GE’s portfolio

- 6 businesses operating in more than 100 countries ... 125+ years
- >300,000 employees worldwide
- Today...GE Technology provides 25% of world’s electricity

<table>
<thead>
<tr>
<th>2011 Rev.</th>
<th>Energy</th>
<th>Aviation</th>
<th>Healthcare</th>
<th>Transportation</th>
<th>GE Capital</th>
<th>Home &amp; Business Solutions</th>
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Power & Water
Energy Management
Oil & Gas

Commercial
Military
Service
Avionics/Systems

Healthcare Systems
Life Sciences
Healthcare IT
Molecular Diagnostics

Locomotives
Services
Propulsion
Systems

Commercial
Consumer
Real Estate
GECAS
EFS

Appliances
Lighting
Intelligent Platforms
The GE Hitachi business

Nuclear Power Plants
- Generation III Advanced Boiling Water Reactor (ABWR)
- Generation III+ Economically Simplified Boiling Water Reactor (ESBWR)
- Power Reactor Innovative Small Modular (PRISM)

Nuclear Services
- Reactors & balance of plant
- Life extension
- Power uprates
- Performance services
- Outages and inspections

Fuel Cycle
- Boiling water reactor & mixed oxide fuels
- Candu reactor fuel & handling equipment
- Fuel engineering services
- Nuclear isotopes
- Used nuclear fuel recycling
- Enrichment of natural uranium
The future of our industry

- Safety
- Innovation
- Simplicity
- Predictability

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Simplicity
Predictability

1st Kind-of-a Generation III plant built on a 39-month construction schedule:

Efficient, repeatable model:

Kashiwazaki-Kariwa 6/7 ABWRs
Generation III+ Technology

Smarter
Simpler

ESBWR

• Passive design...eliminates reliance on AC power
• Natural circulation
• Simplified design reduces capital cost
• Lowest core damage frequency of any Gen III or III+ reactor
• Lowest projected operations, maintenance, and staffing costs
• 1530 MWe output...economies of scale
Basics of passive safety

Ensure safe shutdown...

Keep the fuel covered...

Transfer heat directly out of containment...
Basics of passive safety

Ensure safe shutdown...

Keep the fuel covered...

Transfer heat directly out of containment...
Safety

Addressing loss of both DC and AC power results in lowest CDF.

PRA of Core Damage Frequency

- U.S. PWRs: 2E-5 (avg.)
- U.S. BWRs: 8E-6 (avg.)
- APR1400: 2E-6
- APWR: 1.2E-6
- EPR: 2.8E-7
- AP-1000: 2.4E-7
- ABWR: 1.6E-7
- ESBWR: 1.7E-8

Note: PRA of CDF is represented in at-Power internal events (per year)
Note: NSSS diagrams are for visualization purposes only

Generation II  Generation III

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Long term station blackout

Responses to extended loss of all AC power

- **EPR and GEN II**
  - 30 MIN.
  - 2 HRS.
  - 24 HRS.

- **ABWR**
  - 30 MIN.
  - ~36 HRS.--36 HRS.*

- **AP1000**
  - DECAY HEAT
  - 72 HRS.

- **ESBWR**
  - >7 days

- Gen III+ passive plants allow for a much longer coping time
- Decay heat level impacts urgency

*ABWR DCD credits water addition at 8 HRS.
References: AP1000: US DCD rev. 18 Section 8.5.2.1, EPR: US DCD Rev. 1 Section 8.4
What to do about used nuclear fuel ... “the 3 R’s”

Repository
-- Reclaims none of the remaining energy
-- Politically difficult siting decisions
-- Wasted uranium resource

Reprocessing
-- Only reclaims <10% of total energy
-- Separates plutonium (proliferation concern)
-- High level waste remains

Recycling
-- Reclaims >90% of total energy
-- No proliferation issues
-- Dramatically shortens end repository lifetime
Advanced Recycling Center

- Advanced Reactor Design based on **proven** technology
- New levels of **inherent safety**
- **Closes** the fuel cycle
- Built on **available R&D**
- Transformational technology that addresses long term **Energy Security**

**Advanced Recycling Center** can reduce nuclear waste radiotoxicity from 10,000 years to 300 years\(^2\)

\(^2\) To reach the radiotoxicity of natural uranium
Questions