



Periodic Briefing on New Reactor Issues – Design Certifications

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Agenda

- New Reactor Licensing Status
 - Michael Johnson
- Design Certification Review Insights
 - Frank Akstulewicz
- Advanced Reactor Program
 - Overview – Michael Mayfield
 - Policy Issues & Plans – William Reckley

Status

- Midway through the first combined license application reviews and making good progress.
- Driving technical issues to resolution in design certification reviews

Status

- Construction inspection activities have begun. Enhancements to the process continue.
- Preparing for advanced reactor reviews by identifying and developing plans for policy and technical issues.

Successes

- Created and implemented the Design Centered Approach
- Developed and implemented a process for early identification of project risks and issues
- Public Outreach

Insights

- Regulatory guidance development should occur before industry develops its applications
- Early industry communication regarding its plans with NRC is important

Insights

- Scheduling certainty and licensing predictability are enhanced when DCs are completed first
- First-of-a-kind design approaches are encouraged to improve safety but will require more review.
- Changing designs of DC or COLs under review leads to delays

Commission Interactions

- Design certification rulemakings
- Mandatory Hearing
- Design certification renewal

Advanced Reactor Program

- Address design and licensing reviews for advanced reactors
- Near Term Focus:
 - Regulatory infrastructure
 - Preparation for NGNP & iPWRs
 - Limited preparation for SFRs

Licensing Approach

- 10 CFR Part 52
- Build on large LWR experience and previous advanced reactor experience
- Emphasize guidance development and revision
- Early resolution of issues

Current Activities

- Next Generation Nuclear Plant
 - Early and frequent interaction with DOE
 - Infrastructure and guidance development
 - Policy and key technical issues
 - Looking at first-of-a-kind issues
 - Preparation for COL submittal in 2013

Current Activities

- iPWRs and SFRs
 - Pre-application discussions with suppliers
 - Emphasis on iPWRs
 - Identify and resolve generic policy issues
 - Awareness of technology and developments for SFRs

Policy & Key Technical Issues

- Defense in Depth
- Operator Staffing
- Modular Units/Expandable Site
- Physical Security
- Offsite Emergency Planning
- Financial Requirements
- Manufacturing License

Path Forward

- Stakeholder Interactions
 - Pre-application meetings
 - Topical report and white paper reviews
- Resolution of key policy and technical issues

Conclusions

- Involve NRC early in design process
- Learn from current LWR reviews
- Emphasis on preparation activities

Acronyms

- COL – Combined License
- DC – Design Certification
- DOE – U.S. Department of Energy
- iPWR – Integral Pressurized Water Reactor
- LWR – Light Water Reactor
- NGNP – Next Generation Nuclear Plant
- SFR – Sodium Fast Reactor