



RIC 2014
Small Modular Reactor Licensing—
Transition from Concept to
Implementation
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NRC is ready to review SMR applications

- Analyzed policies and guidance
- Identified overarching technical issues
- Conducted multiple Issue Identification and Ranking Programs
- Prepared Design-Specific Review Standard
- Developed training courses and review tools
- Conducted formal Lessons-Learned review of 10 CFR Part 52 licensing process



SMR review schedules

Vendor and/or Operator	Activity*	Projected Submittal Date	Site
B&W mPower	DC	CY 2014 Q3	N/A
Tennessee Valley Authority (TVA) (Vendor - B&W mPower)	CP	CY 2015 Q2	Clinch River
Westinghouse	DC	Reevaluating	N/A
Ameren (Vendor - Westinghouse)	COL	Reevaluating	Callaway
NuScale Power	DC	CY 2015 Q3	N/A
Holtec	DC	Reevaluating	N/A
X-Energy	DC	CY 2017 Q1	N/A

*DC: Design Certification, CP: Construction Permit, COL: Combined License



Policies and Guidance

- Control Room Staffing
- Physical Security
- Emergency Planning
- Risk-Informed Reviews
- Financial considerations



Overarching Technical Issues

- Deeply embedded structures
- Digital I&C
- ASME Code applicability
- Piping Design



Issue Identification and Ranking Programs (IIRPs)

- Control Room Staffing
- Source Term
- Emergency Planning
- Environmental
- Security
- Cross-organizational



Design-Specific Review Standards

- Allow for risk-informed and integrated review
- Engaged designers, potential licensees, and stakeholders in meaningful interactions
- Published draft for mPower in May 2013
- Draft for NuScale scheduled for June 2014



Training Courses and Review Tools

- mPower course developed by NRC Technical Training Center
- Updating guidance for reviewing Construction Permit application
- Updating thermal-hydraulic and severe accident codes



10 CFR Part 52 Lessons Learned

- Improved infrastructure
 - Electronic Requests for Additional Information
 - Enterprise Project Management
- New guidance on Acceptance Reviews



Conclusions

- NRC is committed to ensuring that policies, requirements, and internal and external guidance are in place to support review of SMRs
- Engagement from potential applicants and stakeholders throughout the process is critical
