



# Preliminary Results of Environmental Review North Anna Units 1 and 2

---

Nuclear Regulatory Commission  
June 25, 2002



# 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



## North Anna Units 1 and 2 License Renewal

---

- Operating licenses expire in 2018 (Unit 1) and 2020 (Unit 2)
- Application requests authorization to operate units for an additional 20 years

3

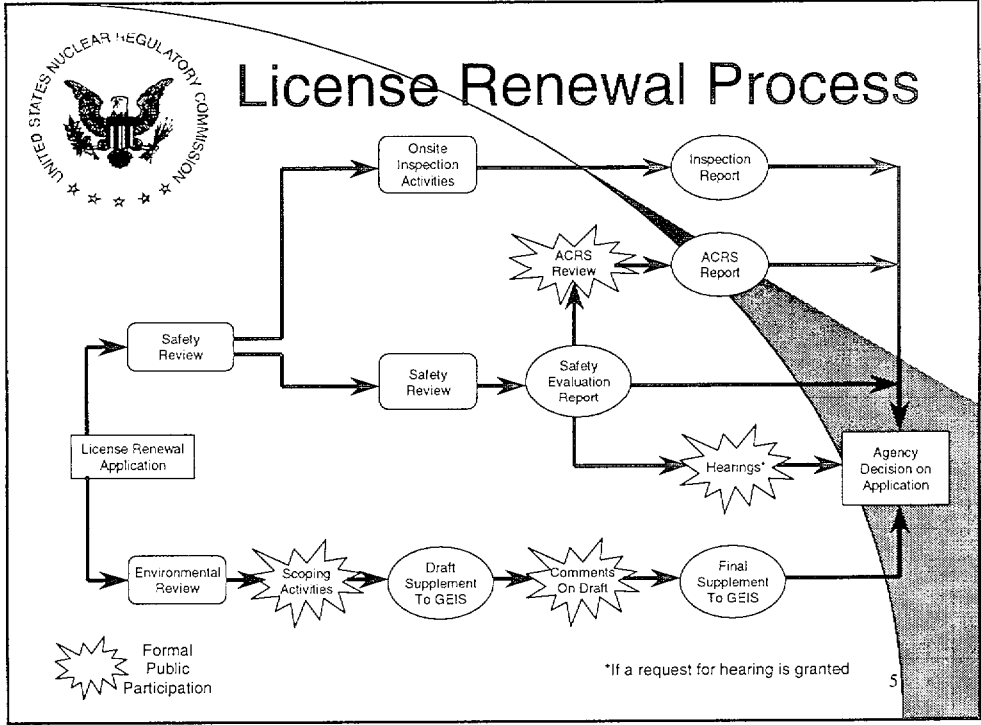


## NRC's License Renewal Review

---

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

4



**National Environmental Policy Act**

United States Nuclear Regulatory Commission

- 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

6



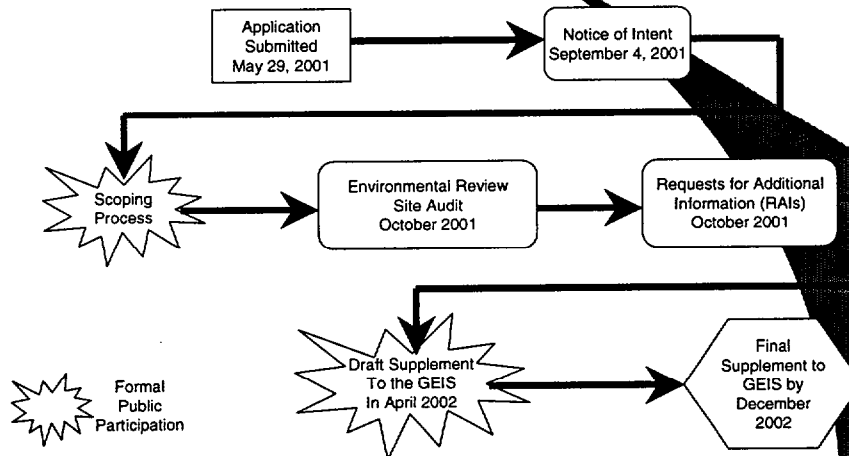
# Decision Standard for Environmental Review

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

7



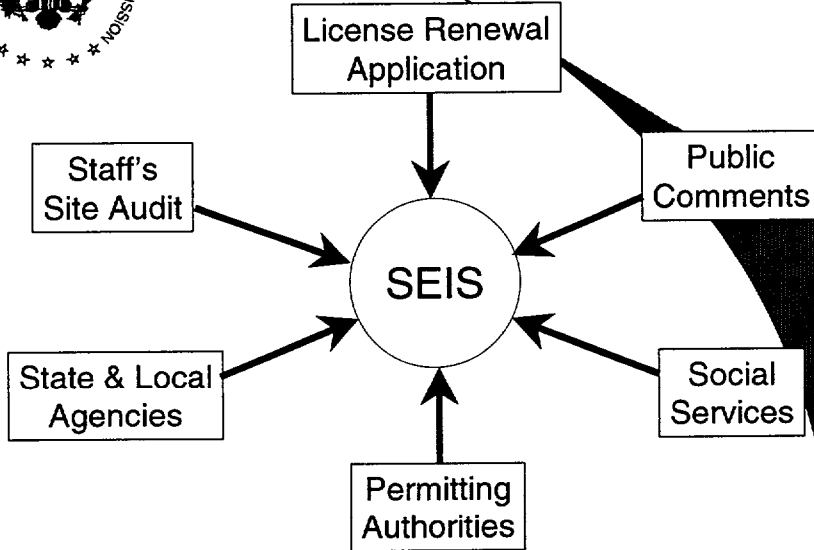
# Environmental License Renewal Process



8



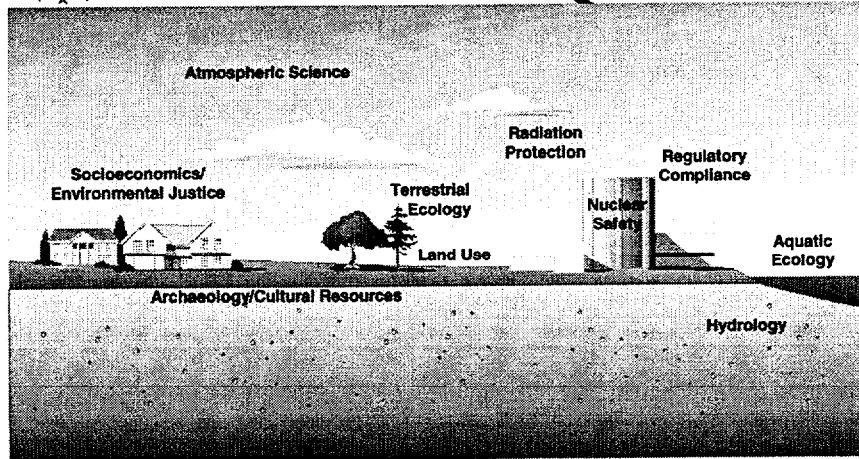
# Information Gathering



9



# Team Expertise



10

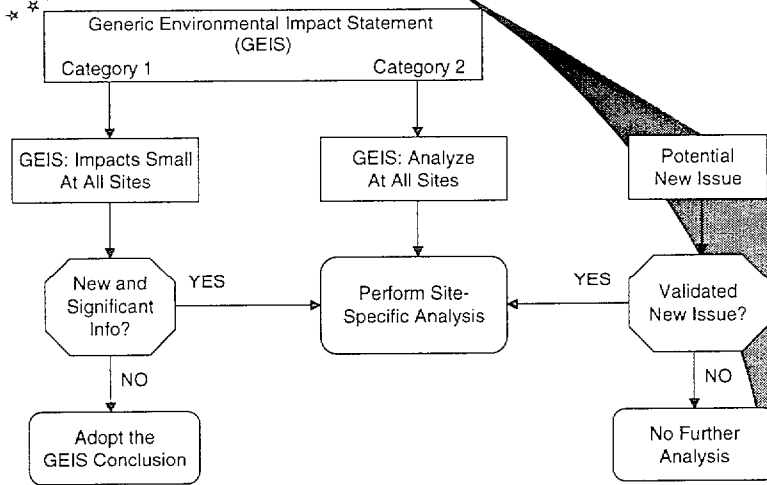


# How Impacts are Quantified

- 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*
- Consistent with the Council on Environmental Quality guidance for NEPA analyses



# Analysis Approach





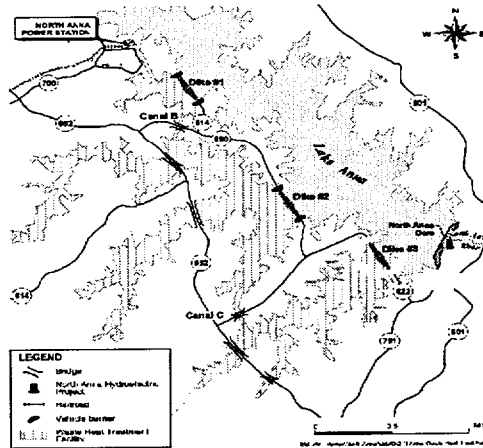
# Environmental Impacts of Operation

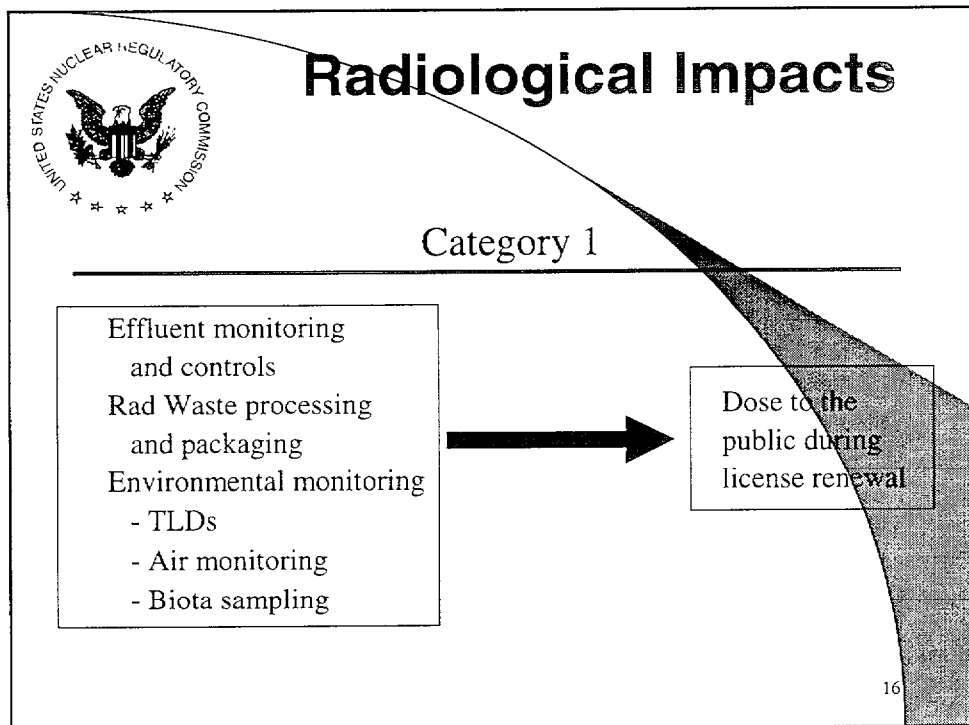
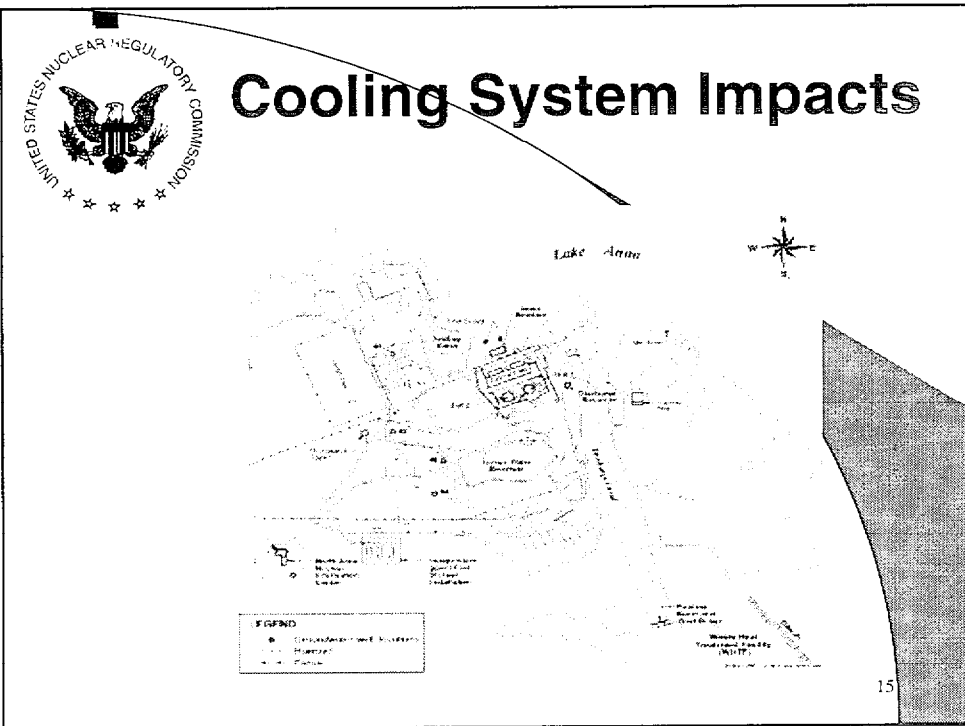
- Cooling System
- Transmission Lines
- Radiological
- Socioeconomic
- Groundwater Use and Quality
- Threatened or Endangered Species



# Cooling System Impacts

Figure 3-2  
North Anna Power Station, Waste Heat Treatment Facility  
Detail Vicinity Map









## Threatened and Endangered Species



17



## Potential New and Significant Information

- No new and significant information identified:
  - during scoping
  - by the licensee
  - by the staff

18



## Other Environmental Impacts Evaluated

---

- Uranium Fuel Cycle and Solid Waste Management
- Decommissioning

19



## Alternatives

---

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

20



## 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

21



## Impacts of Postulated Accidents

---

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

22



## Results of SAMA Evaluation

---

- 158 candidate improvements identified
  - 37 were already implemented
  - 70 not applicable
- Cost/benefit analysis for 51 remaining candidates, with detailed estimates for 9 candidates
- None of the 51 candidates were found to be cost beneficial

23



## Results of SAMA Evaluation (continued)

---

- Overall conclusion:

Additional plant improvements to further mitigate severe accidents are not required at North Anna Units 1 and 2.

24



## Conclusion

---

- Impacts of license renewal are SMALL for 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 North Anna Units 1 and 2 are not so great that preserving the option of license renewal for energy planning decisionmakers would be unreasonable

25



## Environmental Review Milestones

---

- Draft EIS issued – 4/23/02
- Comment period – 5/17/02 to 8/1/02
- Final EIS issued on or before – 12/02

26



## Point of Contact

---

- Agency point of contact:  
Andrew J. Kugler  
(800) 368-5642, Ext. 2828
- Documents located at the Louisa County Library and UVA Charlottesville, 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/supplement7/](http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1437/supplement7/)

27



## NRC Addresses

---

### Provide comments:

- - By mail at: Chief, Rules and Directives Branch  
Division of Administrative Services  
Mailstop T-6D59  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001
  - In person at: 11545 Rockville Pike  
Rockville, Maryland
  - E-mail at: [NorthAnnaEIS@nrc.gov](mailto:NorthAnnaEIS@nrc.gov)
  - On-line comment form with web version of draft

28