



# New Reactor Licensing and Gaseous Waste Management Reviews

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# New Reactor Licensing Process

- 10 CFR Part 52 defines new reactor licensing process
  - Includes Early Site Permits (ESPs), Design Certification (DCD), and Combined License (COL) applications
- Intent of Part 52 is to streamline licensing process through
  - Preapproved sites using ESPs
  - Standard, precertified designs
  - Maximize standardization of COLs through Design Center Working Groups
  - Single license and hearing covers both construction and operation
- Part 52 defines licensing process only
- DCD and COL must still demonstrate compliance with Part 50, Part 20, etc

# New Reactor Licensing Process

- Radiation Protection licensing reviews covered by following key regulatory documents
  - RG 1.206 COL Format and Content
  - NUREG 0800 Standard Review Plan
    - Chapter 11, Radioactive Waste Management
    - Chapter 12, Radiation Protection
  - 10 CFR Part 20 and Part 50, Appendix I
  - Various Regulatory Guides
    - RG 1.109
    - RG 1.110
    - RG 1.111
    - RG 1.112

# New Reactor Licensing Process

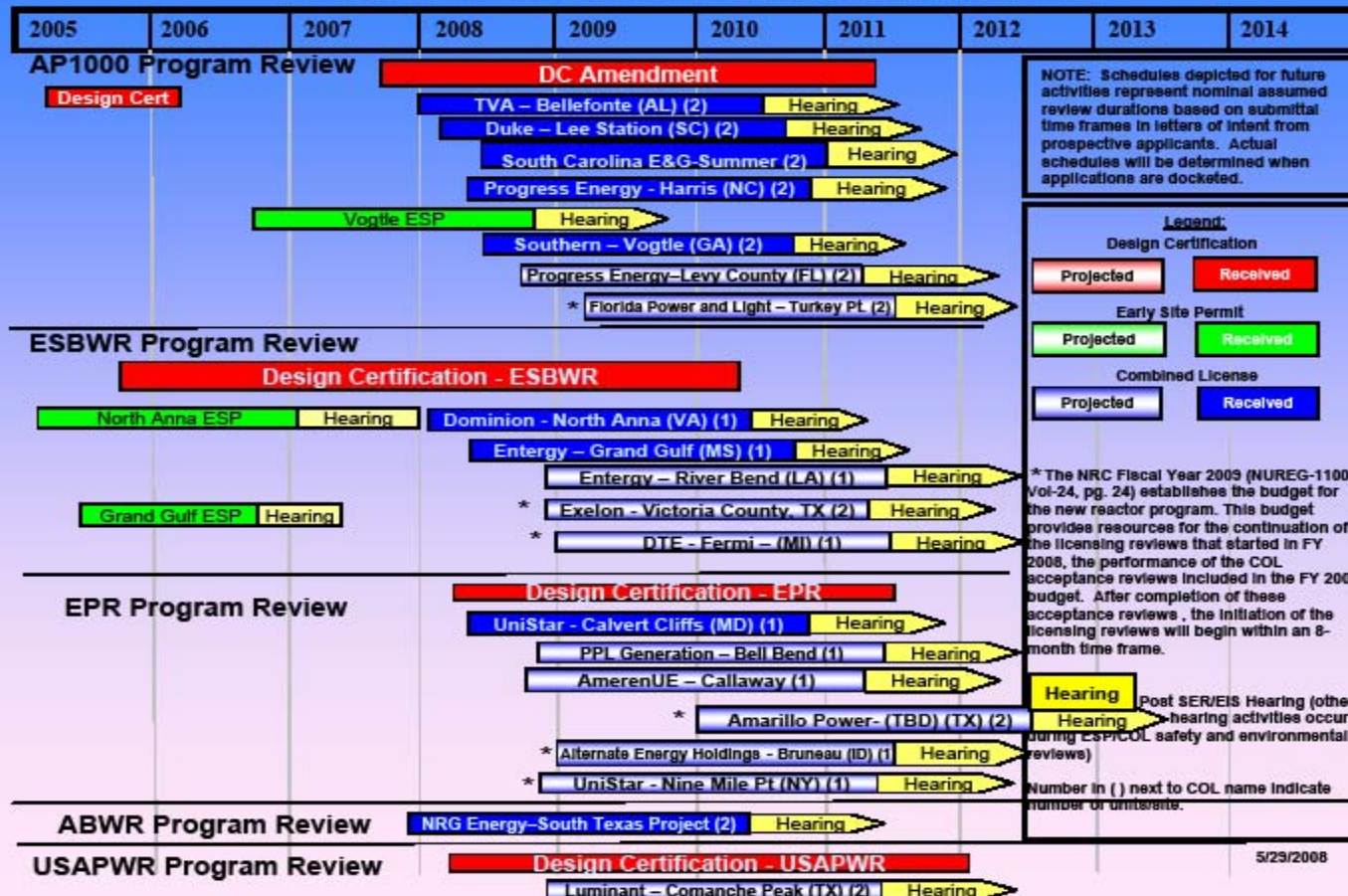
- Licensing reviews are nominally on a 30-month schedule
- 60-day Acceptance Review performed upon receipt of application
  - Reviews application for completeness and technical sufficiency
  - Provides basis for accepting and docketing application
  - Results in a letter providing schedule of key milestones for review
- 6-phase approach is used for licensing review
  - Phase 1, preliminary safety evaluation report (SER) with requests for additional information (RAIs)
  - Phase 2, draft SER with open items
  - Phase 3, Advisory Committee on Reactor Safeguards (ACRS) review of SER with open items
  - Phase 4, draft Final SER with no open items
  - Phase 5, ACRS review of Final SER
  - Phase 6, issue Final SER

# Status of New Reactor Applications

- Industry has formally committed to submit approximately 20 COL applications for 31 units
- These applications cover 5 designs
  - AP1000
  - ESBWR
  - EPR
  - ABWR
  - U.S. APWR
- Currently doing license review work on 4 of these DCDs
- Currently 10 COL applications have been submitted
  - Expect a total of 17 COL applications to be submitted by end of FY2008

## New Reactor Licensing Applications (Site and Technology Selected)

An estimated schedule by Fiscal Year (October through September)



5/23/2008

# Gaseous Waste Management Licensing Reviews

- Management of radioactive gases collected in offgas system
- Includes use of charcoal beds, waste gas storage and decay tanks
- Sources include
  - Containment purge exhaust
  - Aux/Radwaste/Fuel Storage/Turbine Building Ventilation exhaust
  - Hydrogen/Oxygen recombiners
  - Turbine Gland Seal Exhaust
  - Condenser air removal system



# Gaseous Waste Management Licensing Reviews

- SRP 11.3, Gaseous Waste Management Systems
- RG 1.112 - Methods for calculating releases of gaseous effluents
- RG 1.111 - Methods for estimating atmospheric transport and dispersion of gaseous effluents
- RG 1.109 - Methods for calculating dose from gaseous effluents for compliance with Part 50 App I
- RG 1.110 - Cost Benefit Analysis for Radwaste Systems



# Gaseous Waste Management Licensing Reviews

- GALE 86 code calculates annual gaseous releases (source term)
  - NUREG-0016(PWR)/0017(BWR)
- GASPAR II calculates public exposure based on routine gaseous effluent releases
  - NUREG/CR-4653
- XOQDOQ 82 evaluates transport, dispersion, and disposition of gaseous effluents

# Health Physics Regulatory Issues

- Currently reviewing and evaluating Part 20 and Part 50, Appendix I for update per ICRP 103
  - Staff recommended options to Commission by December 2008
- Currently working to update GALE and GASPAR computer codes
- Review and update various RGs and NUREGs to reflect any revisions to Part 20 and Part 50, Appendix I