



# NRC Update

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# Outline

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- NRC Mission and Vision Statements
- New Reactor Licensing
- Operating Reactor Licensing
- Potential Meteorological Regulatory Guidance Updates



# NRC Mission and Vision Statements

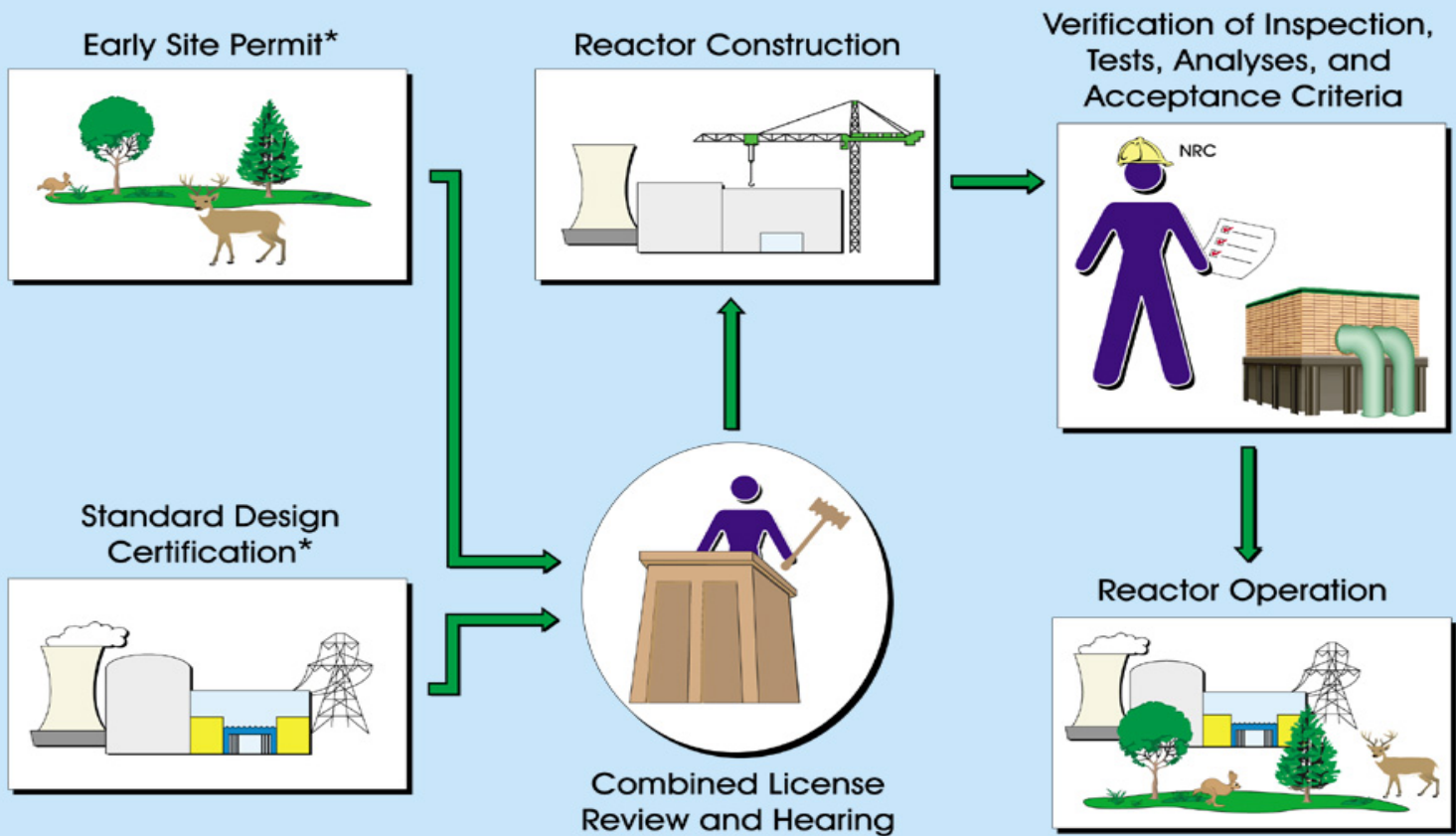
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- Mission Statement:
  - License and regulate the Nation's civilian use of byproduct, source, and special nuclear materials to ensure adequate protection of public health and safety, promote the common defense and security, and protect the environment
- Vision Statement:
  - Excellence in regulating the safe and secure use and management of radioactive materials for the public good



# New Reactor Licensing

## Combined Licenses, Early Site Permits, and Standard Design Certifications



\* or equivalent process



# Early Site Permit (ESP)

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- Allows early resolution of siting issues and ‘banking’ of a site for 10-20 years
  - can be renewed for an additional 10-20 years
- Addresses site safety, environmental protection, and emergency preparedness
- Three applications already received
  - Clinton (Exelon)
  - Grand Gulf (System Energy Resources)
  - North Anna (Dominion)
- Potential new ESP applicants
  - Southern Nuclear Operating Company (mid-2006)
  - Constellation Energy Group



# Design Certification

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- Certifies reactor design for 15 Years
- Addresses safety issues of an essentially complete nuclear power plant design
- Three designs already certified
  - SYSTEM 80+, ABWR, AP600
- One certification in progress
  - AP1000
- Several potential certification applications
  - ESBWR, ACR-700, GT-MHR, SWR 1000, IRIS, PBMR



# Combined License (COL)

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- Combined construction permit and conditional operating license
- Fundamental licensing process for reducing regulatory risk for new nuclear power plants (10 CFR Part 52)
- Resolves all safety & environmental issues before authorizing construction
- May reference an ESP, a standard design certification, both, or neither
- Several potential COL applications
  - Duke Power (early 2008)
  - NuStart Energy (2008)
  - Dominion



# Operating Reactor Licensing

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- Power Uprates
- Reactor License Renewal
- Alternate Source Term





# Power Uprates

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- Process of increasing the maximum power level at which a plant may operate
- Three categories of power uprates
  - Measurement uncertainty recapture
  - Stretch power
  - Extended power
- 104 power uprates approved
  - Average 4.5% (ranging from 0.4% to 20%)
- 12 power uprates pending
  - Average 8.9% (ranging from 1.3% to 20%)
- 29 future power uprates expected (2005-2010)



# Reactor License Renewal

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- Original 40-year term for reactor licenses based on economic and antitrust considerations, not on limitations of nuclear technology
- Based on operating plants continuing to maintain adequate levels of safety for another 20 years
- 14 license renewals completed (30 units)
- 10 license renewals pending (18 units)
- 23 future license renewals expected



# Alternate Source Term (AST)

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- Reflects studies conducted following the TMI accident
  - Regulatory Basis: 10 CFR 50.67
  - Regulatory Guidance: RG 1.183
- Justifies eliminating or relaxing requirements for accident dose mitigation equipment
  - Increased unfiltered CR inleakage
  - Open containment buildings during refueling
- Has also resulted in changes to CR, EAB, and LPZ licensing basis accident atmospheric dispersion factors



# Potential Meteorological Regulatory Guidance Updates

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- Regulatory Guide Revisions
  - RG 1.76, Design Basis Tornado (FY06)
    - Endorse Rev. 1 to NUREG/CR-4461
  - RG 1.23, Meteorological Monitoring (FY07?)
    - Endorse portions of ANS-3.11-2005?
  - RG 1.111, Routine Release Dispersion (FY??)
    - Part of effort to update Part 50 Appendix I regulatory guides (1.109, 1.112, 1.113) to become more realistic



# Potential Meteorological Regulatory Guidance Updates

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- Standard Review Plan (NUREG-0800)
  - Sec 2.3.4, Accident Release Dispersion (FY06)
    - Discuss “sliding window” methodology
  - Sec 2.3.1, Regional Climatology (FY07)
    - Update climatic references
  - Sec 2.3.3, Meteorological Monitoring (FY07)
    - Update reference to RG 1.23 & ANS-3.11-2005
- ESP Review Standard (RS-002)
  - Sec 2.3.1, Regional Climatology (FY07)
    - Identify “climatic site characteristics”
    - Update climatic references