



**U.S. NRC**

UNITED STATES NUCLEAR REGULATORY COMMISSION

*Protecting People and the Environment*

# Looking Backward, Moving Forward

Building the Framework for New  
Reactor Licensing

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## Then...

- **Construction Permit was issued after mandatory hearing based on evaluation of site and preliminary design.**
- **Operating License was issued after hearing opportunity based on review of design as constructed and operational programs.**
- **Environmental review at both licensing stages.**
- **Emergency planning was essentially an issue at the operating license stage.**
- **Common design features could be subject to challenge site by site.**



## And now ...

- **Single licensing proceeding authorizes construction and operation under a Combined License (COL) after mandatory hearing.**
- **Pre-operation hearing opportunity focuses on compliance with specified acceptance criteria (ITAAC).**
- **Environmental review completed with COL.**
- **Standard designs approved through design certification rulemaking process can be referenced in COL application are not revisited application by application.**
- **Optional siting review through an Early Site Permit, which can be referenced in later COL application.**



## **How did we get here?**

### **The Legislative Approach**

- **Commission publishes draft legislation for comment in 1982 as recommended by its Regulatory Reform Task Force.**
- **Bills introduced 1983, 1985, and 1987.**
- **Hearings held but no legislation is passed.**



## How did we get here?

### NRC initiates regulatory changes

- Nuclear Power Plant Standardization Policy (1987): NRC says it will pursue legislation and develop its own regulations.
- Proposed Part 52 is issued in August 1988 and provides for design certifications, early site permits and combined licenses.
- Standardization, complete designs, control of hearing process were core objectives.



## Challenge to Part 52

- Final Part 52 issued in 1989 and is challenged in federal appeals court.
- Original panel rejects NRC's approach to pre-operational hearing for COL, but sustains ESP and design certification.
- On re-hearing *en banc*, full panel sustains NRC approach to the pre-operational hearing for COL's in 1992.
- Energy Policy Act of 1992 codifies Part 52 with hearing language akin to NRC's.



## **Experience under Part 52**

- **Design certifications issued for U.S. Advanced Boiling Water Reactor (ABWR) (1997), System 80+ (1997), the AP600 (1999), and the AP1000 (2006) and codified in 10 CFR Part 52, Appendices A, B, C, and D.**
- **Early Site Permits issued for Clinton, Grand Gulf, and North Anna sites in 2007.**



## **Recent Regulatory Changes**

**NRC recently issued revisions to Part 52 which:**

- Clarified how Design Certifications, Early Site Permits, and Combined Operating Licenses interrelate**
- Brought clarity to the relationship between Part 50 technical requirements and Part 52 procedural requirements**





## **Recent Regulatory Changes**

- **Staff has updated Standard Review Plan and Regulatory Guides.**
- **Revised rule on Limited Work Authorizations (LWA) redefines “construction” to allow site preparation and other activities not affecting safety to occur without NRC approval.**



## **Energy Policy Act of 2005**

- **Renewed Price-Anderson Act through 2025.**
- **Provides for 40 year license from operation (*vice* issuance of COL).**
- **Eliminates NRC antitrust review.**
- **Risk insurance and tax credit provisions.**



## **Regulatory Actions Underway**

- **Final rulemaking on revised security rules is due later this year.**
- **The proposed Aircraft Impact rule would affect future designs.**
- **A final policy on conduct of proceedings should issue soon.**
- **Commission is developing procedures to conduct “mandatory” (i.e., uncontested) hearing itself.**

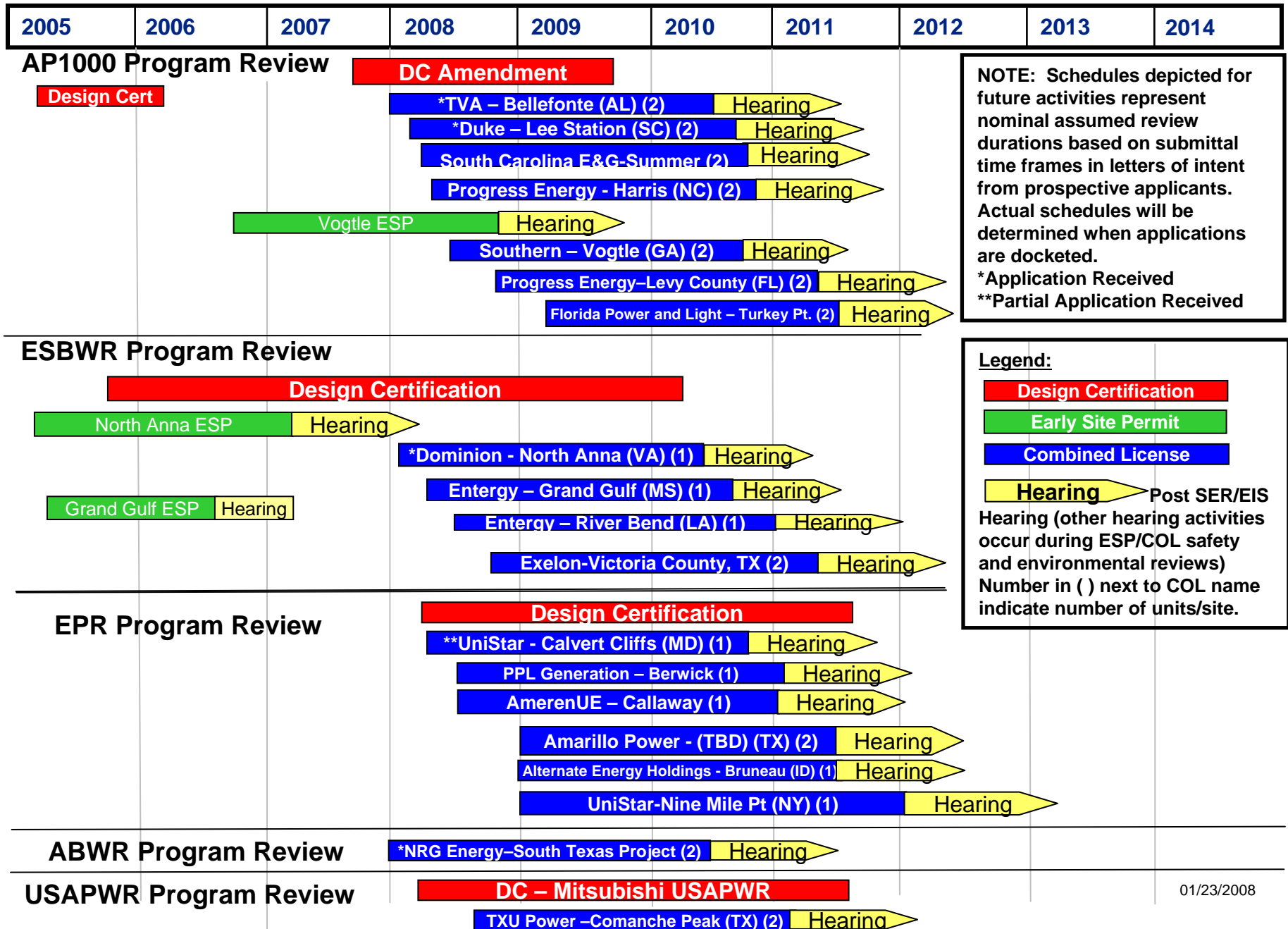


## **Current challenges**

- **Level of detail to support COL - working out ITAAC related issues**
- **Continued work on agency infrastructure readiness**
- **Paving the way for advanced reactors**

# New Reactor Licensing Applications (Site and Technology Selected)

An estimated schedule by Fiscal Year (October through September)



**NOTE:** Schedules depicted for future activities represent nominal assumed review durations based on submittal time frames in letters of intent from prospective applicants. Actual schedules will be determined when applications are docketed.  
 \*Application Received  
 \*\*Partial Application Received

**Legend:**  
Design Certification  
Early Site Permit  
Combined License  
Hearing Post SER/EIS Hearing (other hearing activities occur during ESP/COL safety and environmental reviews)  
 Number in ( ) next to COL name indicate number of units/site.

# New Reactor Licensing Applications (Site or Technology TBD)

An estimated schedule by Fiscal Year (October through September)

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>AP1000 Program Review</b>									
<b>ESBWR Program Review</b>									
<b>EPR Program Review</b>									
<b>ABWR Program Review</b>									
<b>USAPWR Program Review</b>									
<b>Unspecified</b>									

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**Legend:**  
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Combined License  
▶ Hearing Post SER/EIS Hearing (other hearing activities occur during ESP/COL safety and environmental reviews)  
 Number in ( ) next to COL name indicate number of units/site.

Duke ESPs (2) ▶ Hearing

Submittal Dates TBD

Clinton ESP ▶ Hearing

Unannounced Applicant ESP ▶ Hearing

DTE – Fermi – (MI) (1) ▶ Hearing

MidAmerican – Boise ID & Vendor–TBD (1) ▶ Hearing



## References

- NRC Web page – New Reactors: <http://www.nrc.gov/reactors/new-reactor-licensing.html>
- Atomic Energy Act of 1954, as amended, § § 185 & 189, 42 U.S.C. § § 2235 & 2239
- Energy Policy Act of 1992, Pub. L. 102-486, 106 Stat. 2776
- Energy Policy Act of 2005, Pub. L. 109-58, 119 Stat. 594
- Nuclear Power Plant Standardization Policy, 52 FR 34884 (Sept. 15, 1987)
- 10 CFR Part 52 -- New Reactor Licensing Framework:
  - Proposed Rule, 53 FR 32069 (Aug 23, 1988)
  - Final Rule, 54 FR 15372 (Apr. 18, 1989)
  - Changes to conform to EAct '92, 57 FR 60975 (Dec. 23, 1992)
  - Proposed revisions, 71 FR 12782 (March 13, 2006), *superseding* 68 FR 40026 (July 3, 2003)
  - Final revisions, 72 FR 49352 (Aug. 28, 2007)
  - Limited Work Authorizations, 72 FR 57416 (Oct. 9, 2007)
  - Consideration of Aircraft Impacts for New Nuclear Power Reactor Designs, 72 FR 56287 (Oct. 3, 2007) (proposed rule)
- Nuclear Information & Resource Service v. NRC, 969 F.2d 1169(D.C. Cir. 1991), *vacating* 918 F.2d 189 (1990) (Part 52 upheld on judicial review)