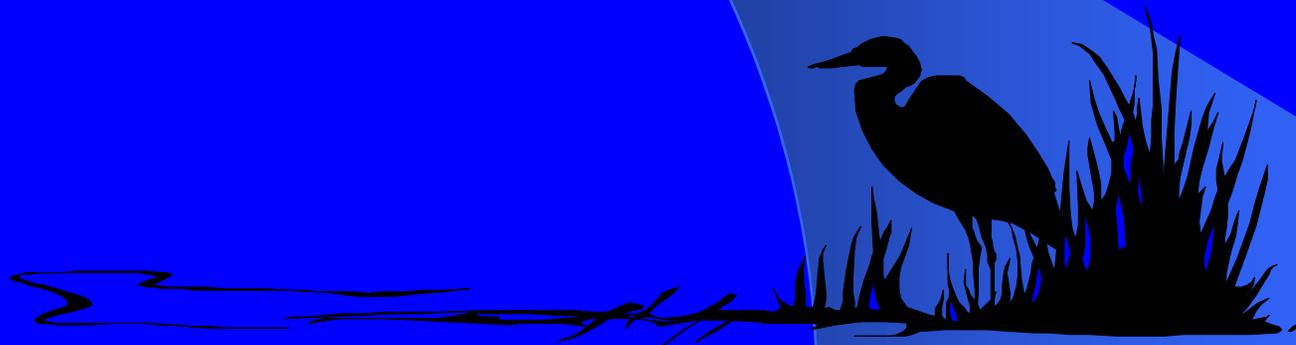




Preliminary Results of Environmental Review Quad Cities Nuclear Power Station, Units 1 and 2

Nuclear Regulatory Commission

December 16, 2003





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



Quad Cities Nuclear Power Station, Units 1 and 2 License Renewal

- Operating licenses expire in 2012
- Application requests authorization to operate Quad Cities Nuclear Power Station, Units 1 and 2 for up to an additional 20 years

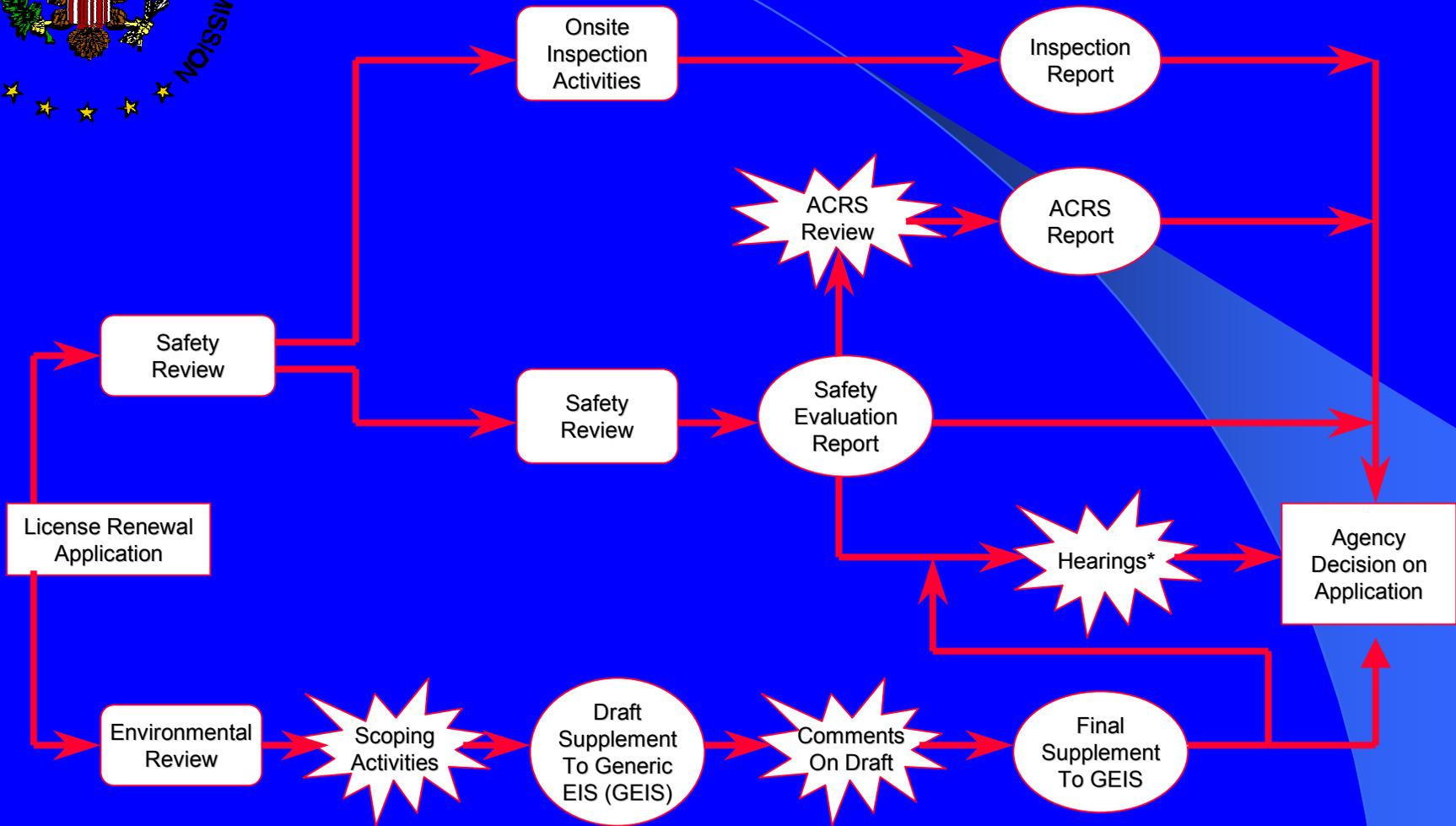


NRC's License Renewal Review

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



License Renewal Process



 Formal Public Participation

*If a request for hearing is granted



National Environmental Policy Act (NEPA)

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

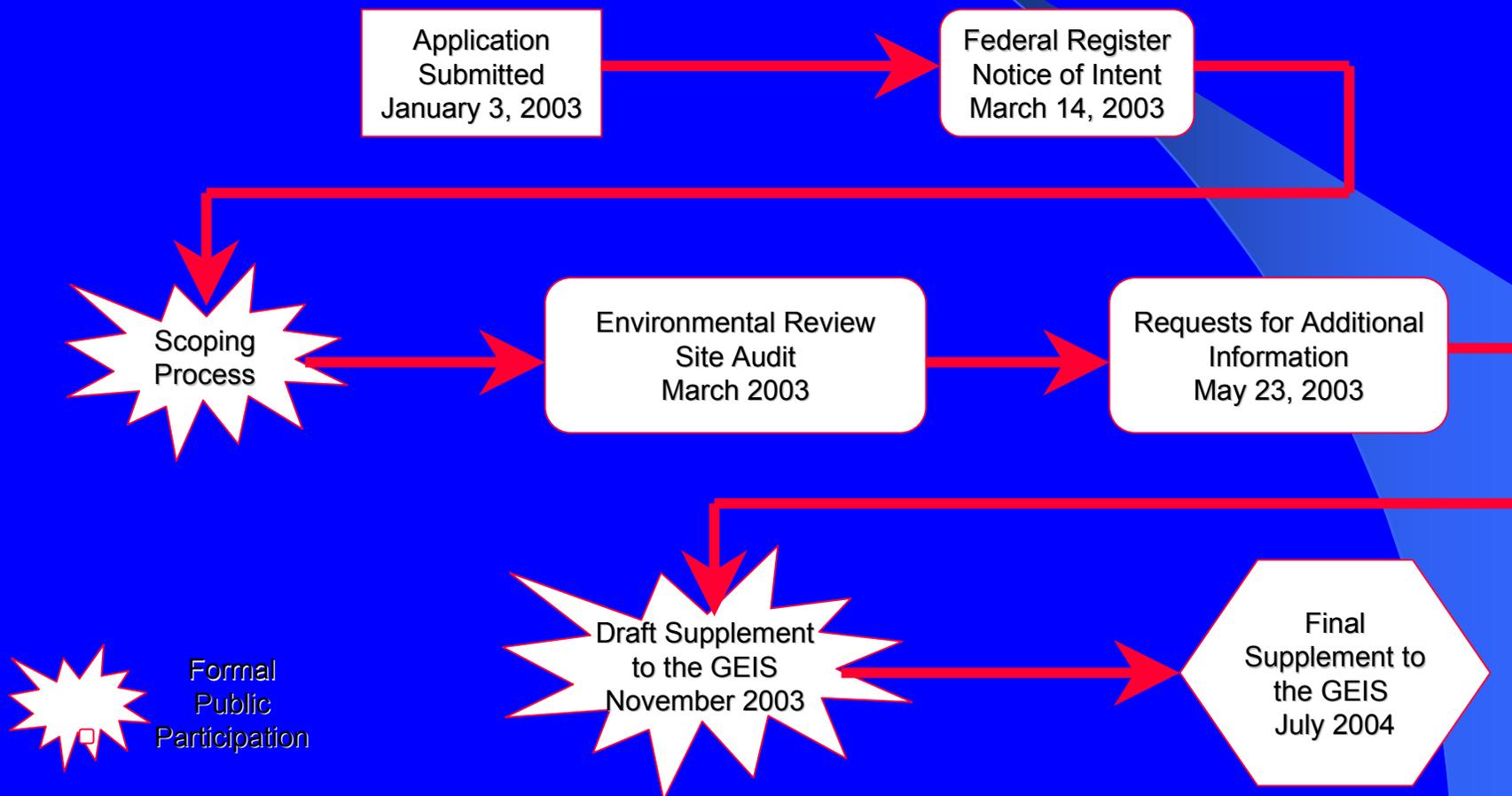


Decision Standard for Environmental Review

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

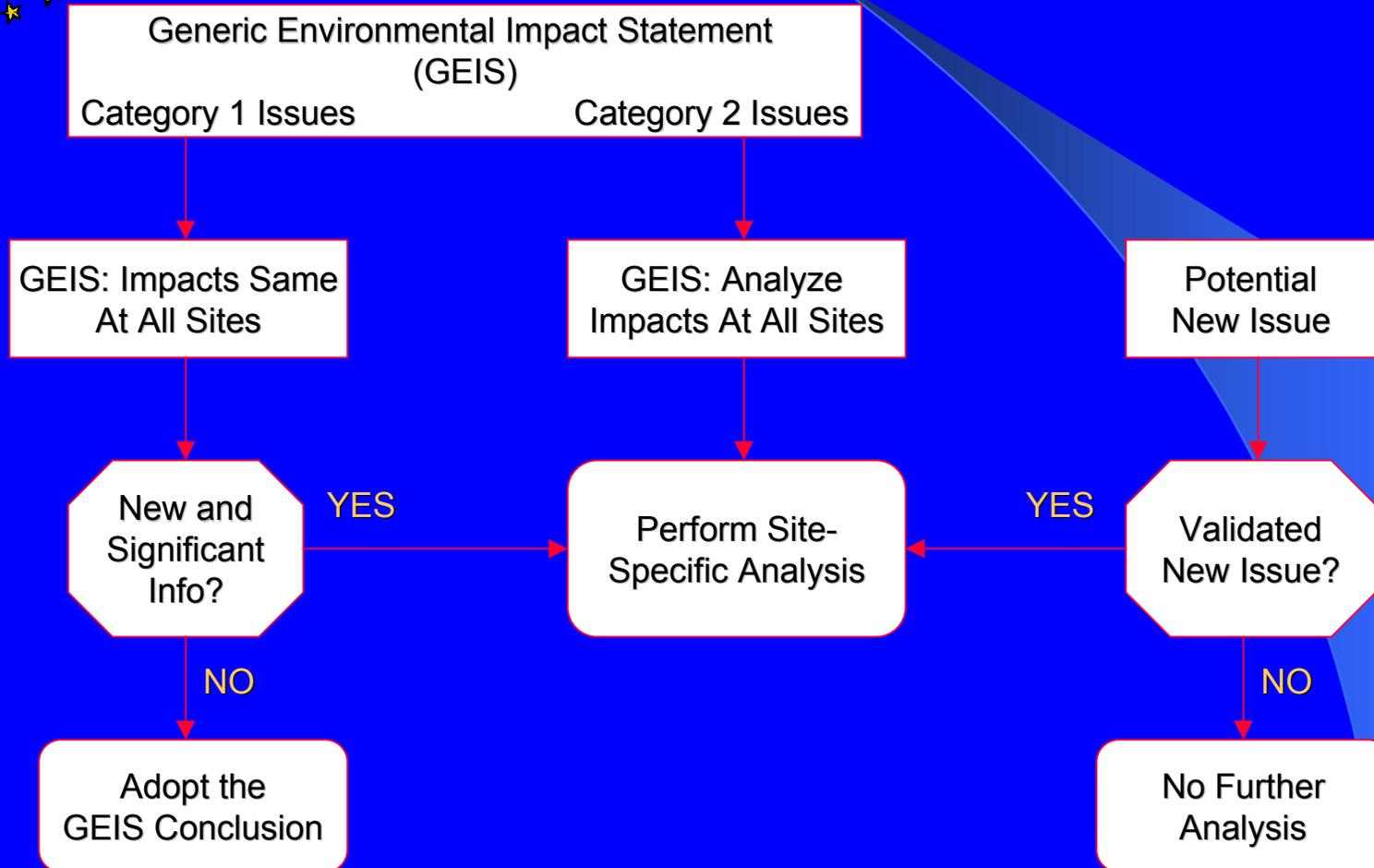


Environmental License Renewal Process





Analysis Approach



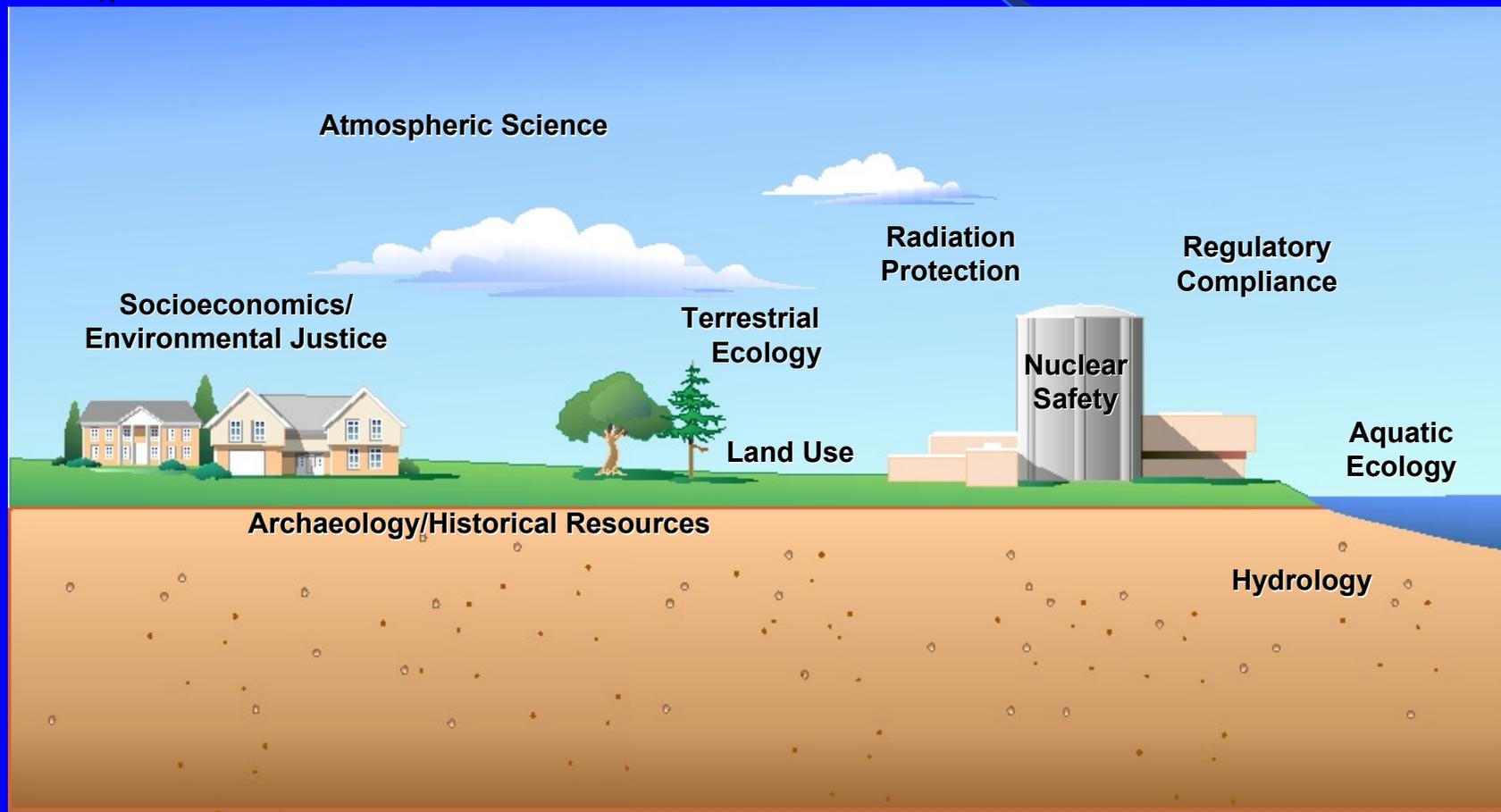


How Impacts are Quantified

- 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

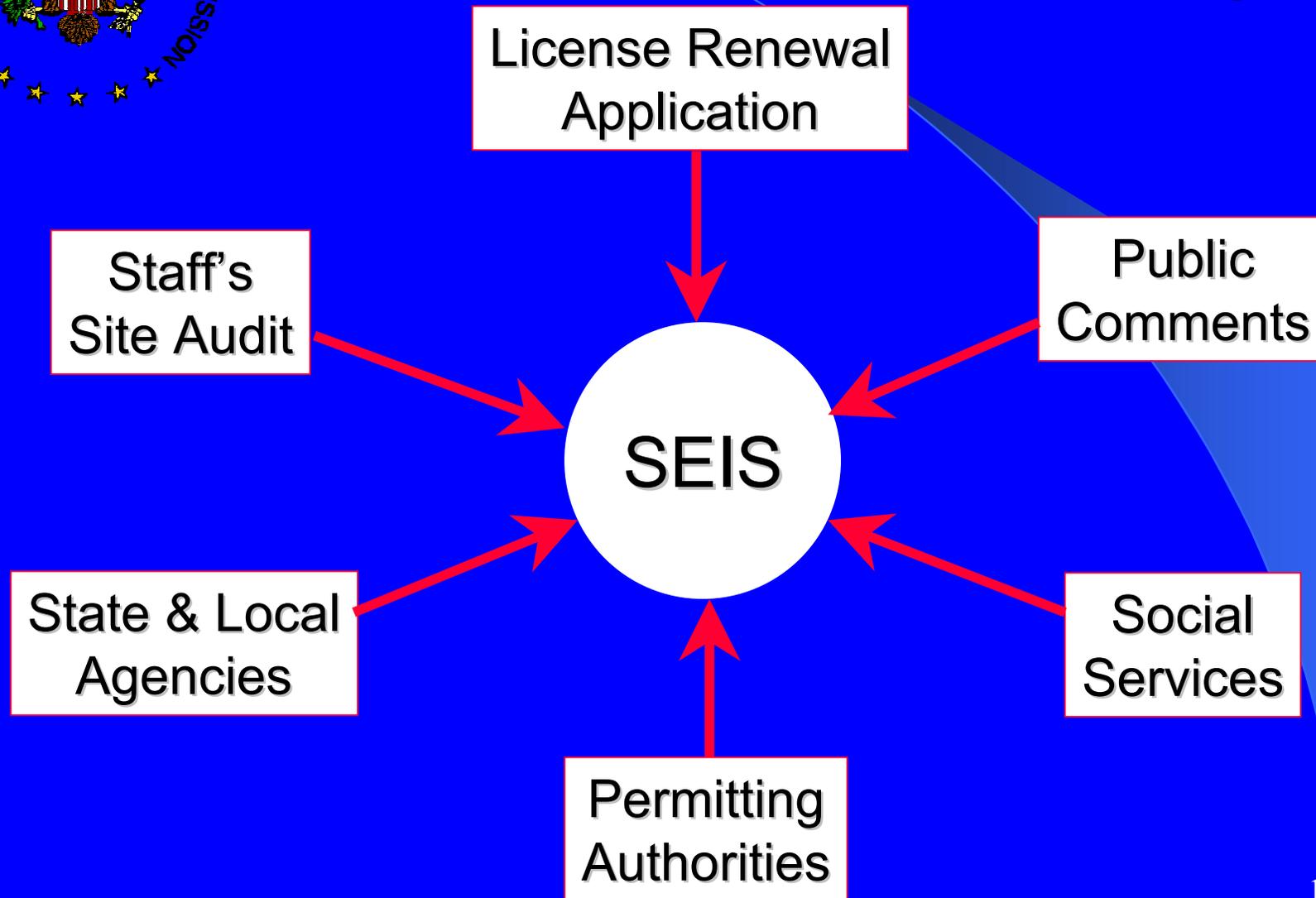


Team Expertise





Information Gathering





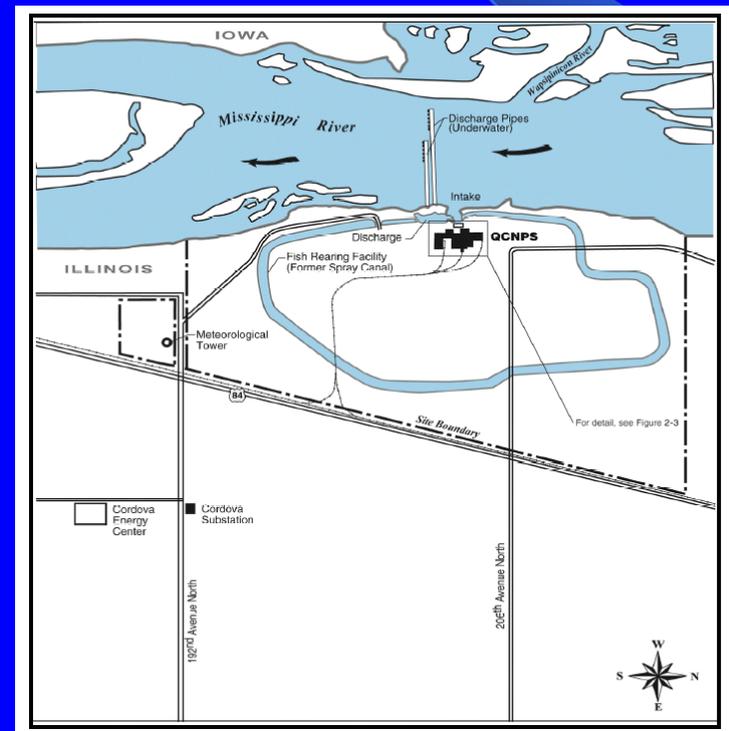
Environmental Impacts of Operation

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



Cooling System Impacts

- Category 2 issues
 - Entrainment
 - Impingement
 - Heat Shock
 - Microbiological Organisms
- Preliminary findings
 - Impacts are SMALL
 - No additional mitigation required





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



Potential New and Significant Information

- No new and significant information identified:
 - as a result of the scoping process
 - by the licensee
 - by the staff

- GEIS Category 1 conclusions are adopted in this draft SEIS.



Threatened or Endangered Species





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

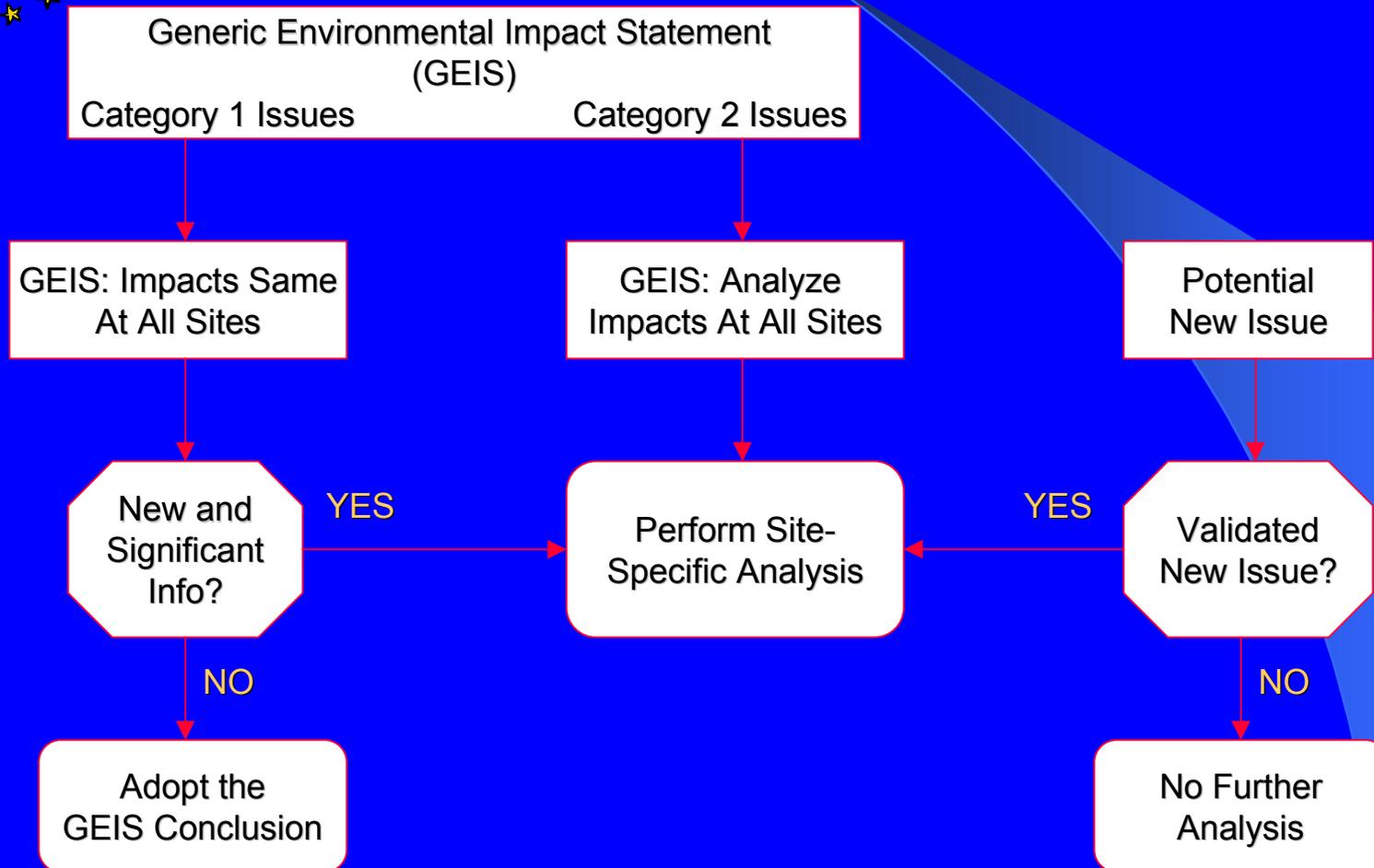


Alternatives

- 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.
- 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

-
- 280 candidate improvements considered.
 - Set of SAMAs reduced to 15 based on multi-step screening process.
 - Detailed cost/benefit analysis shows that 4 of the 15 candidates are cost beneficial.
 - All cost beneficial SAMAs are procedure development actions.
 - None are related to managing the effects of plant aging.
 - None are required to be implemented as part of license renewal.



Preliminary Results of SAMA Evaluation

- Four cost beneficial procedure development SAMAs
 - Locally starting equipment during a 125 vdc bus failure
 - Feedwater flow control without 125 vdc power
 - Depressurization control to maintain reactor isolation cooling system operability
 - Containment venting control in a narrow pressure band



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 Quad Cities Nuclear Power Station, Units 1 and 2 are not so great that preserving the option of license renewal for energy planning decisionmakers would be unreasonable.



Environmental Review Milestones

- Draft EIS issued – 11/04/03
- Comment period – 11/14/03 to 01/27/04
- Issuance of Final EIS – July 2004



Point of Contact and Reference Documents

- NRC contact: Duke Wheeler, (800) 368-5642, Ext. 1444
- Documents located at local libraries
 - Cordova District Library, Cordova, IL
 - River Valley Library, Port Byron, IL
 - Davenport Public Library, Davenport, IA
- 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/supplement16/



Submitting Comments

- By mail: Chief, Rules and Directives Branch
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UNITED STATES NUCLEAR REGULATORY COMMISSION

