babcock & wilcox nuclear energy





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B&W mPower™: Program Objectives

Develop and deploy, by 2020, a GEN III++ SMR that:

- ✓ Offers incremental utility-scale generation
- ✓ Improves construction process
- Enhances operational efficiency

Within the constraints of:

- Proven: Established NRC regulatory framework
- Simple: Integral NSSS, passively safe
- Benign: Underground, robust margins, air-cooled
- Practical: Standard fuel, containment, and O&M
- Affordable: \$4000kW-6000/kW, configuration driven

B&W mPower Consortium & IAC

A signed Consortium MOU with 4 utility partners

- ✓ Core utilities committed to B&W *m*Power solution
- ✓ Pursue key near-term development activities:
 - Regulatory Policy Issues
 - Site feasibility studies

An Industry Advisory Council for B&W mPower

- Customer input into design
- Eight domestic members
- Two international members
- Several others pursuing membership

Industry support demonstrated by Consortium and IAC

B&W *m*Power Lead Plant Schedule



Planned Licensing Topical Reports

\checkmark	QA Program Plan	March	2010
	mPower Design Description	April	2010
	Critical Heat Flux Testing Plan	April	2010
	Integrated Systems Testing Plan	June	2010
	Core/Fuel Design Criteria &		
	Analysis Methodology	July	2010
	Accident Analysis Codes &		
	Methodology	October	r 2010
	CRDM Design/Testing Plan	October	r 2010
	Multi-module Control Room &		
	Operations Staffing	April	2011

120+ dedicated design, licensing, and manufacturing engineers

A Generation III++ Reactor



- Integral 125 MWe modular reactor
- Proven Advanced LWR technology
- Simple, fully "passive safety" design
- No emergency AC power
- "Industry standard" PWR fuel
- 60-year spent fuel storage
- 4-5 year fuel cycle
- Dry containment



Best-in-Class Gen III+ technologies ... breaks the scale-cost paradigm

Scalable Nuclear Plant

- 1-8+ modules per plant, 125-1,000+ MWe
- Scalable to grid, site, load-growth
- Fully independent Nuclear Islands
- Underground containment building
- Air- or water-cooled condenser
- Three-year construction schedule
- Reactor installed last



Flexible, affordable nuclear solution ... Project cost and schedule certainty