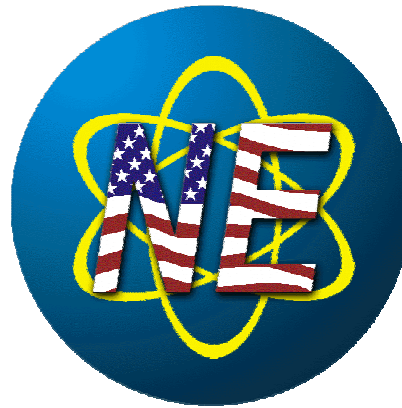


Recent Developments in the Nuclear Energy Program

NERAC Spring 2002 Meeting



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Office of Nuclear Energy, Science and Technology
U.S. Department of Energy*

April 15, 2002



2002 Will Be A Transition Year

- ◆ **Nuclear Power 2010**
- ◆ **Major Program Developments**
- ◆ **FY 2003 Budget Request**



Nuclear Power 2010



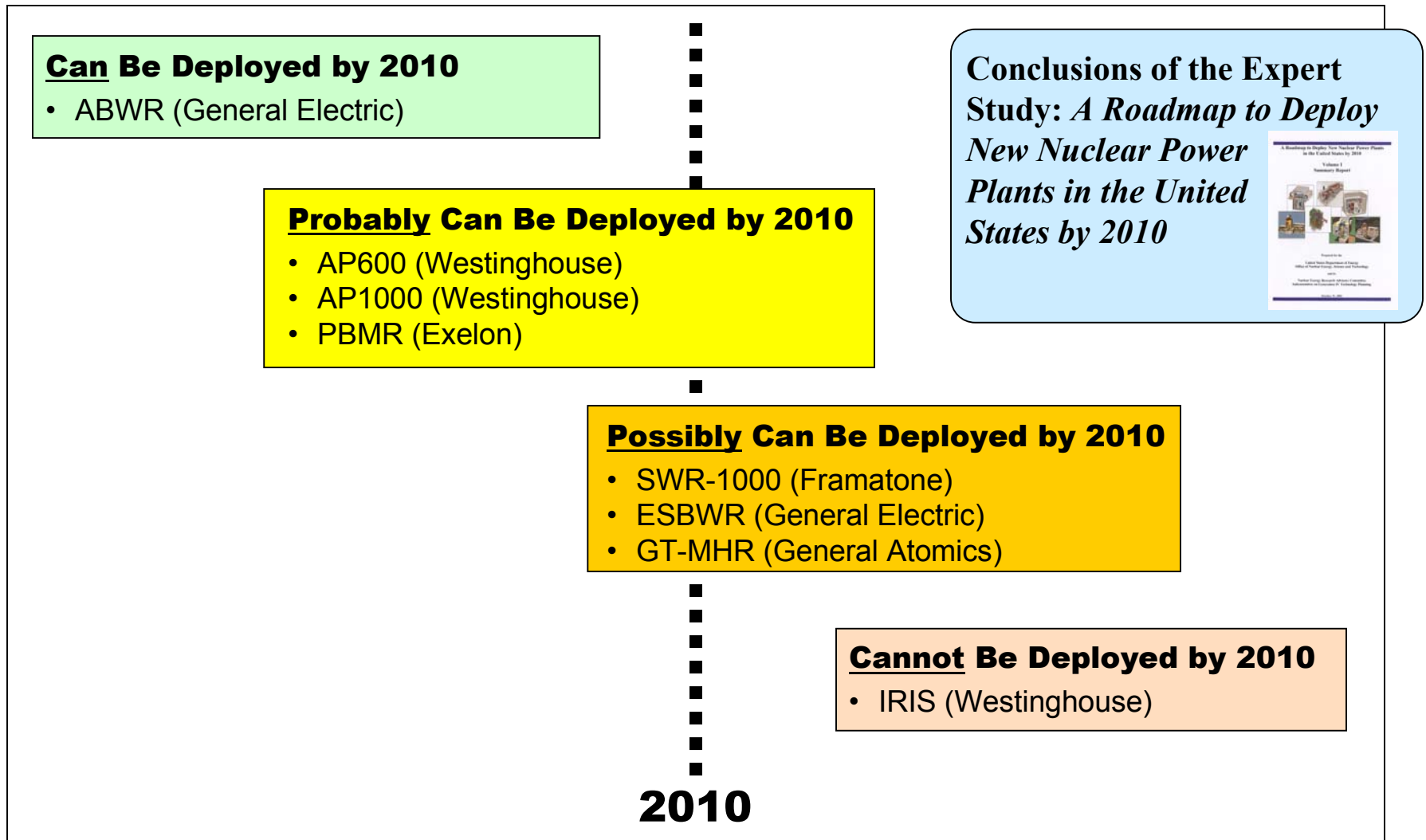
Nuclear Power 2010

is a new R&D initiative announced by Secretary Abraham on February 14, 2002. This initiative is designed to clear the way for the construction of new nuclear power plants by 2010.



Can We Build New U.S. Reactors By 2010?

Yes!





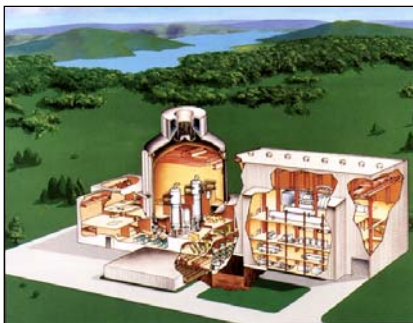
But More Work Must Be Done

Early Site Permit Application



- Complete DOE/Industry Scoping Studies
- Launch Cooperative Demonstration of ESP process

Design Certification and Completion of Detailed Design & Engineering



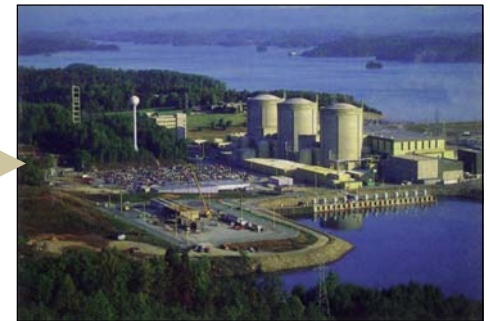
- R&D on First-of-a-Kind Engineering
- Material, Component, and Fuel Testing

Combined Construction and Operating License Application



- Conduct DOE/Industry cost-shared demonstration

Advanced Nuclear Power Systems Online by 2010



- ALWRs
- Gas-cooled reactors

For new U.S. Nuclear Power Plants to be a reality by 2010, DOE must support key R&D and assist industry to demonstrate unproven NRC processes



Early Site Permit Application

Purpose - Demonstrate new, untested Early Site Permit (ESP) licensing process - 10 CFR Part 52

- ◆ **Conduct DOE/Industry Scoping Study**
 - Develop schedule & cost estimates for ESP application
 - Competitive cost-shared proposals
- ◆ **Conduct ESP Regulatory Demonstration Projects**
 - Demonstrate effectiveness of NRC licensing process
 - Implement generic industry guidelines
 - Demonstrate process at several sites





Major Program Developments

Further Focussing on Nuclear R&D

- ◆ **Radiological Facilities Management**
 - RTG Manufacturing
 - Research Reactor and Other Nuclear Infrastructure
 - Isotope Production

- ◆ **Nuclear Energy Protocol for Research Isotopes (NEPRI)**
 - Requires peer review to establish annual list
 - Requires advanced payment
 - No more subsidy for research isotopes



Major Program Developments

Further Focussing on Nuclear R&D (cont.)

◆ **Innovations in Nuclear Infrastructure and Education (INIE)**

- Implementation of NERAC recommendations
- Encourages close cooperation between universities, industry, and laboratories
- \$5 million available in FY 2002

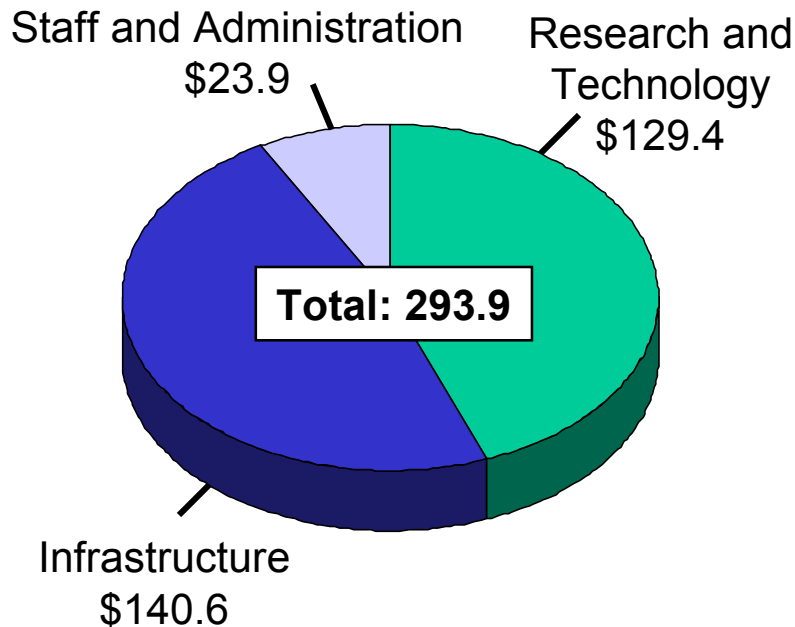
◆ **Fast Flux Test Facility**

- Secretary of Energy decision in December 2001
- Proceeding with deactivation

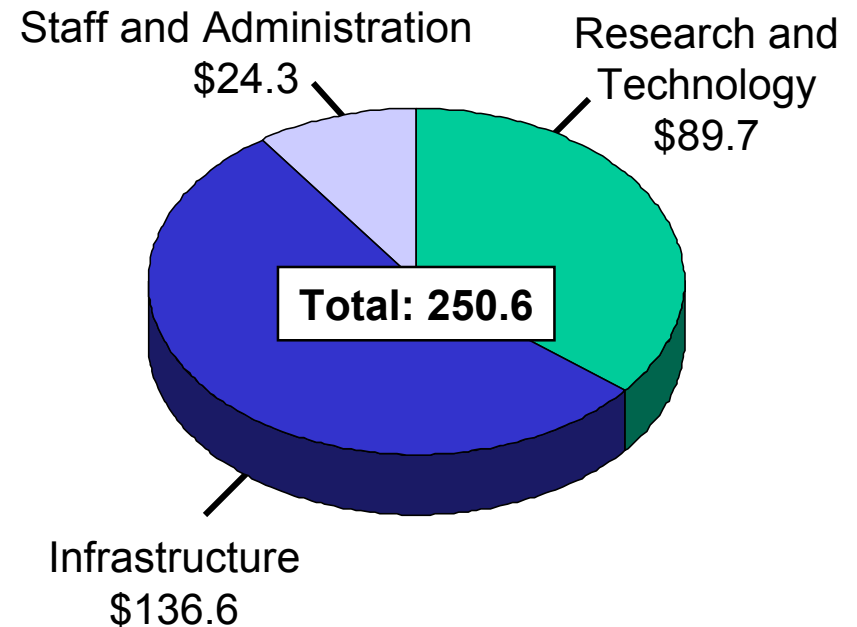


Total Nuclear Energy Funding (\$ in Millions)

FY 2002 Appropriation



FY 2003 Request





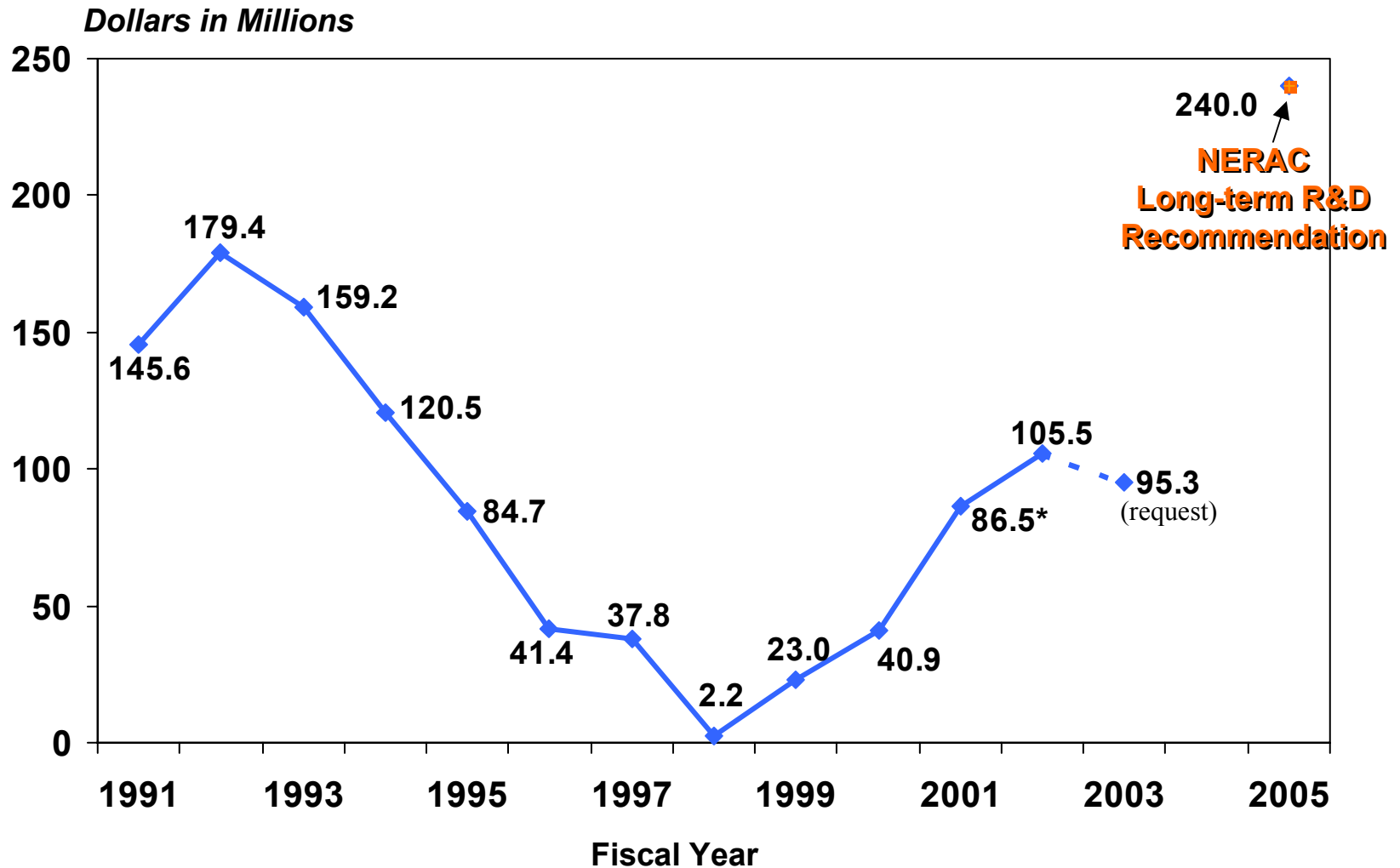
Continued Evolution of Nuclear Energy Budget

(\$ in Thousands)

	FY 2001 Adjusted <u>Approp.</u>	FY 2002 Current <u>Approp.</u>	FY 2003 <u>Request</u>
University Program	\$ 11,974	\$ 17,500	\$ 17,500
NEPO	4,857	6,500	0
NERI	33,903	32,000	25,000
NET	7,483	12,000	46,500
ANMI	2,500	2,500	0
FFTF	38,439	36,439	36,100
Spent Fuel Pyroprocessing & Transmutation	68,698	77,250	18,221
Radiological Facilities Management	88,284	86,682	83,038
Program Direction	23,839	23,875	24,300
Adjustments	<u>-2,872</u>	<u>-818</u>	<u>0</u>
TOTAL	\$277,105	\$293,928	\$250,659



Research & Development Budget History



*Does not include \$34 million of funding for the APT budget which was funded by DP in FY 2001.