearonHarrisEIS@nrc.gov)
- By mail: Chief, Rules and Directives Branch  
Division of Administrative Services  
Mailstop T- 6D59  
U.S. NRC  
Washington, DC 20555
- In person: 11555 Rockville Pike  
Rockville, Maryland

