



# The Future of Nuclear Energy in the United States

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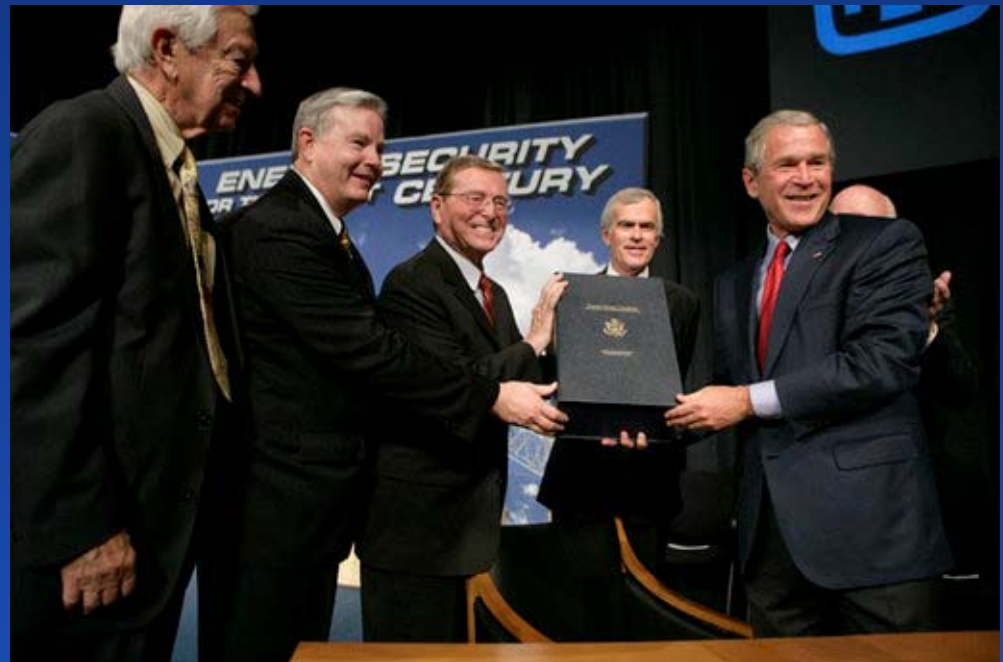
*Tsukuba, Japan*

# Forces for change



# Noteworthy developments

- *Energy Policy Act of 2005*
- *New plant construction*
- *A lead U.S. laboratory for nuclear energy*

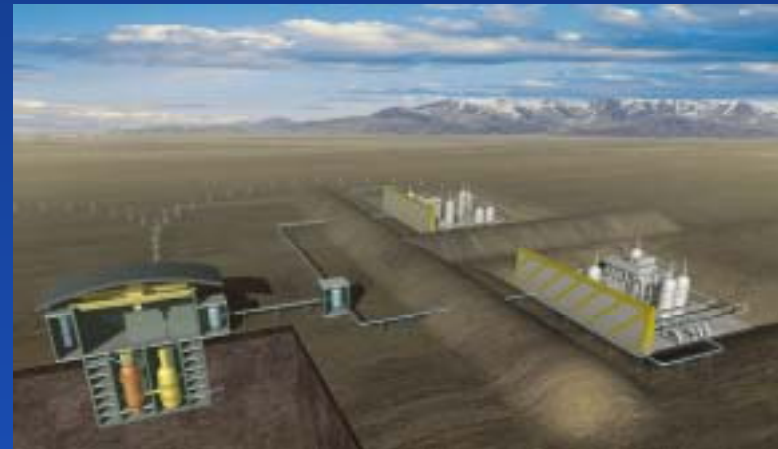


# Energy Policy Act of 2005

## *Key provisions*

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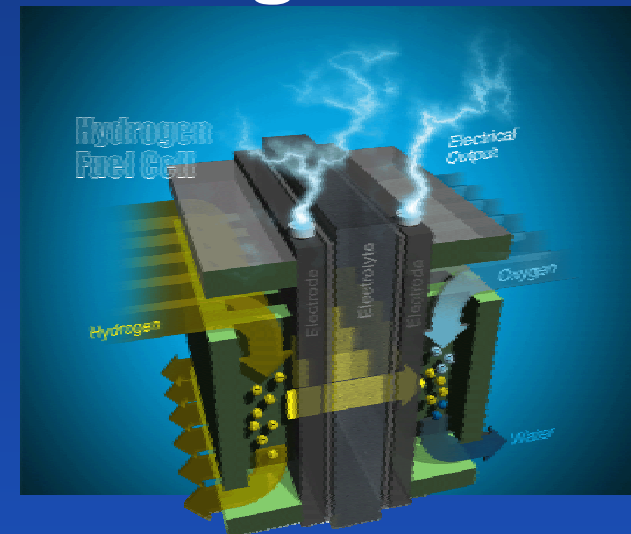
- Nuclear power—A central component of U.S. energy strategy
- Long-term investment in hydrogen economy
- Broad approach to developing new energy resources and encouraging conservation



# ***Energy Bill provisions – nuclear science, technology, education***

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- **Next Generation Nuclear Plant**
- **Nuclear Hydrogen Production**
- **Nuclear Research and Development**
- **University Nuclear Engineering Program**



# ***Energy Bill provisions – new plants***

- **Loan guarantees**
- **Risk insurance**
- **Price-Anderson Act**
- **Tax incentives**

# **New plant construction—foundation of U.S. nuclear growth**

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- **New plant orders expected**
- **10 companies**



# NuStart \$100 million for applications

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- Claiborne County, Mississippi
- Northern Alabama

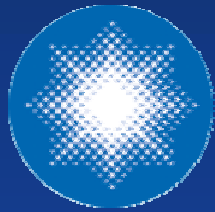




# Unistar Nuclear

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- Joint enterprise



Constellation  
Energy



- Bechtel

# Discernable changes in attitude

- *Greenpeace cofounder Patrick Moore*
  - **“Nuclear energy is the only non-greenhouse gas-emitting energy source that can effectively replace fossil fuels and satisfy global demand.”**
- *Environmentalist James Lovelock*
  - **“Civilization is in imminent danger and has to use nuclear—the one safe, available, energy source—now or suffer the pain soon to be inflicted by our outraged planet.”**



# The White House position

- “America hasn’t ordered a nuclear power plant since the 1970s, and it’s time to start building again.”
- “Decades of experience and advances in technology have proven that nuclear power is reliable and secure.”
- “A secure energy future must include nuclear power.”

*President George W. Bush*

*March 9, 2005*

*Battelle Memorial Institute*



# The Department of Energy selected INL to lead the U.S. renaissance in nuclear energy

“Here in Idaho, we will have the premier facility for nuclear energy in the country.”

*Secretary of Energy Samuel Bodman, speaking at INL on June 1, 2005*



# Department of Energy vision for INL

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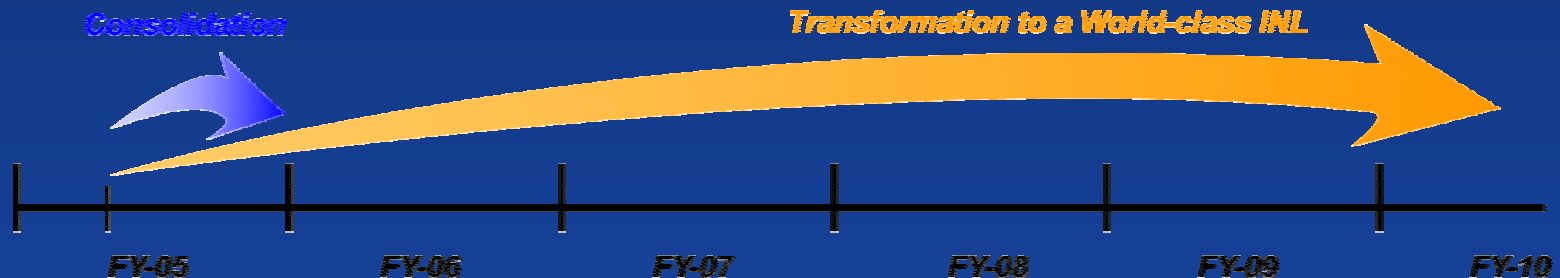
## Within 10 years

- Become the **preeminent** internationally recognized nuclear energy research, development, and demonstration laboratory
- Become a **major center** for national and homeland security technology development and demonstration
- Become a **multiprogram** national laboratory with world-class nuclear capabilities
- Foster **unprecedented** academic, industry, government, and international collaborations to **produce** needed investment, programs, and expertise

# The new Idaho National Laboratory

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- Transition
- Consolidation
- Transformation



# Why INL?

- Heritage
- Ongoing programs
- Leadership
- Experience and expertise
- Location



ATOMS FOR SUSTAINABLE DEVELOPMENT





# The Pressing challenge of nuclear energy in the United States and for INL

Create a **technically achievable, economically viable, politically palatable, and environmentally acceptable** nuclear energy option for the United States that deserves and earns **public confidence and trust.**





# International Nuclear Leadership for the 21<sup>st</sup> Century

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