



## Preliminary Results of Environmental Review Catawba Units 1 and 2

Nuclear Regulatory Commission  
June 27, 2023

*[Signature]*

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## Purpose of Today's Meeting

- > Discuss NRC's license renewal process
- > Describe the environmental review process
- > Discuss the results of our review
- > Provide the review schedule
- > Accept any comments you may have today
- > Describe how to submit comments

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## Catawba Units 1 and 2 License Renewal

- > Operating licenses expire in 2024 (Unit 1) and 2026 (Unit 2)
- > Application requests authorization to operate units for up to an additional 20 years

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## NRC's License Renewal Review

- Safety review
- Environmental review
- Plant inspections
- Advisory Committee on Reactor Safeguards (ACRS)

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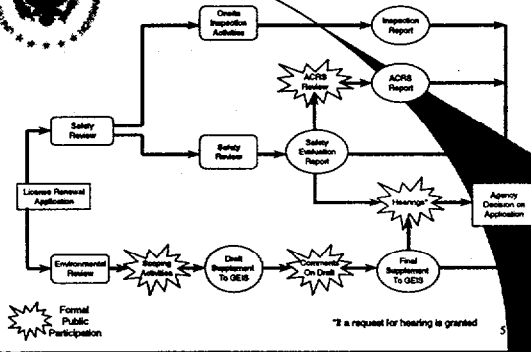
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## License Renewal Process



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## National Environmental Policy Act

- NEPA requires Federal agencies to use a systematic approach to consider environmental impacts
- Commission has determined that an environmental impact statement (EIS) will be prepared for a license renewal action

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## Decision Standard for Environmental Review

To determine whether or not the adverse environmental impacts of license renewal for Catawba Units 1 and 2, are so great that preserving the option of license renewal for energy planning decisionmakers would be unreasonable.

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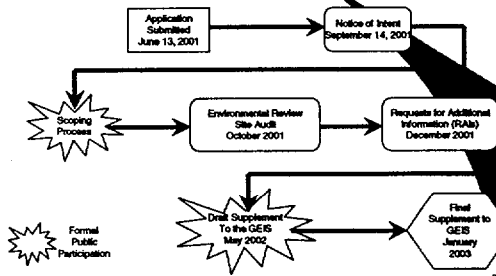
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## Environmental License Renewal Process



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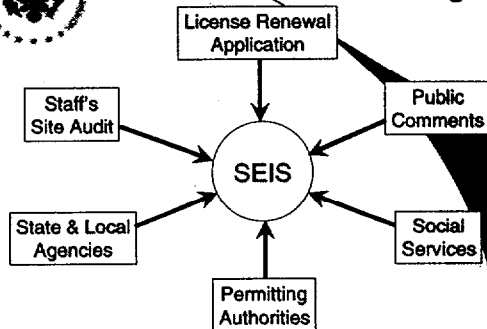
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## Information Gathering



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## Team Expertise



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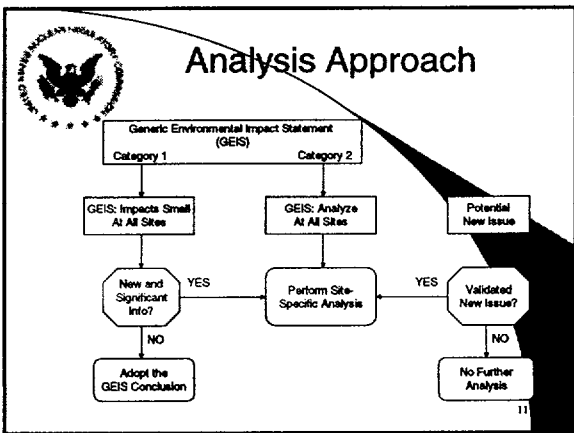
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## How Impacts are Quantified

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- > NRC-defined impact levels:
  - > **SMALL:** Effect is not detectable or too small to destabilize 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
- > Consistent with the Council on Environmental Quality guidance for NEPA analyses

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## Environmental Impacts of Operation

- Cooling System
- Transmission Lines
- Radiological
- Socioeconomic
- Groundwater Use and Quality
- Threatened or Endangered Species

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## Cooling System Impacts



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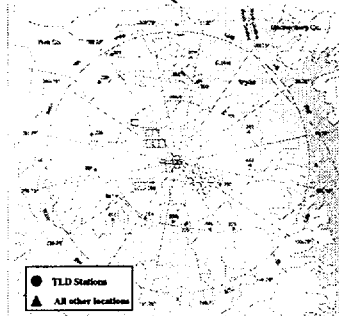
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## Radiological Impacts

Catawba Near-Site and On-Site Radiological Monitoring Locations



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## Threatened or Endangered Species




(<http://nc-es.fws.gov/plant/carolheal.html>)

(<http://nc-es.fws.gov/mussel/carolheal.html>)

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## Potential New and Significant Information

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➤ No new and significant information identified

- during scoping
- by the licensee
- by the staff

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## Other Environmental Impacts Evaluated

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- Uranium Fuel Cycle and Solid Waste Management
- Decommissioning

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## Alternatives

- No-action
- New generation
- Purchased electrical power
- Alternative technologies
- Combination of alternatives

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## Preliminary Conclusions for Alternatives

- Alternatives (including the no-action alternative) may have environmental effects in at least some impact categories that reach MODERATE or LARGE significance

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## Preliminary Results of Analysis

- > Design-Basis Accidents
- > Severe Accidents
  - > Severe Accident Mitigation Alternatives (SAMAs)

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## Preliminary Results of SAMA Evaluation

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- > 14 candidate improvements evaluated
  - > 6 related to reducing core damage frequency
  - > 8 related to improving containment performance
- > Two SAMAs found to be cost beneficial, but do not relate to managing the effects of aging
  - > Providing backup power to hydrogen igniters
  - > Installing watertight wall around transformer
  - > NRC is evaluating the need for these enhancements as current operating license issues
- > None of the remaining candidates were found to be cost beneficial

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## Preliminary Results of SAMA Evaluation (continued)

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- > Overall Conclusion:
- > Additional plant improvements to further mitigate severe accidents are not required at Catawba Units 1 and 2 as part of license renewal pursuant to 10 CFR Part 54
- > Improvements to hydrogen control and installation of watertight wall being further evaluated as current operating license issues

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## Conclusion

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- > Impacts of license renewal are SMALL in all impact areas
- > Impacts of alternatives to license renewal range from SMALL to LARGE
- > The staff's preliminary recommendation is that the adverse environmental impacts of license renewal for Catawba Units 1 and 2 are not so great that preserving the option of license renewal for energy planning decisionmakers would be unreasonable

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## Environmental Review Milestones

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- > Draft EIS issued – 5/13/02
- > Comment period – 5/21/02 to 8/9/02
- > Final EIS issued – 1/03

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## Point of Contact

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- > Agency point of contact:  
James H. Wilson  
(800) 368-5642, Ext. 1108
- > Documents located at the York County Public Library, Rock Hill, SC, and can be viewed at the NRC's Web site ([www.nrc.gov](http://www.nrc.gov))
- > Draft SEIS can also be viewed at:  
[www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1437/supplement9/](http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1437/supplement9/)

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## NRC Addresses

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- Provide comments:
  - > By mail at: Chief, Rules and Directives Branch  
Division of Administrative Services  
Mailstop T-6D59  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555
  - > In person at: 11545 Rockville Pike  
Rockville, Maryland
  - > E-mail at: [CatawbaEIS@nrc.gov](mailto:CatawbaEIS@nrc.gov)
  - > On-line comment form with web version of draft

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