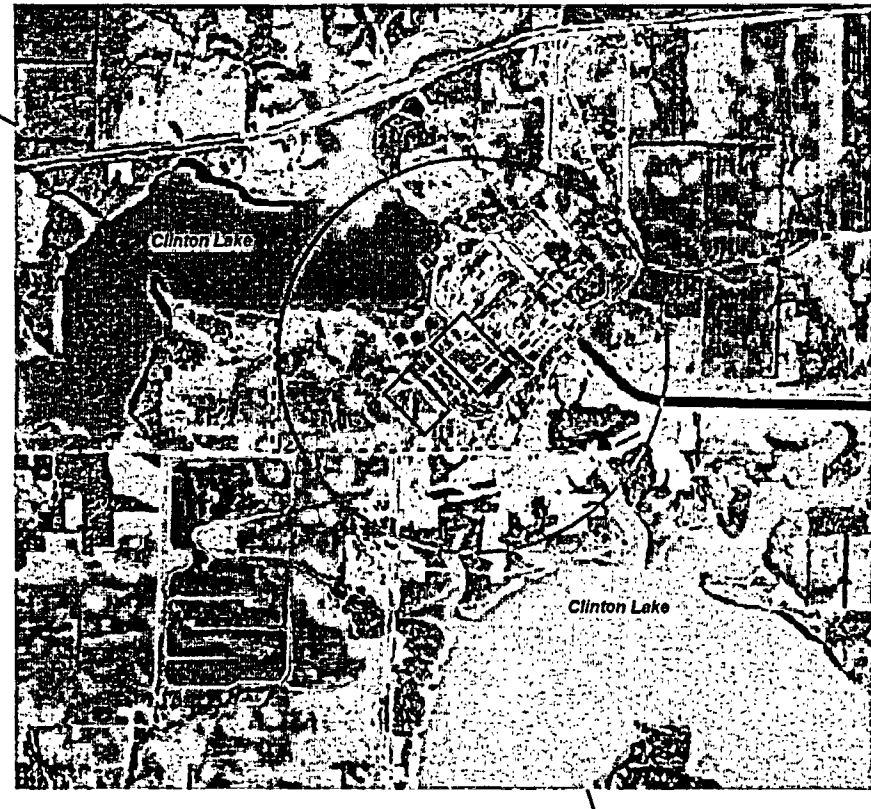
Public Meeting on Draft Environmental Impact Statement for the Early Site Permit at the Exelon ESP Site



U.S. Nuclear Regulatory Commission
April 19, 2005

Attachment 4

Introduction

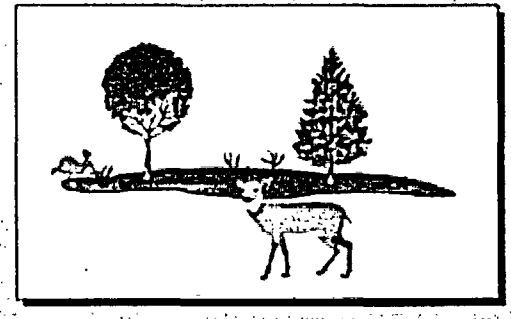
- Describe NRC's Mission
- Discuss ESP permitting process
- Describe the environmental review process
- Discuss the results of our review
- Provide the review schedule
- Describe how to submit comments

Who is the U.S. Nuclear Regulatory Commission?

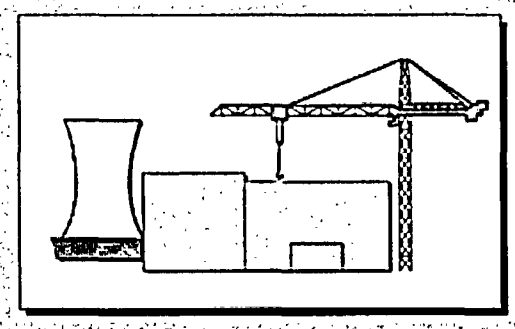
- Independent Federal agency
  - Five Commissioners
  - Professional staff
- Experienced regulator
- Mission: To protect public health and safety, promote common defense and security, and protect the environment
- Regulate commercial nuclear reactor activities

Combined Licenses, Early Site Permits, and Standard Design Certifications

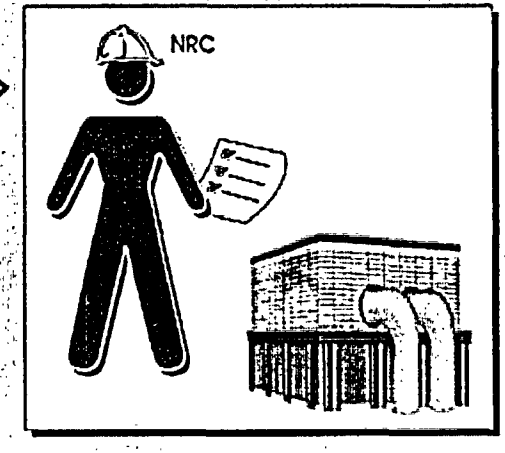
Early Site Permit*



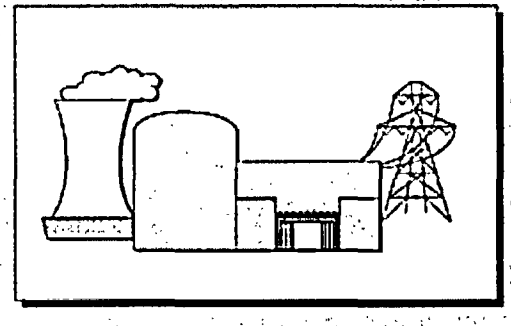
Reactor Construction



Verification of Inspection, Tests, Analyses, and Acceptance Criteria

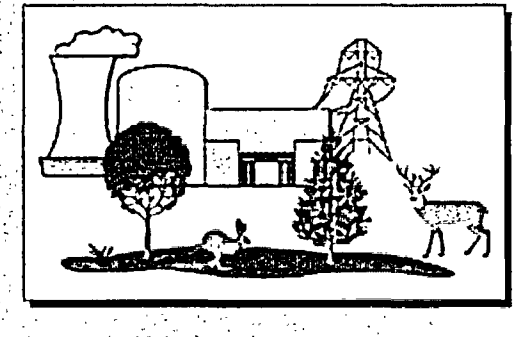


Standard Design Certification*



Combined License Review and Hearing

Reactor Operation



** or equivalent process*

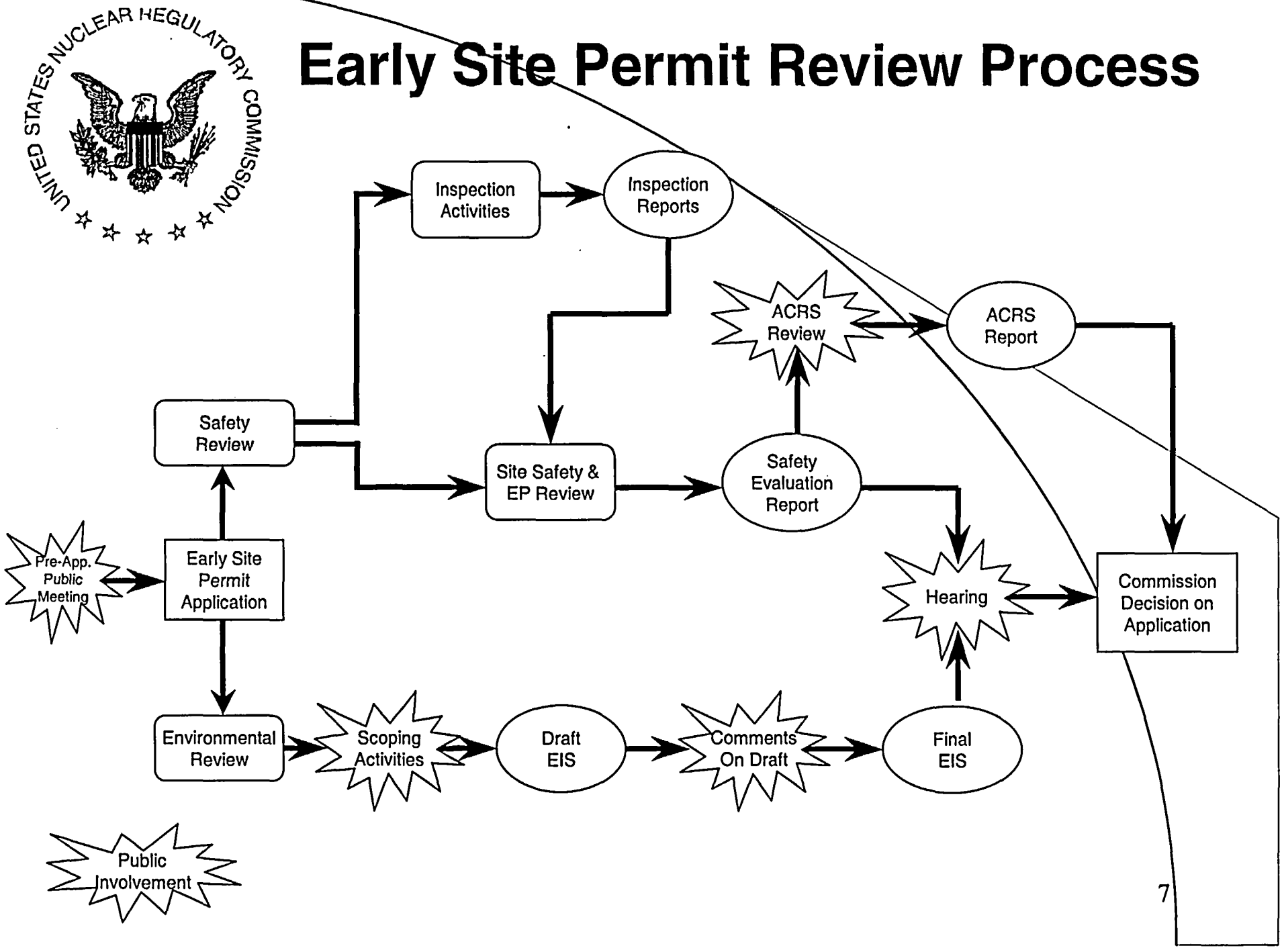
What is an Early Site Permit?

- An NRC decision that ensures that the proposed site is suitable for construction and operation of a nuclear power plant or plants
- The permit is <u>not</u> authorization or a decision to actually build and operate a plant
- Site preparation and limited construction activities allowed with an approved site redress plan

Why Does an Applicant Want an Early Site Permit?

- Allows an applicant to "bank" a site for up to 20 years
- Reduces licensing uncertainty
- Resolves siting issues before construction

Early Site Permit Review Process



Site Safety Review Process

- Site suitability in relation to
  - Reactor safety – site characteristics pose no undue risk for a reactor sited here
  - Emergency Planning – no significant impediments to the development of emergency plan

Questions on Draft Safety Evaluation Report (SER)

- Agency point of contact for the SER :

  John Segala

  (800) 368-5642, Ext. 1858

- Draft SER is available at the Vespasian-Warner Public Library and the NRC's Public Document Room in Rockville, Maryland

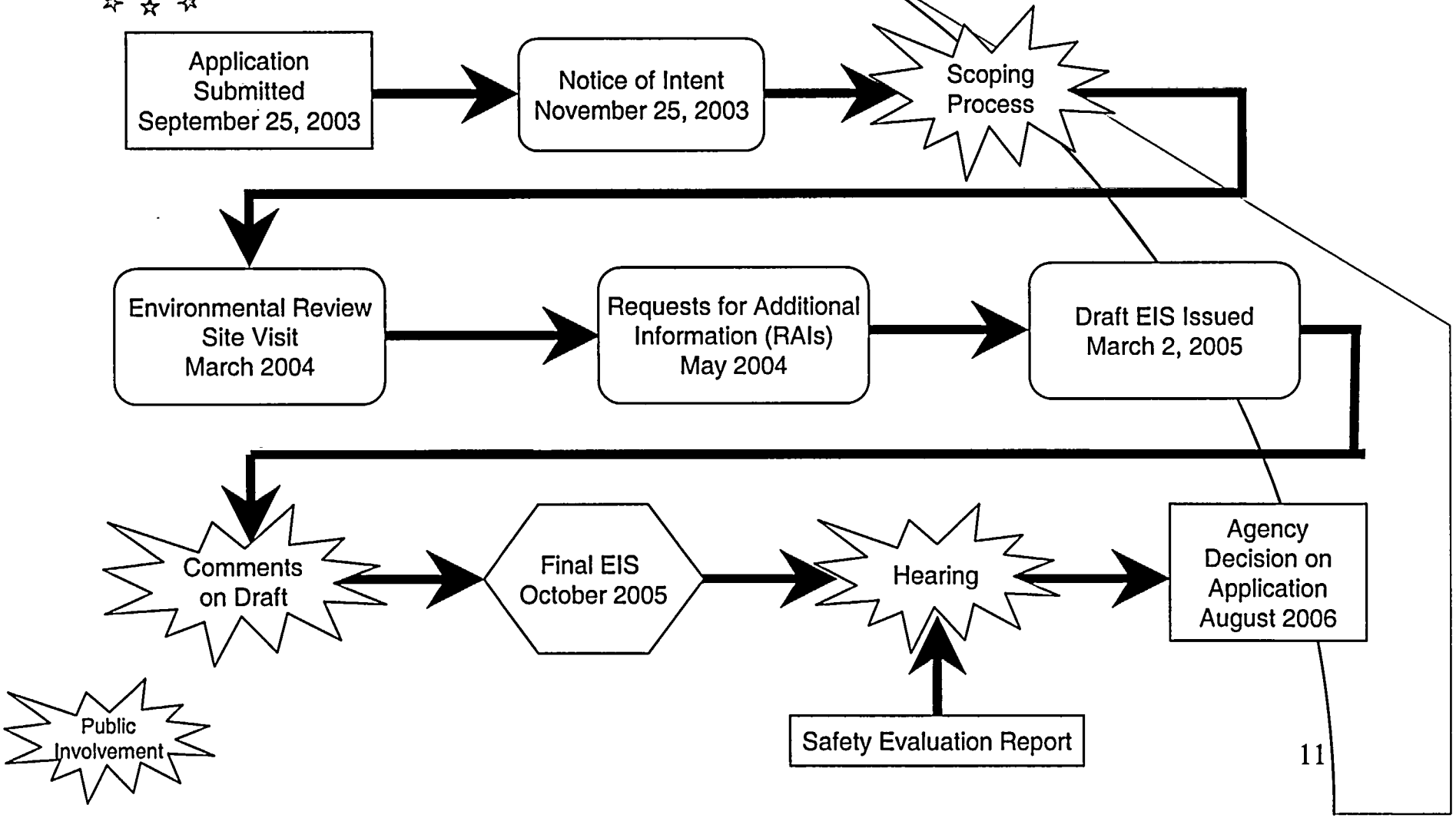
- Draft SER can also be viewed at:

  http://www.nrc.gov/reactors/new-licensing/esp/clinton.html

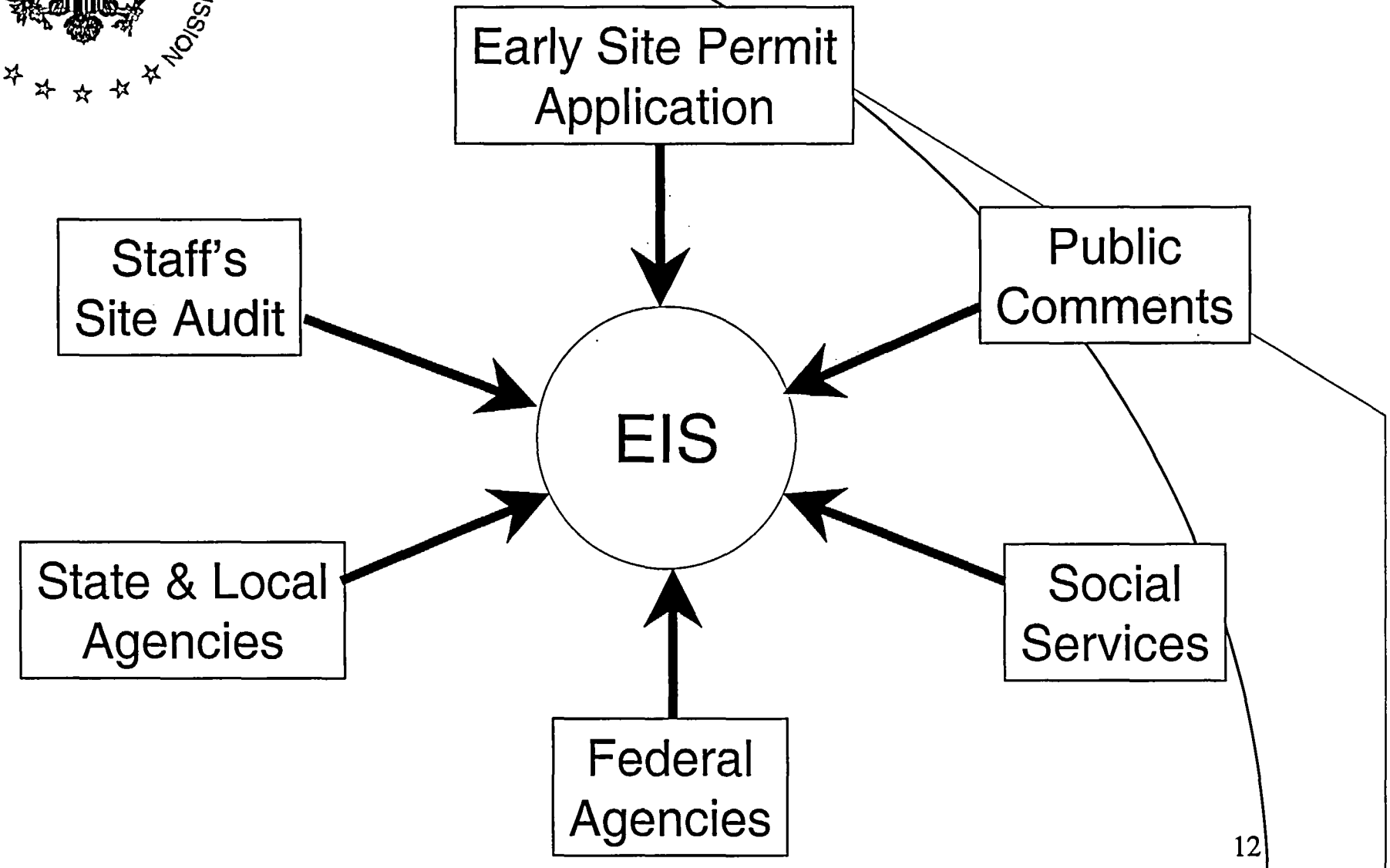
National Environmental Policy Act

- NEPA requires Federal agencies to use a systematic approach to consider environmental impacts
- An environmental impact statement (EIS) is required for major Federal actions significantly affecting the quality of the human environment
- Issuing early site permit is considered a major Federal action

Environmental Review Process



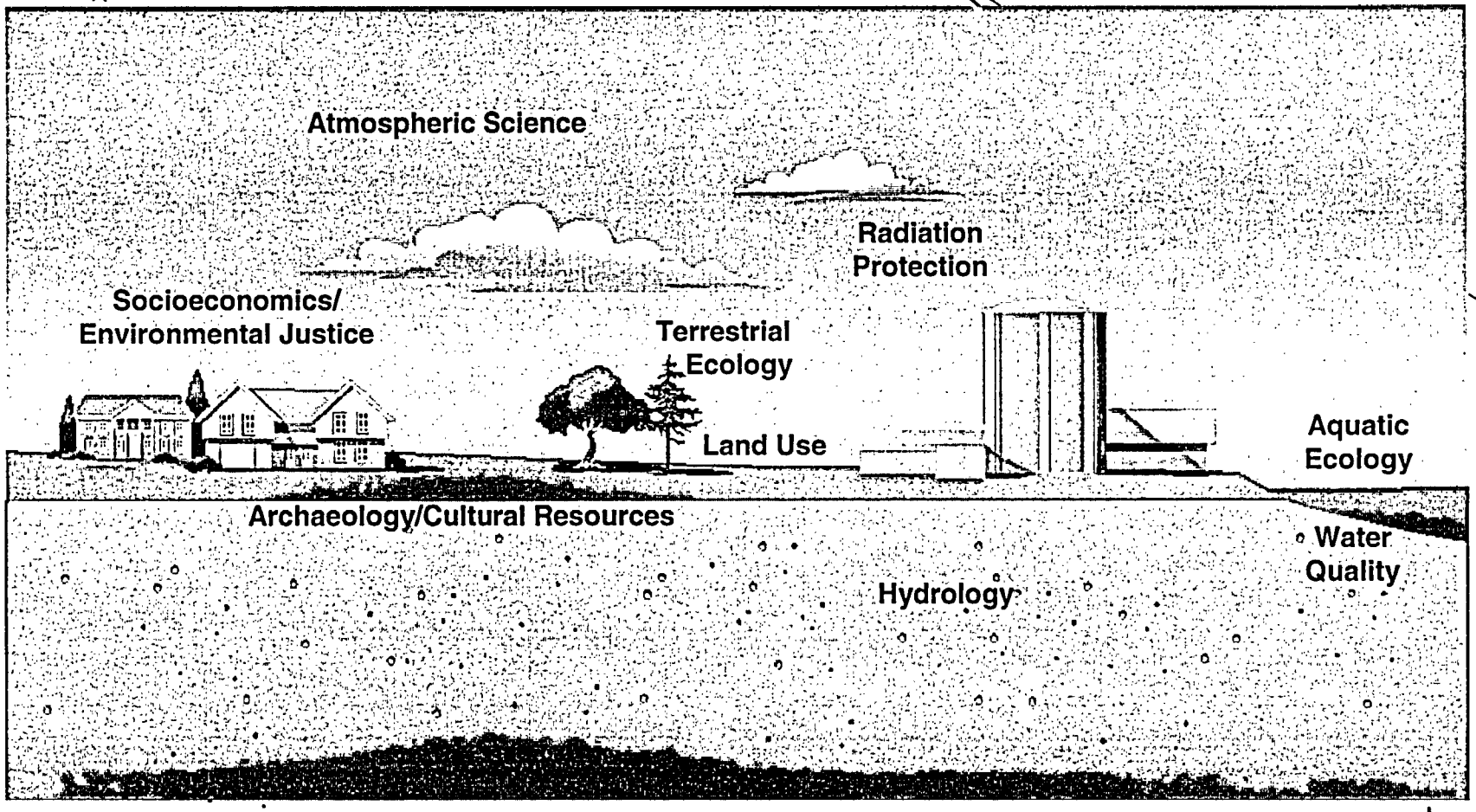
Information Gathering



Issues That Need Not Be Considered in an ESP Environmental Review

- Need for power
- Alternative energy sources

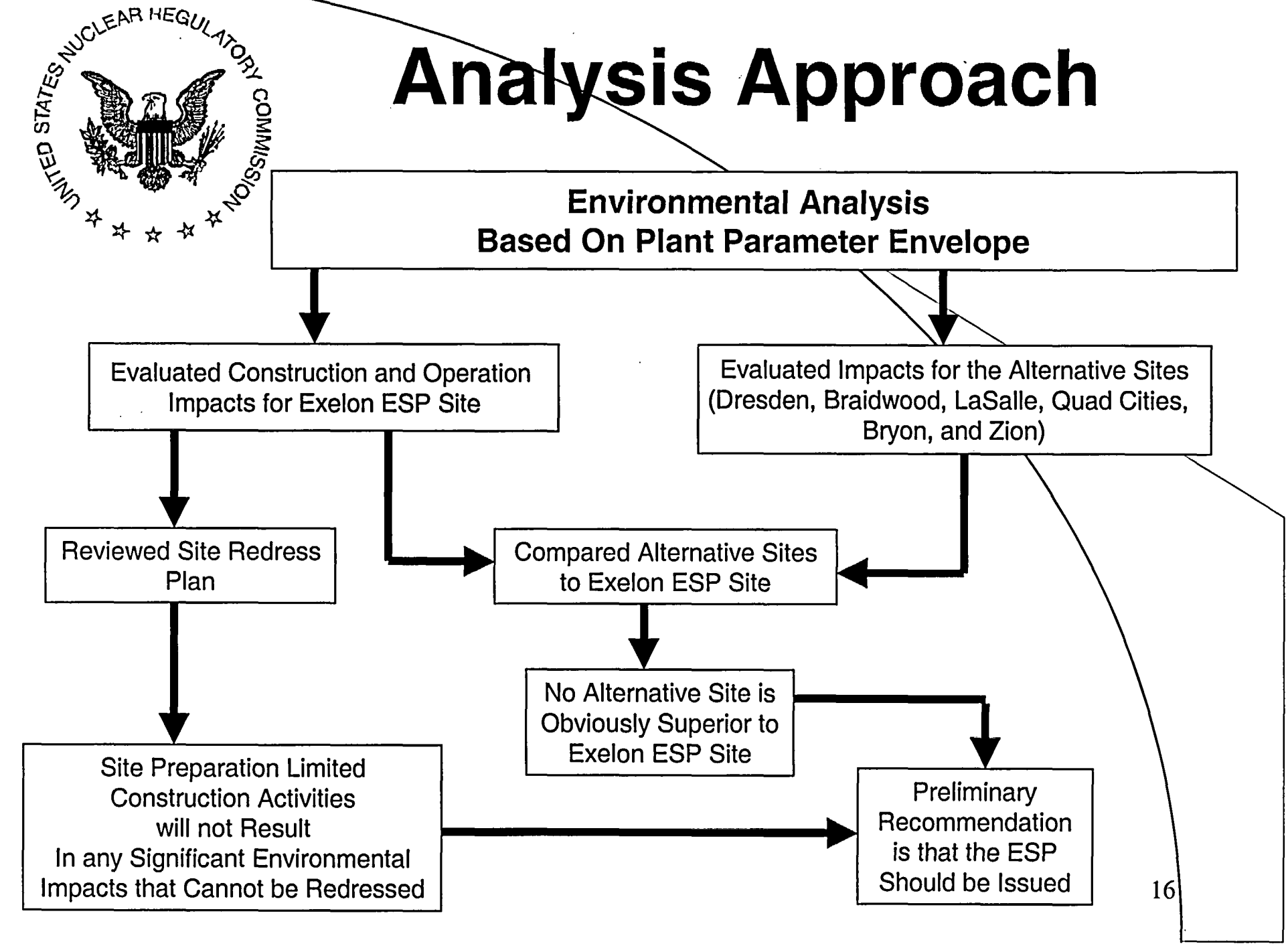
Team Expertise



Exelon's Plant Parameter Envelope (PPE)

- What is a PPE?
  - A surrogate for actual design parameters used because a design has not yet been selected
  - A set of values of plant design parameters that the applicant believes bounds the design characteristics
- Why would Exelon use a PPE?
  - Defers a reactor design(s) decision until the CP/COL stage
- Which reactor types are the basis for Exelon's PPE?
  - Five light-water reactors
  - Two gas-cooled reactors

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*
- Reflects Council on Environmental Quality regulations and guidance for NEPA analyses

Environmental Impacts of Construction and Operation

- Land Use
- Air Quality
- Water Use and Water Quality
- Terrestrial and Aquatic Resources
- Threatened or Endangered Species
- Socioeconomic Resources
- Environmental Justice
- Historic and Cultural Resources
- Human Health

Other Environmental Impacts Evaluated

- Postulated Design-Basis Accidents
- Postulated Severe Accidents
- Uranium Fuel Cycle and Solid Waste Management
- Transportation of Radioactive Materials
- Decommissioning

Clinton Lake Usage

- **Clinton Lake**
  - Created to provide cooling water for the Clinton Power Station, Units 1 and 2 (CPS)
  - Currently provides once-through cooling water for CPS
  - Proposed as source of makeup water for cooling towers for Clinton ESP
- **Other Major Uses of Clinton Lake**
  - Recreation and fishing

Cooling System Impacts of Proposed ESP

- **Evaluations Included Modeling of**
  - Consumptive use of water from wet cooling towers
  - Changes in pool elevation due to increased consumptive use
- **Conclusions**
  - Impact SMALL during normal water years
  - Impact MODERATE during low water years

Radiological Impacts

- Exposures to the public and to workers
  - Estimated doses to public well within regulatory design objectives and standards
  - No observable health impacts to public
  - Occupational doses estimated slightly lower than those from current reactors
- Impacts to biota evaluated and found to be acceptable
- Conclusion – radiological impacts from construction and operation would be SMALL

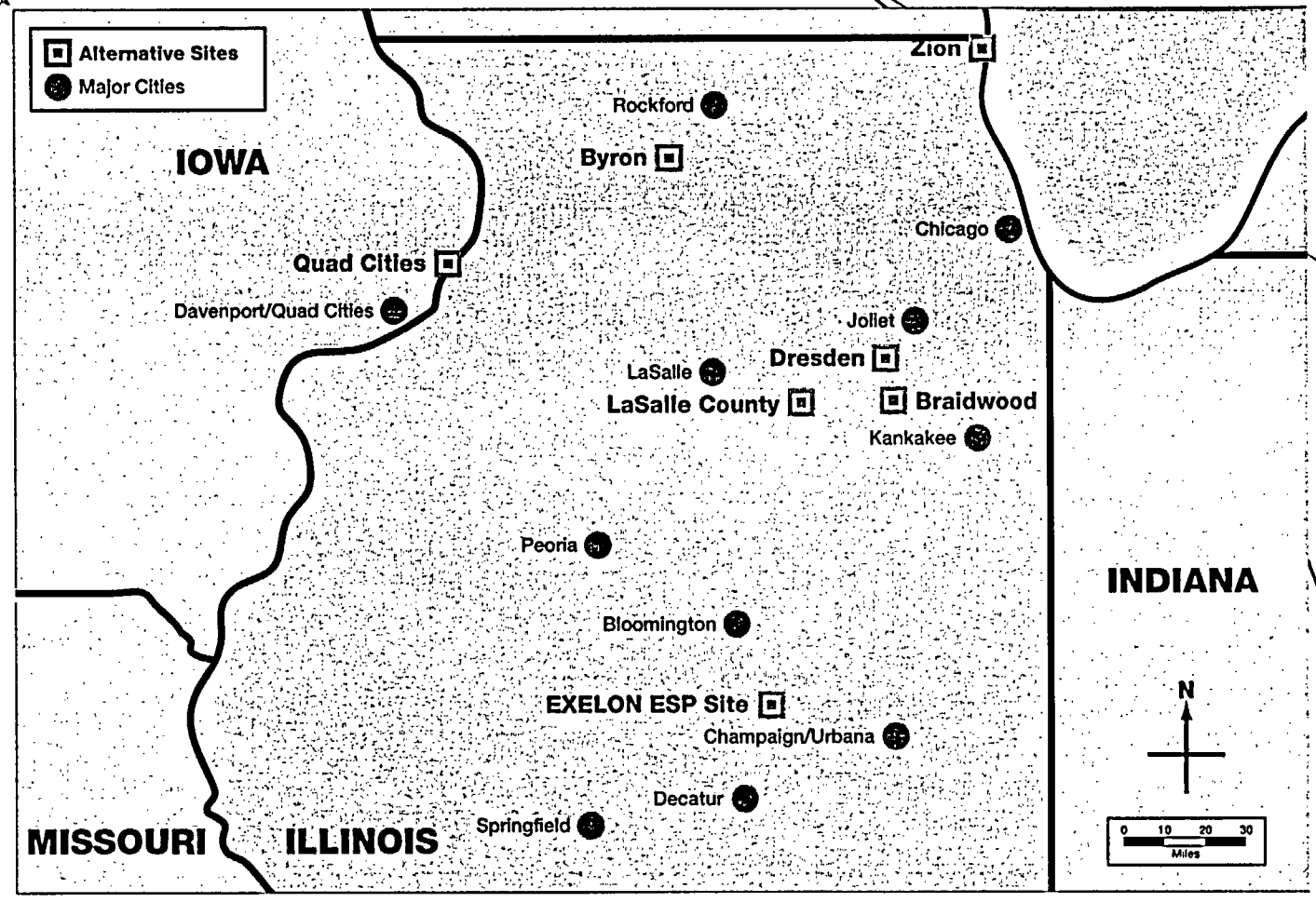
Alternatives

- Alternative Energy Sources and Systems
  - Coal
  - Gas
  - Wind
  - Geothermal
  - Hydropower
  - Solar
  - Biomass Waste
  - Oil fired
  - Combination of sources

Alternatives

- Alternative plant cooling technologies
  - Wet cooling towers
  - Dry cooling towers
  - Hybrid wet/dry

Alternative Sites



Preliminary Conclusions about Alternatives

- None of the economically viable alternative energy-generating technologies is environmentally preferable
- While there would be differences in environmental impacts of construction and operation at the six sites, none would be sufficient to determine that any of the alternative sites is obviously superior to the Exelon ESP site

Environmental Review Milestones

- Draft EIS issued – March 2, 2005
- Comment period ends – May 25, 2005
- Final EIS – October 2005
- Hearing Decision – March 2006
- Commission decision – August 2006

Point of Contact for Environmental Review

- Agency point of contact:

  Thomas Kenyon

  (800) 368-5642, Ext. 1120

- Draft EIS is available at the Vespasian-Warner Public Library and the NRC's Public Document Room in Rockville, Maryland

- Draft EIS can also be viewed at: www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1815/index.html

NRC Addresses

Provide comments on DEIS by May 25, 2005

- 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: ClintonEIS@nrc.gov

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