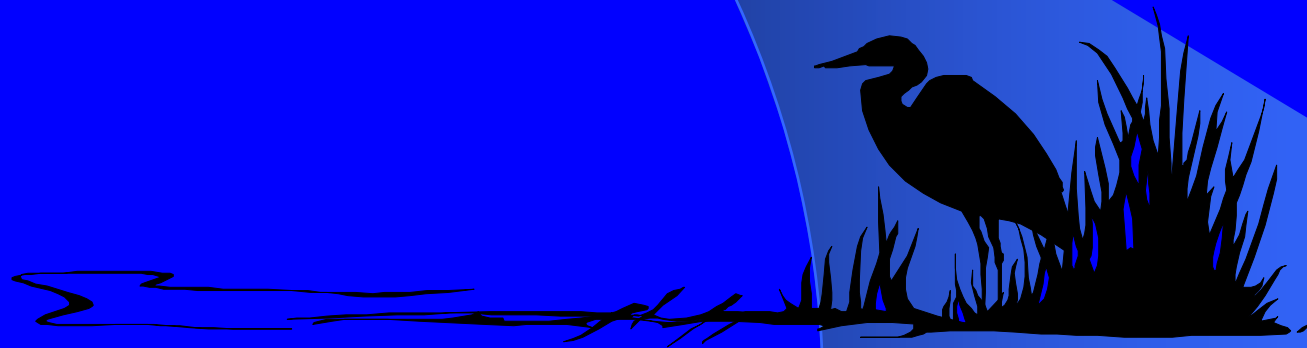




Preliminary Results of Environmental Review Joseph M. Farley Nuclear Plant, Units 1 & 2

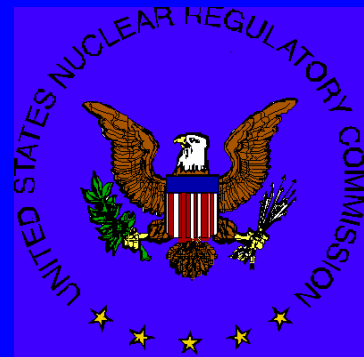
Nuclear Regulatory Commission
September 30, 2004





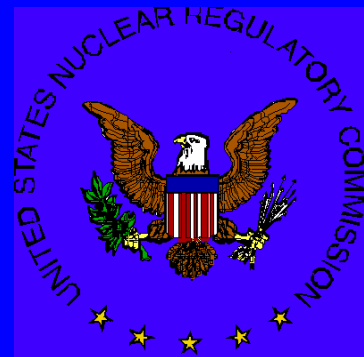
Purpose of Today's Meeting

- 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



Joseph M. Farley Nuclear Plant License Renewal

- Operating licenses expire in 2017 and 2021 respectively
- Application requests authorization to operate Joseph M. Farley Nuclear Plant for up to an additional 20 years

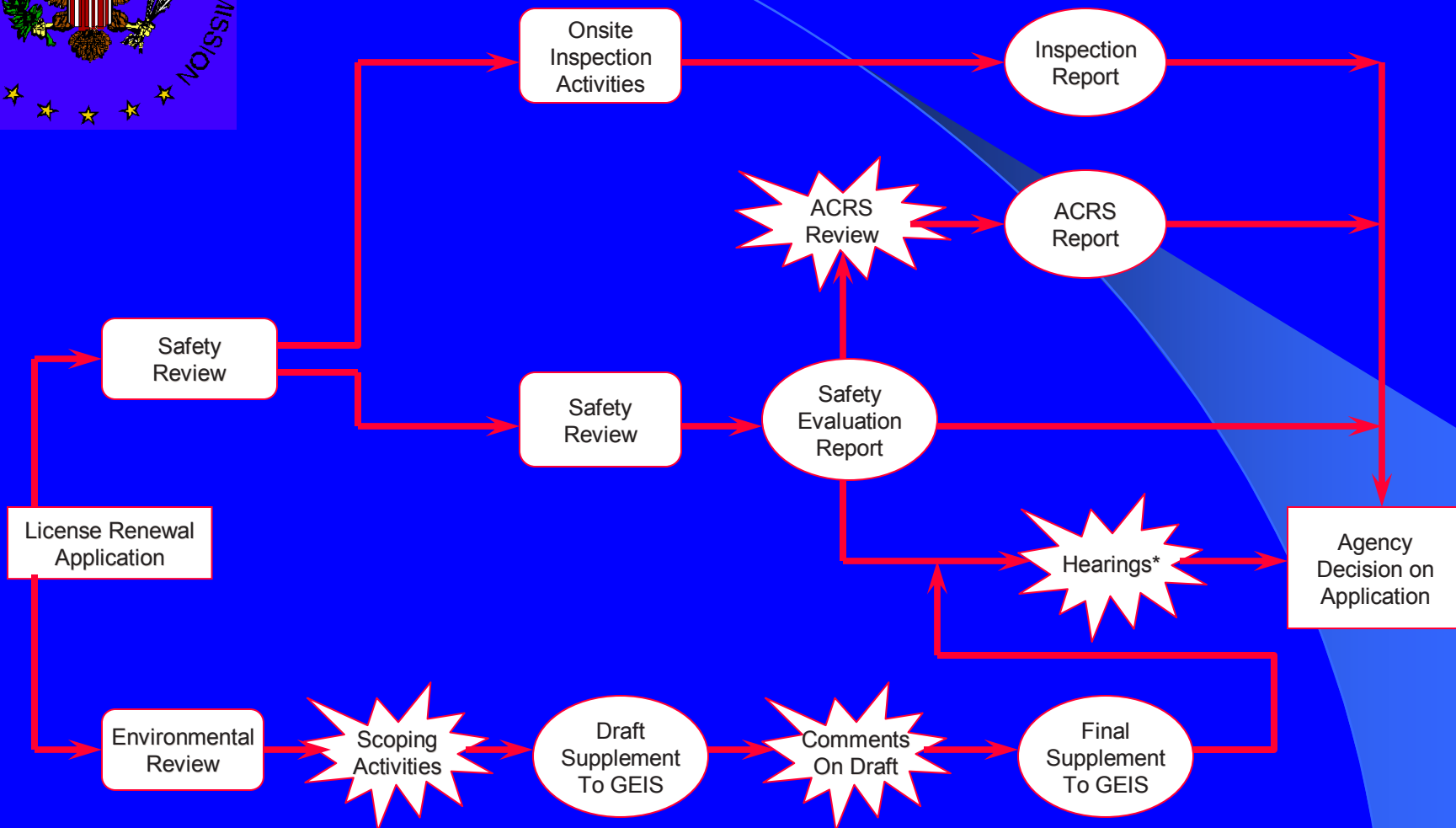


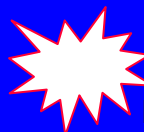
NRC's License Renewal Review

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



License Renewal Process



 Formal Public Participation

*If a request for hearing is granted



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

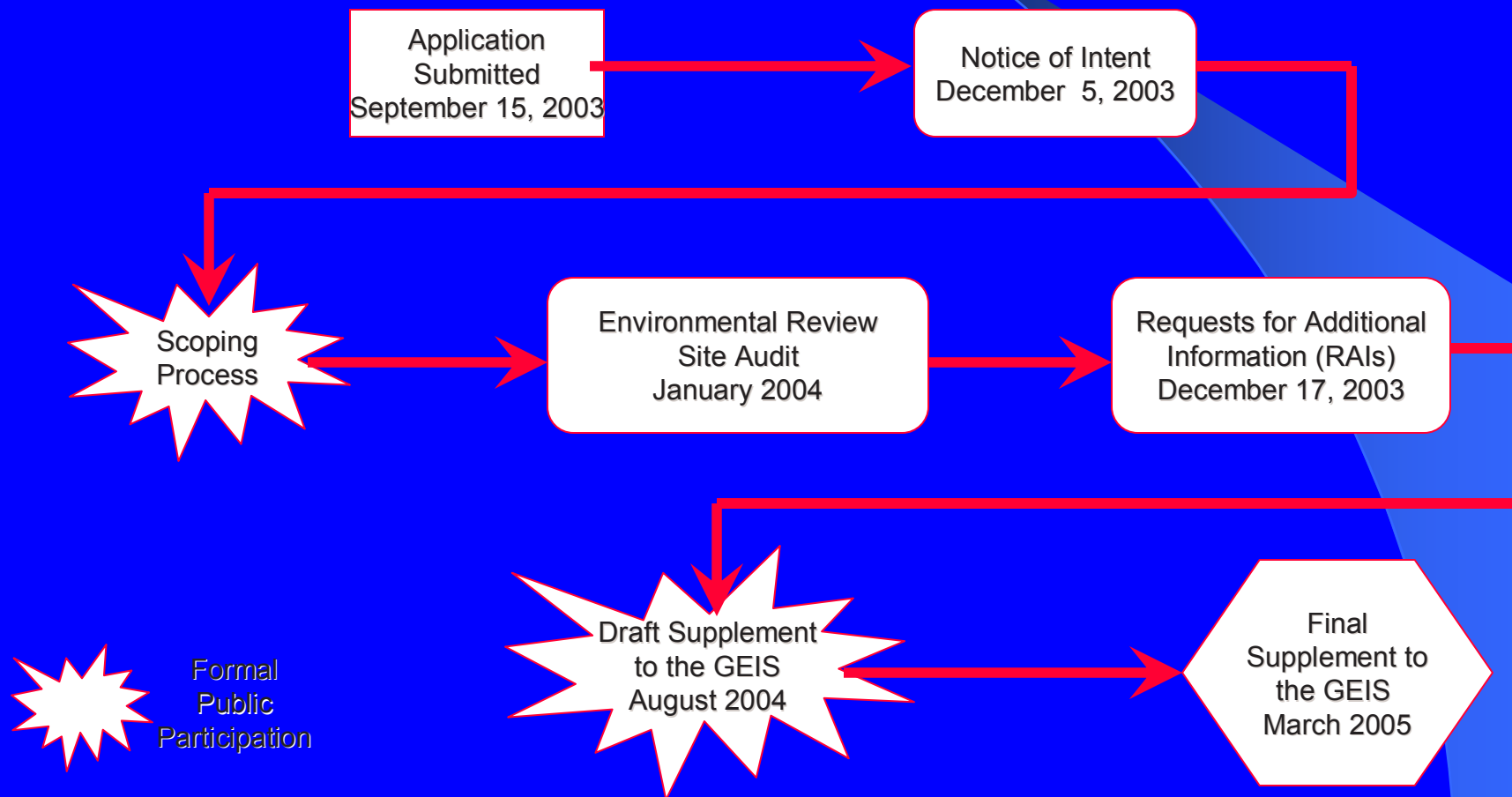


Decision Standard for Environmental Review

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

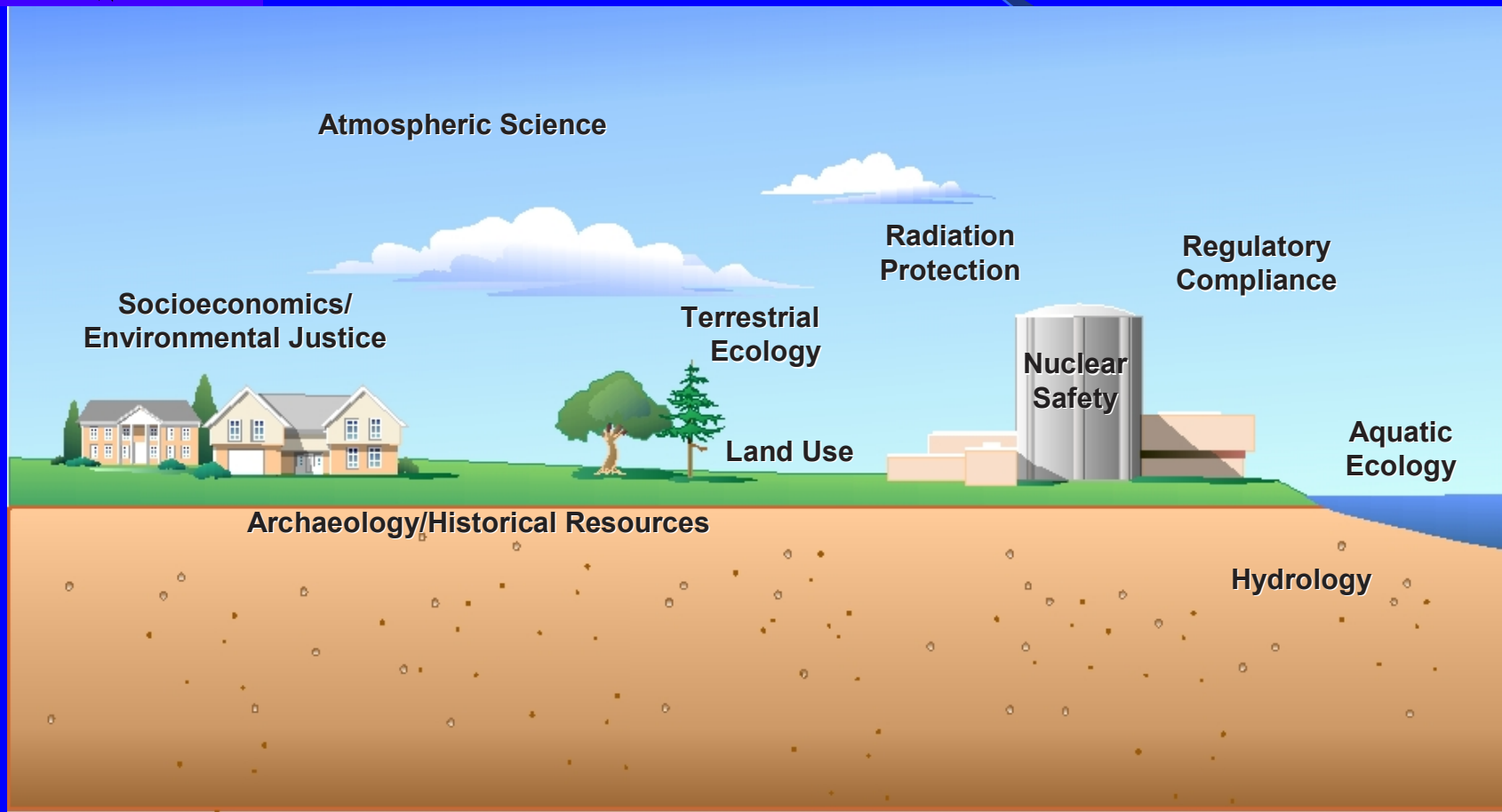


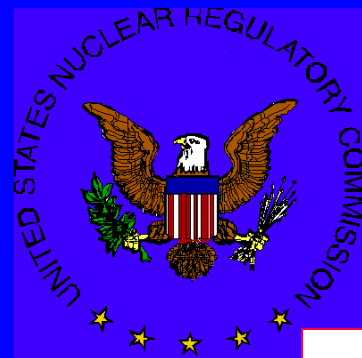
Environmental License Renewal Process



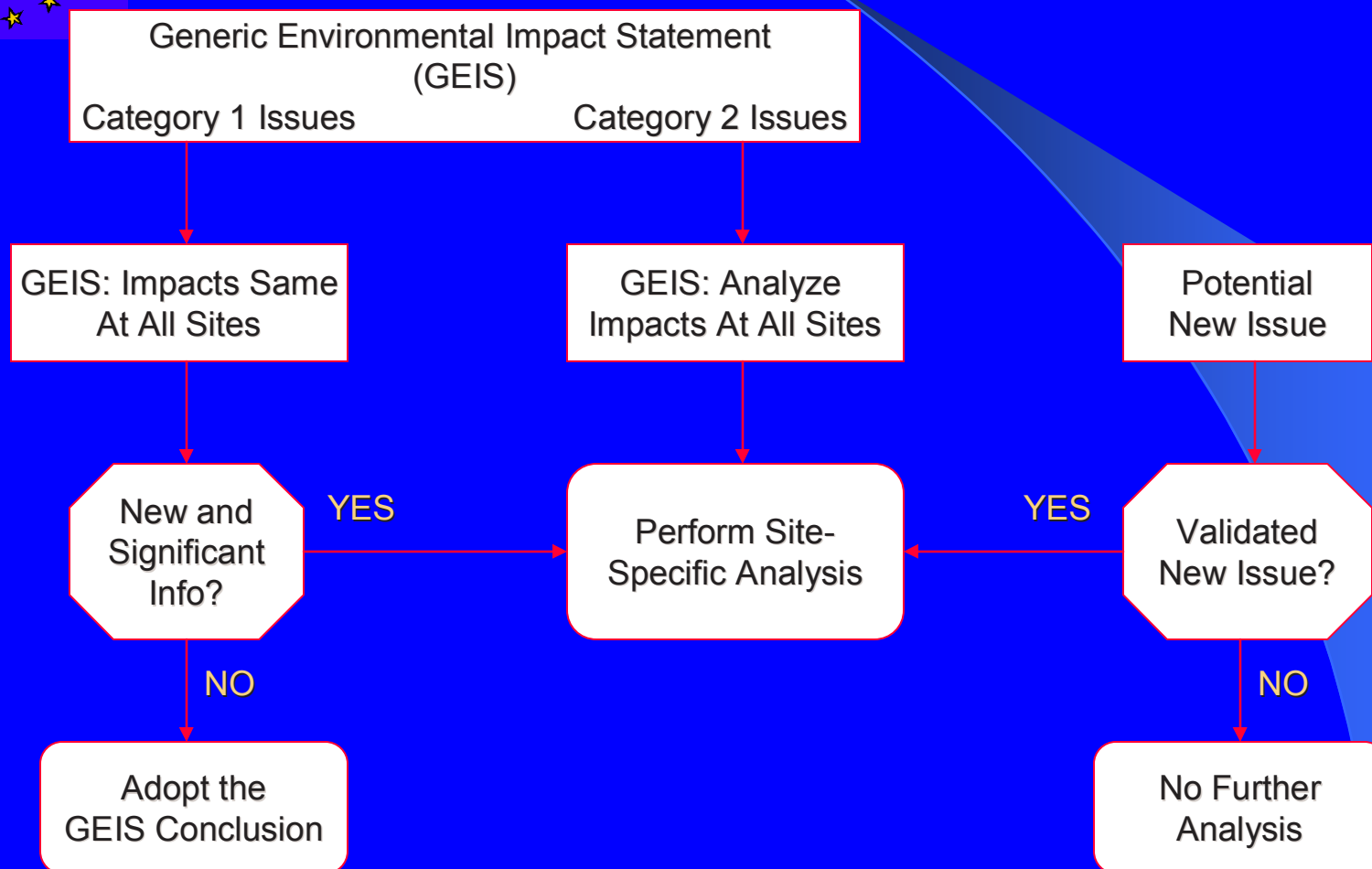


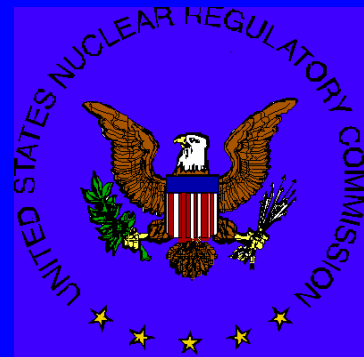
Team Expertise





Analysis Approach



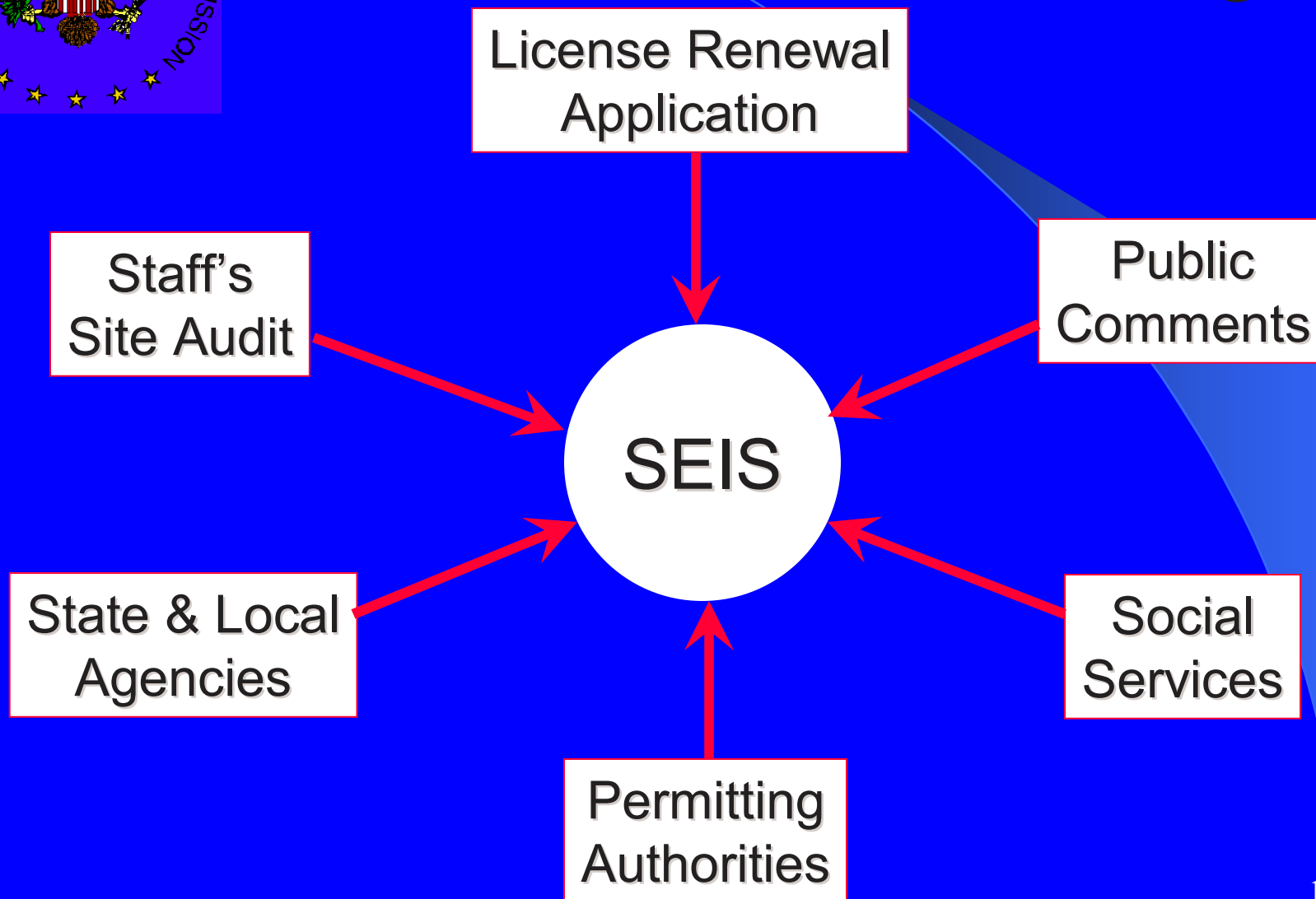


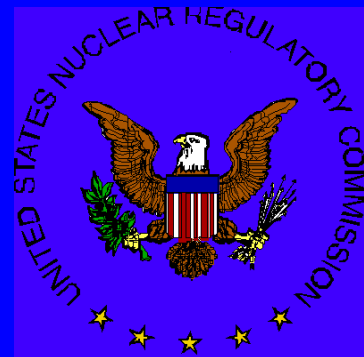
How Impacts are Quantified

- 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



Information Gathering





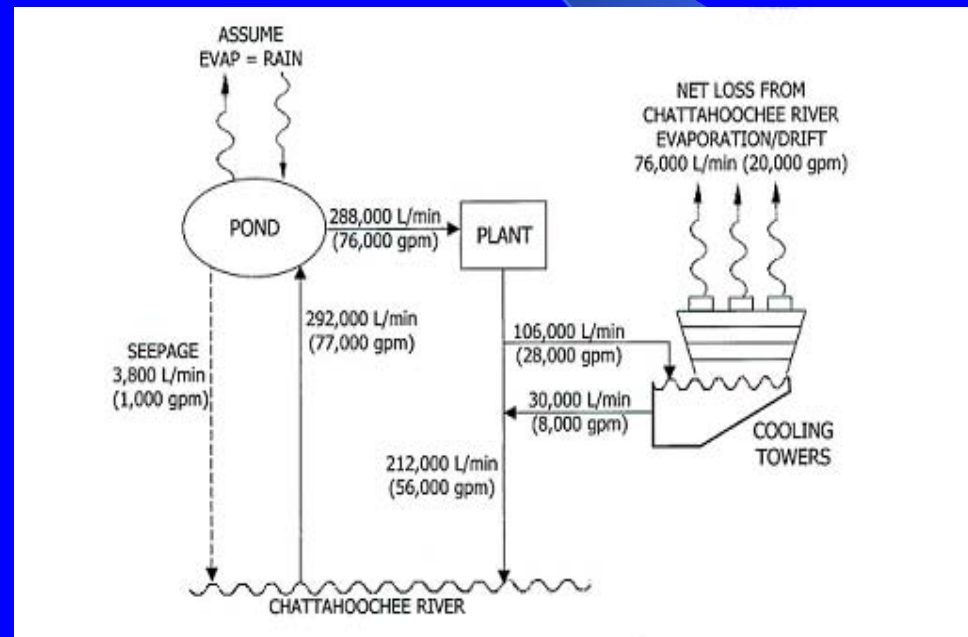
Environmental Impacts of Continued Operation

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



Cooling System Impacts

- Category 2 issues
 - Water Use Conflicts
 - Microbiological Organisms
- Preliminary findings
 - Impacts are SMALL
 - No additional mitigation required



Cooling Pond



Radiological Impacts

- Category 1 issues
 - Radiation exposures to the public
 - Occupational radiation exposures

- Preliminary findings
 - No new and significant information identified
 - GEIS concluded impacts are SMALL

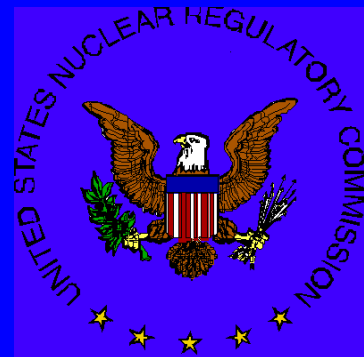


Threatened or Endangered Species



Courtesy Sherry Morgan - UMass





Cumulative Impacts of Operation

-
- Considered impacts of renewal term operations combined with other past, present, and reasonably foreseeable future actions
 - evaluated to end of 20-year renewal term
 - geographic boundaries dependent on resource
 - No significant cumulative impacts



Other Environmental Impacts Evaluated

- Uranium Fuel Cycle and Solid Waste Management
- Decommissioning

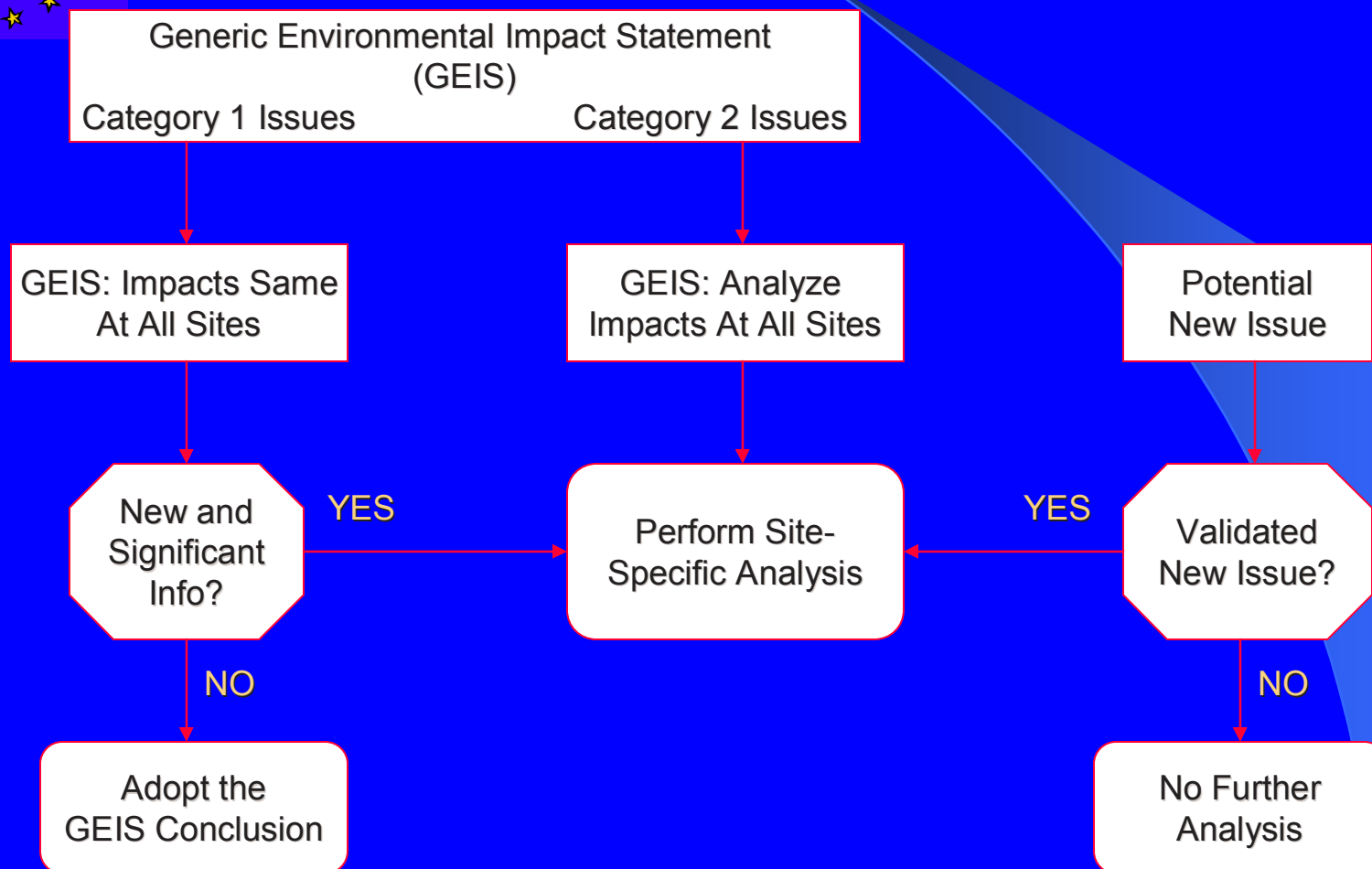


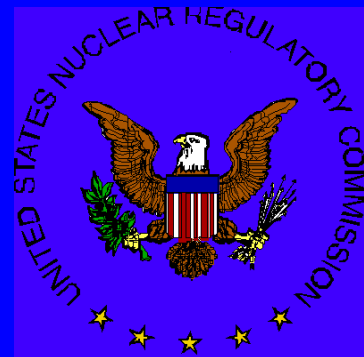
Alternatives

- No-action
- Alternative energy sources
 - New generation (Coal, Natural Gas, Nuclear)
 - Purchased electrical power
 - Other alternatives (Oil, Wind, Solar, Conservation)
 - Combination of alternatives
- Environmental effects of alternatives in at least some impact categories reach MODERATE or LARGE significance



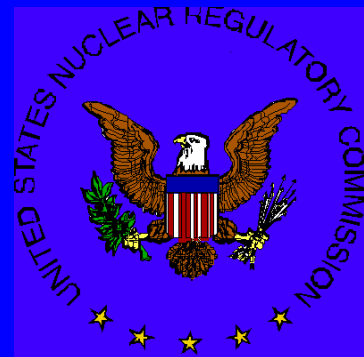
Analysis Approach





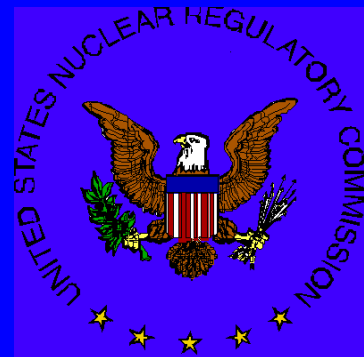
Preliminary Conclusions

-
- GEIS Conclusions on Category 1 issues adopted.
 - Impacts resulting from Category 2 issues are of SMALL significance.
 - No new impacts identified.
 - Environmental effects of alternatives may reach MODERATE or LARGE significance.



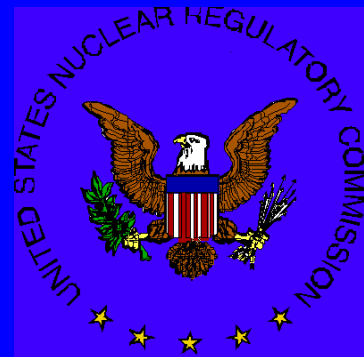
Postulated Accidents

- Design-basis accidents
- Severe accidents
 - Severe accident mitigation alternatives (SAMAs)



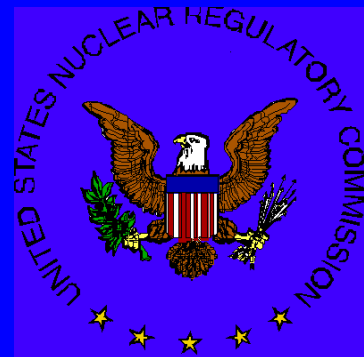
SAMA Evaluation Process

-
- Characterize overall plant risk
 - Identify potential improvements
 - Quantify risk reduction potential and implementation costs
 - Determine whether implementation of any of the improvements is required to support license renewal



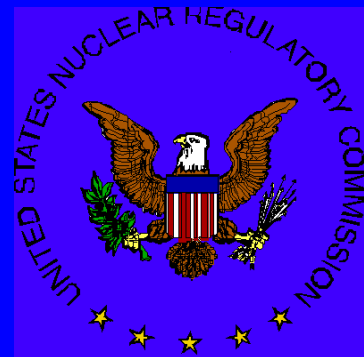
Preliminary Results of SAMA Evaluation

- Approximately 124 candidate improvements considered
- Set of SAMAs reduced to 21 based on multi-step screening process
- Detailed cost/benefit analysis shows that 3 of the 21 candidates are cost beneficial:
 - increase the charging pump lube oil capacity by adding supplemental lube oil reservoir for each charging pump
 - use existing hydro test pump for RCP seal injection
 - proceduralize local manual operation of AFW if control power is lost.



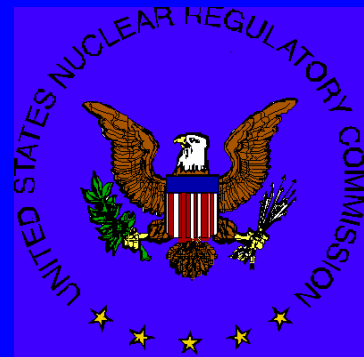
Preliminary Results of SAMA Evaluation

- Three SAMAs found to be potentially cost beneficial
 - not related to managing the effects of aging
 - not required to be implemented as part of license renewal
 - SNC has plans to implement SAMA S166 and further evaluate SAMAs 7 and 11



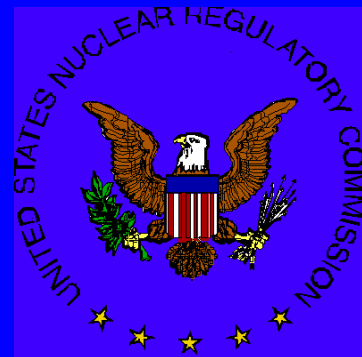
Preliminary Conclusions

-
- 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 Farley are not so great that preserving the option of license renewal for energy planning decisionmakers would be unreasonable



Environmental Review Milestones

- Draft EIS issued – 8/6/04
- Comment period – 8/13/04 to 11/05/04
- Issuance of Final EIS – March 2005



Point of Contact and Reference Documents

- Agency point of contact:
Jack Cushing
(800) 368-5642, Ext. 1424
- Documents located at the Houston Love Memorial Library, 212 West Burdeshaw Street, Dothan, Alabama, and the Lucy Maddox Memorial Library, 11880 Columbia Street, Blakely, Georgia
- Draft SEIS can also be viewed at the NRC's Web site (www.nrc.gov) at: www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1437/supplement18/



Submitting Comments

-
- By mail at: Chief, Rules and Directives Branch
Division of Administrative Services
Mailstop T-6D59
U.S. Nuclear Regulatory Commission
 - In person at: 11545 Rockville Pike
Rockville, Maryland
 - E-mail at: FarleyEIS@nrc.gov

