The Future of Nuclear Energy: Moving Forward

Mike McGarey
Southern States Energy Board
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Today’s Briefing

- NRC approves Plant Vogtle COL
- Industry response to Fukushima – Even greater emphasis on Safety
- Continuing strong support for Nuclear Energy
- A Path Forward for Used Fuel
Vogtle 3 & 4

- Owners: Georgia Power 45.7%, Oglethorpe Power 30%, MEAG 22.7%, Dalton Utilities 1.6%
- Design: AP1000
- Location: Burke County, Ga.
- Employees on site: Currently 1,500, at peak about 3,500, permanently about 800
- Scheduled start-up: 2016, 2017
V.C. Summer 2 & 3

- Owners: SCANA 55%, Santee Cooper 45%
- Location: Jenkinsville, S.C.
- Design: AP1000
- Anticipated COL approval: very early 2012
- Scheduled start-up: 2016, 2019
Supply Chain for Vogtle, Summer Projects

CANADA
- Auxiliary relief valves

UNITED STATES
- Modules
- Containment vessel
- Separators
- Degasifiers
- Demineralizers
- Control rod drive mechanism
- Polar and railcar bay cranes
- Squib, solenoid and instrumentation valves
- Integrated vessel head package
- Reactor vessel flowskirt
- Recirculation heaters
- Reactor coolant and air-operated pumps

EUROPE
- Containment recirc screens
- Pressurizer
- Reactor coolant piping

BRAZIL
- Cooling tower fans

JAPAN
- Transformer
- Containment vessel
- Turbine generator

SOUTH KOREA
- Reactor vessel
- Steam generators
- Condenser
- Demineralizer
- Heat exchangers

Sources: SCANA and Westinghouse
Tsunami Damage
Looking Toward the Nuclear Plant
Fukushima Response: Industry Objectives

- Prime focus is continued safe operation
- Implement strategies and actions that provide the greatest safety benefit first
- Focus on prevention of fuel damage (core and spent fuel pool) and containment integrity
Response to Fukushima: Primary Focus Areas

- Improved ability to cope with extended loss of AC power
- Additional spent fuel storage pool instrumentation
- Reliable containment venting
- External hazard (seismic and flooding) evaluations
- Enhanced emergency planning for multi-reactor events
Specific Actions Taken at U.S. Reactors

- More than 300 major pieces of equipment acquired or ordered
  - 66 large portable generators
  - 62 diesel-driven pumps
  - 59 small load diesel generators
  - 13 fire trucks
  - 11 portable ventilation units
FLEX – Adding Diverse, Flexible Capability To Respond to Extreme Events

- A performance-based, “all hazards” approach
- Additional portable, backup safety equipment
  - Enhanced capability to ensure safety during beyond design basis external events
- Focus on maintaining key safety functions
  - Cope with extended loss of AC power
  - Multiple sources of cooling water for reactor, used fuel storage pools
  - Protect against extreme (beyond design basis) external events
The Industry’s Goal:
Creating Additional Safety Margin
Public Opinion Recovering

- Slight increase in favorability of nuclear energy:
  - February 2011: 71%
  - April: 46%
  - September: 62%
  - February 2012: 64%

- 82% agree U.S. should learn from Japan and license new plants rather than stop progress entirely

- 61% said it would be acceptable to build a new reactor at the nuclear energy facility closest to where they live

Sources: Bisconti Research Inc./GfK Roper February 2012
Luntz Global April 2011
Responsible, Measured Response to Fukushima
In the United States

- Disciplined regulatory response from NRC
- Measured political response
- Public attitudes (particularly opinion leaders) remain strong
- Reasoned editorial reaction

"In spite of the worst atomic accident in 25 years, nuclear power is here to stay."
— December 29, 2011, editorial

"Nuclear power remains an indispensable part of the U.S. energy mix."
— December 12, 2011, editorial
Used Fuel Management: Key Findings of Blue Ribbon Commission

- Develop consolidated fuel storage facilities at volunteer sites
- New federal corporation to enhance management of used fuel program
- Access to Nuclear Waste Fund and future collections
- R&D on advanced fuel cycles
- Need for long-term repository
Consolidated Storage a Strategic Part of Used Fuel Management System

- Recommended by Blue Ribbon Commission
- Dry cask storage proven safe
- DOE delays in accepting used fuel storage prevent other uses for decommissioned sites
- Licensing for consolidated storage has been tested successfully

*Used fuel storage at closed Connecticut Yankee site*
Setting a New Agenda for 2012

- Maintain focus on safe operations, implement lessons learned from Fukushima
- Encourage effective regulatory environment
- New trade policy to increase exports of nuclear energy goods and services
- New and sustainable program for used nuclear fuel management
- New reactor development
  - Continue construction on five new plants
  - Continue NRC licensing of small modular reactors
  - Continue NRC reviews of large plant designs and COL applications
The Next Nuclear Plant: Watts Bar Unit 2

- Near Spring City, Tennessee
- 3,500 people working on-site
Questions?

Vogtle 3 & 4
Photo courtesy Southern Company

Summer 2&3
Photo courtesy SCANA