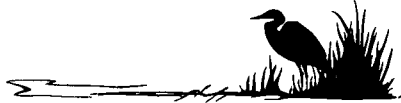




Preliminary Results of Environmental Review Pilgrim Nuclear Power Station

U.S. Nuclear Regulatory Commission
January 24, 2007



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
- Describe how to submit comments
- Accept any comments you may have today



NRC's Regulatory Oversight

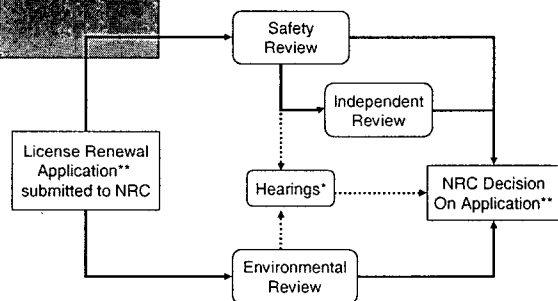
- Atomic Energy Act
 - Issue operating licenses for commercial nuclear power reactors
 - Regulate civilian use of nuclear materials
- NRC's Mission
 - Public health and safety
 - Promote common defense and security
 - Protect the environment



Pilgrim Nuclear Power Station License Renewal

- Operating license expires June 8, 2012
- Application requests authorization to operate Pilgrim for an additional 20 years

License Renewal Process



* Request for Hearing is Granted
** Available at www.nrc.gov



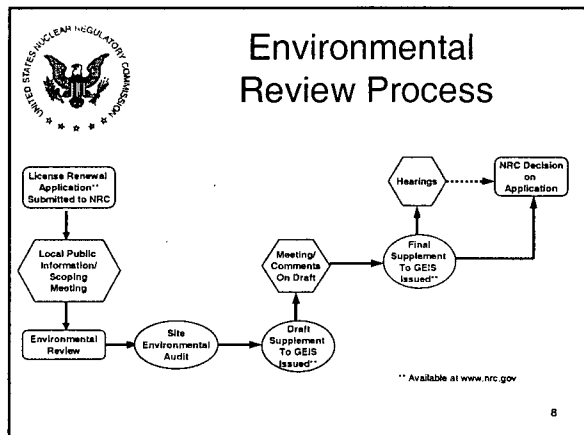
Safety Review Process (10 CFR Part 54)

- Safety Review
 - Review of application and supporting documentation
 - On-site audits
 - On-site inspections
 - Issuance of Safety Evaluation Report (SER)
- Independent review by the Advisory Committee on Reactor Safeguards

Ongoing Regulatory Oversight

- Emergency Planning
 - 10 CFR 50.47
- Security
 - 10 CFR Part 73
- Current Safety Performance
 - <http://www.nrc.gov/NRR/OVERSIGHT/ASSESS/index.html>

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Environmental Review (10 CFR Part 51)

- National Environmental Policy Act requires Federal agencies to use a systematic approach to consider environmental impacts
- NRC prepares an Environmental Impact Statement (EIS) for all proposed license renewals
- Scope
 - Generic Environmental Impact Statement (GEIS)
 - Site-specific Supplemental Environmental Impact Statement (SEIS)
 - Focused on assessment of site-specific issues
 - The staff also looks for new and significant information on generic conclusions reached in the GEIS

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Decision Standard for Environmental Review

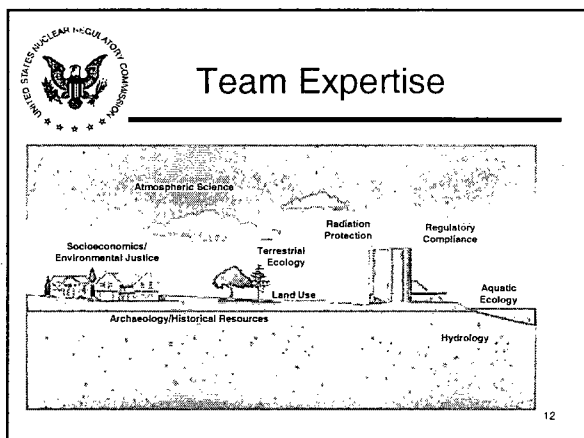
To determine whether or not the adverse environmental impacts of license renewal for Pilgrim Nuclear Power Station are so great that preserving the option of license renewal for energy planning decisionmakers would be unreasonable.

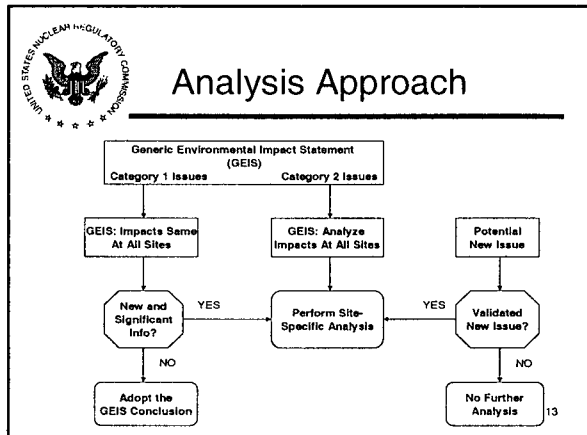
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Pilgrim Environmental Review Milestones

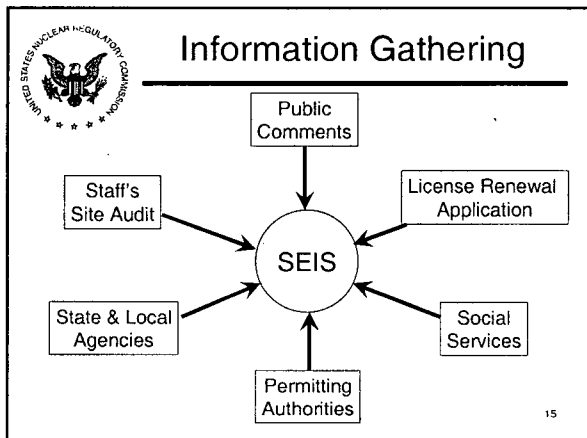
Application Received	January 27, 2006
Notice of Intent	April 14, 2006
Scoping Public Meeting	May 17, 2006
Scoping Comments Due	June 16, 2006
Scoping Summary Report	September 25, 2006
Draft SEIS Issued	December 8, 2006
Draft SEIS Public Meeting	January 24, 2007
Draft SEIS Comments Due	February 28, 2007
Final SEIS Issued	July 2007

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- ## 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
- 14



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- ## Environmental Impacts of Continued Operation
- Cooling system
 - Radiological
 - Threatened or endangered species
 - Cumulative impacts
 - Accidents
- 16

-
- ## Cooling System Impacts
- Entrainment and impingement of fish and shellfish preliminary findings
 - Impact of MODERATE on the local winter flounder population due to entrainment
 - Impact of MODERATE to the rainbow smelt, Jones River population, due to impingement
 - Impact of SMALL to MODERATE on all other marine aquatic species
 - Heat shock impacts would be SMALL
- 17

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- ## Radiological Impacts
- Category 1 issues
 - Radiation exposures to the public
 - Preliminary findings regarding Pilgrim
 - No new and significant information identified
 - GEIS concluded impacts would be SMALL
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Threatened or Endangered Species

- Threatened or endangered species in the vicinity of Pilgrim include eleven marine aquatic species and five terrestrial and freshwater aquatic species
- Impacts would be SMALL



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(http://www.nmfs.noaa.gov)



Cumulative Impacts of Operation

- 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
- Cumulative impacts would be SMALL for all resources with the exception of marine aquatic resources, which would experience SMALL to MODERATE cumulative impacts

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Other Environmental Impacts Evaluated

- Uranium fuel cycle and solid waste management
- Decommissioning

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Alternatives

- No-action
- Alternative energy sources
 - New generation (coal, natural gas, nuclear)
 - Purchased electrical power
 - Other alternatives (wind, solar, conservation)
 - Combination of alternatives
- Environmental effects of alternatives in at least some impact categories reach MODERATE or LARGE significance

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Preliminary Conclusions

- GEIS conclusions on Category 1 issues adopted
- Impacts resulting from Category 2 issues are of SMALL, SMALL to MODERATE, and MODERATE significance
- Environmental effects of alternatives may reach MODERATE or LARGE significance

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Postulated Accidents

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

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Preliminary Results of SAMA Evaluation

- 281 potential SAMAs considered
- Number of SAMAs reduced to 59 based on screening process
- Detailed cost-benefit analysis shows that 7 SAMAs could be cost beneficial
- None of these are related to managing the effects of aging. Therefore, none are required to be implemented as part of license renewal

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Environmental Review Milestones

- Draft SEIS issued – **December 8, 2006**
- Comment period ends – **February 28, 2007**
- Issuance of Final SEIS – **July 2007**

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Additional Information

- Agency points of contact:
 - Alicia Williamson, (800) 368-5642 ext. 1878
- Documents located at:
 - Plymouth Public Library, 132 South Street, Plymouth, MA
 - Kingston Public Library, 6 Green Street, Kingston, MA
 - Duxbury Free Library, 77 Alden Street, Duxbury, MA
- <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1437/supplement29/>

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Submitting Comments

- By mail: Chief, Rules and Directives Branch
Division of Administrative Services
Mailstop T-6D59
U.S. Nuclear Regulatory Commission
Washington DC 20555
- By e-mail: PilgrimEIS@nrc.gov
- In person: 11545 Rockville Pike
Rockville, Maryland

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