




TVA's Clinch River SMR Activities



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Our Renewed Vision

*“One of the Nation's **Leading** providers of low-cost and cleaner energy **by 2020**”*



Cleaner Air



High Reliability



Greater Energy Efficiency



Low Rates




More Nuclear Capacity






Responsible Stewardship

Acting to meet the region's needs for the future while improving our core business today

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Nuclear Projects at TVA

	<i>Under Construction</i>	<i>Engineering/Licensing</i>	<i>Studies</i>
			
	Watts Bar 2	Bellefonte 1 <small>Subject to TVA Board Approval</small>	Clinch River
Timeline for Addition	2012	2018-2020	2020
Total Units	7	8	10-12
TVA Megawatts	7,780 MWe	9,040 MWe	9,290 MWe

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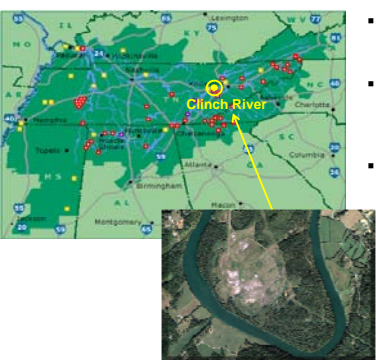
TVA *Small Modular Reactors Offer an Additional Option*

- TVA Potential Advantages
 - Clean generation
 - Financing affordability
 - Incremental generation where/when needed
 - Repower aging fossil sites option
- National SMR Technology Advantages
 - Re-establishing U.S. nuclear manufacturing base
 - "Good jobs" creation in manufacturing, construction and operation
 - Distribution of jobs in more locations
 - U.S. SMR global leader
 - Broader customer base



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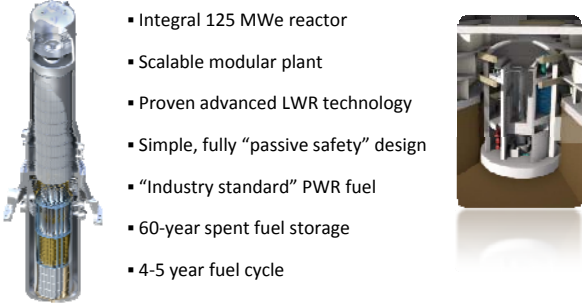
TVA *Clinch River Site Located Adjacent to Oak Ridge Reservation*



- Started site environmental studies
- Working with ORNL on potential site "clean energy" powering project
- Notified Nuclear Regulatory Commission of expected construction permit application in 2012.

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mPower™ Design



- Integral 125 MWe reactor
- Scalable modular plant
- Proven advanced LWR technology
- Simple, fully "passive safety" design
- "Industry standard" PWR fuel
- 60-year spent fuel storage
- 4-5 year fuel cycle

Fits TVA's Technology Innovation Mission

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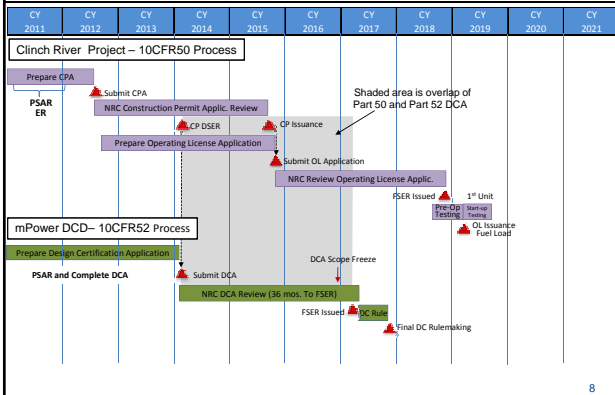
TVA Chooses 10 CFR Part 50 for First-of-a-Kind (FOAK) Project Licensing

- Current positive experience and project expertise with Part 50 licensing process
- Less cost and potentially less time to get to point where you can construct – CP issuance
- Modifications during construction easier to accommodate – useful for first-of-a-kind
- Testing and verification of design established later versus defining completely upfront
- Regulator has opportunity to evaluate as-built plant prior to operating license issuance.

10CFR52 still appropriate and preferred for standardized deployment after FOAK



Preliminary First Mover 10 CFR Part 50 (2 step) and Generation mPower Design Certification Schedules



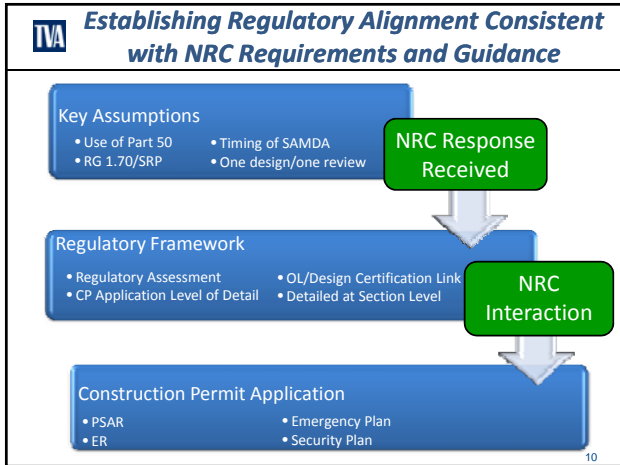


Site Characterization Activities

- Previous site evaluation data
- Ecological surveys
- Cultural surveys
- Meteorological data collection
- Subsurface investigation
- Site layout plan
- Surface water level calculations




Key CP Application Activities are Underway



TVA *KEY LICENSING ISSUES*


- Generic issues addressed by NEI SMR Task Force
 - Annual License Fees
 - Decommissioning Funds
- Issues with generic methodology but design-specific implications
 - Emergency Planning
 - Security
 - Dose Calculations



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TVA *Summary*

- Licensing success will drive SMR market schedule
- Early engagement with NRC will establish the success path
- Resolution of generic issues is critical to success
- SMR technology has many benefits
 - Expanded siting options
 - Financing flexibility
 - Incremental power generation
 - Expanded utility opportunities



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