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## Who is NuStart?

- NuStart Energy Development, LLC has 10 utility members/owners:

DTE Energy 

Duke 

EDF 

Entergy 

Exelon 

Florida Power & Light 

Progress Energy 

SCANA 

Southern 

TVA 

- The NuStart consortium is NuStart Energy Development, LLC plus Westinghouse and GE-Hitachi Nuclear

## NuStart Background

- Formed in April, 2004
- Vision - Nuclear energy is seen by stakeholders as a safe and economically viable option to meet our country's future electricity needs
- Mission – Support the vision by:
  - Demonstrating that a combined construction and operating license (COL) can be obtained in a timely and cost-effective manner using the Nuclear Regulatory Commission's Part 52 process
  - Assisting in design finalization of the Westinghouse AP1000 and GE-Hitachi ESBWR advanced passive light water reactor designs, emphasizing standardization, safety and good operability
- Core Values
  - Commitment to quality and safety in all activities
  - Win/win solutions through teamwork
  - Safe, reliable, cost-competitive nuclear power
  - Cost reduction through standardization
- Selected for DOE cooperative award under Nuclear Power 2010 program in 2005
- Work supported submittal of 18 COL applications for new nuclear projects; 9 of 10 NuStart members submitted COL or ESP applications
- COL for Southern Vogtle's is lead U.S. AP1000 project; anticipated in late 2011

## What challenges do utility nuclear first movers face? (A partial list)

- Utilities are – surprise – (very) risk averse
- Policy uncertainties – carbon, renewables, tax credits, etc.
- Regulatory uncertainties – licensing, legal challenges, cost recovery, etc.
- Technology – finalization of design for next reactors
- Construction costs – both absolute size and uncertainty
- For those in competitive markets, long-term power prices and profitability – Marcellus shale/natural gas prices, power demand, renewables growth
- Spent fuel management/fuel cycle
- Stakeholder support

## What challenges do utility nuclear first movers face? Areas of NuStart focus

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## Nuclear Power 2010 Program

- Administered by DOE
- Designed to reduce uncertainty in decision-making process for new nuclear investment
- 50/50 Cost Share between industry and government
- Government investment stimulated private investment well beyond original 50/50
- FY2010 final year of funding

## NP2010 and NuStart - An example of what federal support can do

- Because of NP2010, industry is at least 2 years ahead of where it otherwise would have been
  - NP2010 provided the impetus for 10 utilities to pool resources and move forward on the nuclear renaissance
  - \$45 M in federal funding to NuStart catalyzed another \$65 M in direct private funding plus more than \$100 M in additional spending at member utilities
- NuStart became a vehicle for licensing and design standardization
  - Reduces industry and NRC costs - “one issue-one review-one position”
  - Reduces uncertainties in legal challenges through common application
  - A better, common design reduces capital costs in manufacturing and construction
  - Improves operability and knowledge sharing
  - Model for NRC’s Design Centered Review with other technologies
- Another result - industry was better positioned to respond to the significant incentives in EPACT 2005
  - Loan guarantees
  - Production tax credits
  - Regulatory risk protection

## Summary

- Uncertainty and risk reduction is essential for first movers to act
  - Industry partnerships are critical in achieving effective and efficient deployment of the next wave of new reactors
  - Coordinated government and industry action reduces the time to market for new nuclear investments
  - Regulatory process directly impacts the financial and risk analysis of a nuclear investment
  
- Ultimate investment decisions based on economics