Order Code RL30507

Appropriations for FY2001: Energy and Water Development

Updated September 19, 2000

Coordinated by Marc Humphries and Carl Behrens
Resources, Science, and Industry Division

Appropriations are one part of a complex federal budget process that includes budget resolutions, appropriations (regular, supplemental, and continuing) bills, rescissions, and budget reconciliation bills. The process begins with the President's budget request and is bounded by the rules of the House and Senate, the Congressional Budget and Impoundment Control Act of 1974 (as amended), the Budget Enforcement Act of 1990, and current program authorizations.

This report is a guide to one of the 13 regular appropriations bills that Congress passes each year. It is designed to supplement the information provided by the House and Senate Subcommittees on Energy and Water Development Appropriations. It summarizes the current legislative status of the bill, its scope, major issues, funding levels, and related legislative activity. The report lists the key CRS staff relevant to the issues covered and related CRS products.

Updates of this report are prepared as soon as possible after major legislative developments, especially following legislative action in the committees and on the floor of the House and Senate.

NOTE: A Web version of this document with active links is available to congressional staff at [http://www.loc.gov/crs/products/apppage.html]

Appropriations for FY2001: Energy and Water Development

Summary

The Energy and Water Development appropriations bill includes funding for civil projects of the Army Corps of Engineers, the Department of the Interior's Bureau of Reclamation (BuRec), most of the Department of Energy (DOE), and a number of independent agencies. The Administration requested $22.7 billion for these programs for FY2001 compared with $21.2 billion appropriated in FY2000. The House Bill, (H.R. 4733), passed on June 28, 2000 allocates $21.74 billion for Energy and Water Development programs. Overall, funding levels for defense-related programs would increase and funding for nondefense-related programs decrease. The Senate subcommittee marked up its version of the bill on July 13, 2000, allocating $22.5 billion for energy and water development programs. This bill was reported out by the full Appropriations Committee July 18, and passed by the Senate, with a number of amendments, on September 7.

Key issues involving Energy and Water Development appropriations programs include:

- budget constraints that may increase water project conflicts between continuing conventional construction and recent infrastructure/restoration authorizations and initiatives;
- reauthorizations for major water/ecosystem restoration initiatives for the Florida Everglades and California "Bay-Delta" areas may impede funding during FY2001 and beyond;
- executive branch investigations or reviews of Corps study procedures and agency management practices that could lead to congressional action, depending upon what reviews reveal and when they are completed;
- spending for solar and renewable energy to address global climate change issues;
- a pending decision by DOE on the electrometallurgical treatment of nuclear spent fuel for storage and disposal, a process that opponents contend raises nuclear proliferation concerns;
- implementation of the new National Nuclear Security Administration (NNSA);
- an expanded Threat Reduction Initiative aimed at ending Russia's production of plutonium that can be used to make nuclear weapons;
- DOE management of its Spallation Neutron Source Project (SNS);
- Nuclear Regulatory Commission's (NRC) plans to overhaul its regulatory system for nuclear power plant safety, as urged by the House and Senate Appropriations Committees.

Key Policy Staff

Area of Expertise	Name	CRS Division	Telephone
Corps/Bureau of Reclamation	Steve Hughes Betsy Cody	RSI	7-7268 7-7229
General	Carl Behrens	RSI	7-8303
Nuclear Energy	Mark Holt	RSI	7-1704
R&D Programs	Dick Rowberg Fred Sissine	RSI	7-7040 7-7039
Nonproliferation	Carl Behrens	RSI	7-7233
TVA & PMA's	Rob Bamberger	RSI	7-7240

Division abbreviation: RSI = Resources, Science, and Industry.

Contents

List of Tables

Appropriations for FY2001: Energy and Water Development

Most Recent Developments

The President submitted his budget for FY2001 on February 1, 2000. In it was $22.7 billion for energy and water development programs. The request was $1.5 billion larger than the FY2000 appropriation of $21.2 billion. The House Energy and Water Appropriations subcommittee markup on June 12, 2000, provided $21.74 billion, as did the full House Appropriations Committee. The full Committee reported out its bill on June 20, 2000, which overall included increases for defense-related programs and decreases for non-defense programs. The House Bill, (H.R. 4733), was approved on June 28, 2000, on a 407-19 vote. The Senate Energy and Water Appropriations subcommittee markup on July 13, 2000, recommended $13.5 billion for defense programs and about $9.0 billion for nondefense programs. These figures represent an increase of nearly $1.4 billion in defense-related spending and a decrease of $73 million in nondefense programs from its FY2000 spending level. The full committee mark was approved on July 18, 2000.

Floor consideration of H.R. 4733 (as reported from the Senate Appropriations Committee) was delayed Friday, July 21, over a provision (§103) prohibiting, under certain circumstances, the use of funds to revise the Corps' Missouri River Master Water Control Manual. Before passing the bill on September 7 with a number of amendments, the Senate rejected an amendment to strike §103 by a vote of 45-52. *(See below, p. 4, Title I.)*

Included in the version reported out by the House Appropriations Committee was a provision extending the President's authority to sell oil from the Strategic Petroleum Reserve. The President's authority under the Energy Policy and Conservation Act (EPCA, P.L. 94-163) expired March 31, 2000. The provision in the House Energy and Water bill, H.R. 4733, would extend the EPCA authority until September 30, 2001. Funding for SPR activities is contained in the Interior and Related Agencies appropriation bill (H.R. 4578). In passing H.R. 4733 on June 27, the House agreed to an amendment by Representative Sherwood extending the authorization to 3 years, authorizing the Department of Energy to buy oil from small or marginal wells when oil prices fall below $15 per barrel, and authorizing establishment of a new regional home heating oil reserve in the Northeast.

Status

Table 1. Status of Energy and Water Appropriations, FY2001

Subcommittee Markup		House Report	House Passage	Senate Report	Senate Passage	Conf. Report	Conference Report Approval		Public Law
House	Senate						House	Senate	
6/12/00	7/13/00	6/20/00 H.Rept. 106-693	6/28/00 H.R. 4733	8/30/00 S.Rept. 106-395	--	--	--	--	--

Overview

The Energy and Water Development appropriations bill includes funding for civil projects of the Army Corps of Engineers, the Department of the Interior's Bureau of Reclamation (BuRec), most of the Department of Energy (DOE), and a number of independent agencies, including the Nuclear Regulatory Commission (NRC) and the Appalachian Regional Commission (ARC). The Administration requested $22.7 billion for these programs for FY2001, compared with $21.2 billion appropriated for FY2000.

For the Corps of Engineers, the Administration is seeking $4.06 billion in FY2001, about $78 million less then the amount appropriated in FY2000. The Bureau of Reclamation would be increased by $32.3 million to $841 million. DOE programs would rise about 8% to $18.1 billion. The House voted to provide the Corps of Engineers $4.1 billion, the Department of the Interior programs $770 million, and $17.3 billion for DOE. The major activities in the DOE budget are energy research and development, general science, environmental cleanup, and nuclear weapons programs. An additional $865 million of DOE's FY2001 net appropriations request (for fossil fuels programs, energy efficiency, and energy statistics) is included in the Interior and Related Agencies appropriations bill.

Table 2. Energy and Water Development Appropriations, FY1994 to FY2001

(budget authority in billions of current dollars)*

FY94	FY95	FY96	FY97	FY98	FY99	FY00	FY01
22.3	20.7	19.3	20.0	21.2	21.2	21.2	22.7

*These figures represent current dollars, exclude permanent budget authorities, and reflect rescissions.

Table 2 includes FY2001 budget request figures and budget totals for energy and water appropriations enacted for FY1994 to FY2000. Tables 3-7 provide budget details for Title I (Corps of Engineers), Title II (Department of the Interior), Title III (Department of Energy) and Title IV (independent agencies) for FY2000 - FY2001.

Title I: Corps of Engineers

The House-passed Energy and Water Development Appropriations bill (H.R. 4733) includes $4.12 billion for the civil projects of the U.S. Army Corps of Engineers (Corps) for FY2001 – approximately $60 million more than requested by the Administration, but $18.7 million less than enacted for FY2000. The Administration requested $4.06 billion for FY2001, slightly less (2%) than the $4.14 billion enacted for FY2000. The House bill appropriates $4.12 billion; the Senate-passed version includes $4.11 billion.

Major initiatives identified by the Corps in its budget request for FY2001 include a proposed $950 million Harbor Services Fund for port improvements and harbor maintenance, $20 million for the "Challenge 21" river restoration and flood mitigation program, authorized in the Water Resources Development Act of 1999 (section 212 of P.L.106-53), and $27 million for a new program to modernize Corps recreation facilities. The request also includes $140 million for the Formerly Utilized Sites Remedial Action Program (FUSRAP), which was transferred from DOE in FY1998. The program cleans up contamination at old industrial sites that processed nuclear materials for defense purposes.

Table 3. Energy and Water Development Appropriations
Title I: Corps of Engineers
(in millions of dollars)

Program	FY 2000	FY2001 Request	H.R. 4733	Senate Bill	P.L. 106-
Investigations & Planning	162.0	137.7	153.3	139.2	--
Construction	1,400.7	1,346.0	1,378.4	1,361.5	--
Flood Control, Mississippi River	309.4	309.0	323.4	334.5	--
Operation and Maintenance	1,853.6	1,854.0	1,854.0	1,862.5	--
Regulatory	117.0	125.0	125.0	120.0	--
General Expenses	149.5	152.0	149.5	152.0	--
FUSRAP	150.0	140.0	140.0	140.0	--
Total	4,142.2	4,063.7	4,123.6	4,109.7	—

Key Policy Issues — Corps of Engineers

Funding for Corps of Engineers civil programs is often a contentious issue between the White House and the Congress, with final appropriations bills typically providing more funding than requested. For FY1998, for example, the Congress added $270 million (7%) to the $3.63 billion requested by the Administration. Similarly, the FY1999 bill as passed included a total of $3.86 billion for the Corps, $638 million more (20%) than requested, and for FY2000, Congress provided approximately $250 million more (6%) than requested. The House-passed Energy and Water Appropriations bill for FY2001 includes $60 million more (1.5%) than requested, and the Senate version has $50 million more (1.23%) than requested. House and Senate report language notes there is no funding for new project construction, and the House report says that both the Corps and the Bureau of Reclamation ought to focus on maintaining existing projects and continuing the construction of works already in progress.

The House Appropriations Committee also noted in report language its concerns about the Corps' project review process and indicated its desire for a more streamlined process. The Committee also mentioned recent allegations that agency officials have improperly manipulated a study of navigation improvements on the upper Mississippi River and Illinois Waterway; however, the Committee noted that because these allegations are still under investigation, it is recommending no specific action to address the alleged behavior. On a related matter, the Committee addressed accusations of the Corps' efforts toward "improperly trying to 'grow' its Civil Works program." It noted that while pressure on planners and engineers to "inappropriately justify projects" is clearly unacceptable, it viewed it the "proper role of the Chief of Engineers to advise the Administration, the Congress, and the Nation of the level of investment in water resources infrastructure ... needed to support the economy and improve the quality of life for our citizens." The Senate Appropriations Committee report also noted criticisms of the Corps' operations and the Committee's dissatisfaction with the Administration's proposed management reforms. While the Committee did not include language prohibiting such reforms, it put the Administration on notice that it would continue to "assess the need for such language as the process moves forward."

Floor consideration of H.R. 4733 stalled in the Senate on July 21 over language (in General Provisions, Corps of Engineers, Section 103) prohibiting the Corps, under certain circumstances, from using funds to revise the Missouri River Master Water Control Manual. The issue involves the controversial subject of how to operate mainstem dams along the Missouri River, given the diverse statutes potentially affecting the Corps' river management activities. Upper basin states generally contend that the current master manual, which has been under review for many years, does not reflect changes in demand along the river. This is especially true of increased demand for water and water releases to meet fish and wildlife and recreational uses, particularly water to support the pallid sturgeon, an endangered species. (Most of the projects were initially authorized in 1944.) Downstream states generally fear that changes in the operations manual to accommodate upstream concerns may result in an inadequate supply of water to meet full season navigational uses. Downstream states have also noted fears of increased flooding below Givins Point dam if higher water releases are made in the spring months. When the Senate took up the bill on

September 7, an amendment by Senator Daschle to strike Section 103 was defeated 45-52, but the issue may be a factor in conference because the Administration has threatened to veto the bill if the provision remains in it.

Title II: Department of the Interior

For the Department of the Interior, the Energy and Water Development bill provides funding for the Bureau of Reclamation (BuRec) and the Central Utah Project Completion Account. The Administration has requested $801.03 million (gross current authority) for the Bureau for FY2001. The FY2001 request is approximately $33 million more (+ 4%) than the amount enacted for FY2000. The Administration has requested $39.9 million for the Central Utah Project Completion Account for FY2001 – an increase of $0.6 million from the FY2000 enacted level.

Table 4. Energy and Water Development Appropriations
Title II: Central Utah Project Completion Account
(in millions of dollars)

Program	FY2000	FY2001 Request	H.R. 4733	Sen. Bill	P.L. 106-
Central Utah project construction and oversight	23.9	20.8	--	--	--
Mitigation and conservation activities*	15.5	19.1	--	--	--
Total, Central Utah Project	39.4	39.9	39.9	39.9	--

* Includes funds available for Utah Reclamation Mitigation and Conservation Commission activities and $5 million for the contribution authorized by §402(b)(2) of the Central Utah Project Completion Act (P.L. 102-575).

Table 5. Energy and Water Development Appropriations
Title II: Bureau of Reclamation
(in millions of dollars)

Program	FY2000	FY2001 Request	H.R. 4733	Sen. Bill	P.L. 106-
Water and related resources	606.0[1]	643.0	635.8	655.2	--
California Bay-Delta (CALFED)	60.0	60.0	0	--	--
Loan program account	11.6	9.4	9.4	8.9	--

[1] Does not include $980,000 transferred from the U.S. Geological Survey to the Bureau of Reclamation for support of the Department of the Interior National Business Center.

Program	FY2000	FY2001 Request	H.R. 4733	Sen. Bill	P.L. 106-
Policy & Admin.	47.0[2]	50.2	47.0	50.2	--
Central Valley Project (CVP) Restoration Fund	42.0	38.4	38.4	38.4	--
Gross Current Authority	**766.6**	**801.0**	**730.6**	**752.7**	--
Colorado River Dam Fund (transfer current authority to WAPA)	0	0	--	--	--
CVP Restoration Fund Offset	**	**	--	--	--
Net Current Authority	766.6	801.0	730.6	752.7	--

* Does not reflect appropriations derived from transfer of $25.8 million from the Working Capital Fund, but does include $1.5 million in supplemental appropriations (P.L. 106-31).
** The Office of Management and Budget and the Congressional Budget Office disagree as to whether there is an offset for this fund.

Background on Reclamation Policy

Most of the large dams and water diversion structures in the West were built by, or with the assistance of, the Bureau of Reclamation (Bureau). Whereas the Corps built hundreds of flood control and navigation projects, the Bureau's mission was to develop water supplies and to reclaim arid lands in the West, primarily for irrigation. Today, the Bureau manages more than 600 dams in 17 western states, providing water to approximately 10 million acres of farmland and 31 million people.

The Bureau has undergone many changes in the last 15 years, turning from largely a dam construction agency to a self-described water resource management agency. The agency describes the "intent" of its programs and projects as follows:

- to operate and maintain all facilities in a safe, efficient, economical, and reliable manner;
- to sustain the health and integrity of ecosystems while addressing the water demands of a growing west; and
- to assist states, tribal governments, and local communities in solving contemporary and future water and related resource problems in an environmentally, socially, and fiscally sound manner.

In practice, however, the agency is limited in how it can address new demands and new priorities because of numerous federal, state and local statutes, compacts,

[2] Does not include $424,000 transferred from the U.S. Geological Survey.

and existing contracts, which together govern the delivery of water to project users. Consequently, any proposal to change Bureau water allocation or water management policies often becomes difficult to implement and extremely controversial.

Key Policy Issues — Bureau of Reclamation

The House-passed Energy and Water Development appropriations bill (H.R. 4733) includes approximately $730 million for the Bureau of Reclamation for FY2001. The version of the bill passed by the Senate includes $752.7 million for the Bureau for FY2001. The Administration has requested an appropriation of approximately $801.03 million – approximately $33 million more than enacted for FY2000. The House and Senate Appropriations Committee have stated they will not fund the Administration's request of $60 million for the California Bay-Delta Restoration Program (Bay-Delta), the same amount as was enacted for FY2000, until the program receives an authorization for such appropriations. (Funding for Bay-Delta is requested in the Bureau's budget, but the appropriation would be allocated among several federal agencies.)

The Administration has submitted language to extend the Bay-Delta appropriations authorization through FY2003, for an additional total of $429.9 million (averaging $143.3 million per year, but not requested by year). The FY2001 request of $60 million for Bay-Delta activities includes $30 million for ecosystem restoration activities, $5 million (maximum) for planning and management, and $24 million for "other activities." Although there have been oversight hearings in the House, and one bill (H.R. 5230) introduced, there has been no action to date authorizing continuation of the program.

The FY2001 request also includes $71.8 million for Dam Safety Program activities ($1.7 million of which is for the Department of the Interior Dam Safety Program). The Administration has also submitted language to increase the appropriations ceiling under the Safety of Dams Act. The agency notes that a sufficient appropriations ceiling exists for the FY2001 request; however, without an increase in the ceiling "outyear commitments created ... in FY2001 will be managed to remain within the existing ceiling." It appears that actual work on high priority dams (dam modifications) is made under the Initiate Safety of Dams Corrective Action program (ISCA), which, unlike dam safety evaluations, is subject to the appropriations ceiling.

Title III: Department of Energy

The Energy and Water Development bill includes all but $865 million of DOE's $18.94 billion FY2001 net appropriations request. Major DOE activities in the bill include research and development on renewable energy and nuclear power, general science, environmental cleanup, and nuclear weapons programs. The Administration's FY2001 request would boost DOE programs in the bill by about 8% to $18.1 billion. The House approved $17.3 billion for DOE programs. The Senate bill contains $17.95 billion. The remainder of DOE's FY2001 budget request — for fossil fuels programs, energy efficiency, and energy statistics — is included in the Interior and Related Agencies appropriations bill.

Table 6. Energy and Water Development Appropriations
Title III: Department of Energy
(in millions of dollars)

Program	FY2000	FY2001 Request	H.R. 4733	Senate Bill	P.L. 106-
Energy Supply R&D					
Solar and Renewable	362.2	409.5	392.8	441.0	—
Nuclear Energy	288.7	308.0	231.8	262.0	—
Fusion Energy (see General Science, below)					
Other	48.6	96.8	41.3	--	--
Subtotal	699.5	814.3	665.9	691.5	--
Adjustments	(60.4)	(61.4)	(49.4)	--	--
Subtotal	639.1	752.9	616.5	--	--
Uranium Enrichment					
Uranium Enrichment Decontamination &Decommissioning	249.2	294.6	--	297.8	--
Uranium Facilities Maintenance and Remediation (new account)	-	-	301.4	--	--
General Science					
High Energy Physics	699.0	714.7	714.7	677.0	--
Nuclear Physics	349.0	370.0	369.9	350.3	--
Basic Energy Sciences	774.0	1,016.0	791.0	914.6	--
Bio. & Env. R&D	456.0	445.0	404.0	na	--
Fusion	245.0	247.0	250.0	227.3	--

Program	FY2000	FY2001 Request	H.R. 4733	Senate Bill	P.L. 106-
Other	265.4	358.1	301.3	na	--
Subtotal	2,800.8	3,151.1	2,830.9	2,870.1	--
Environ. Res. & Waste Mgmt., non-defense	333.6	286.0	281.0	309.1	--
Defense Environmental Restoration and Waste Management	4,484.3	4,551.5	4,522.7	4,635.8	--
Defense Facilities Closure Projects	1,064.5	1,082.3	1,082.3	1,082.3	--
Environmental Restoration Privatization	188.3	515.0	259.0	324.0	--
National Security (Weapons)	4,443.9	4,594.0	4,579.7	4,883.3	--
Nuclear Nonproliferation	729.1	865.6	861.5	909.0	--
Naval Reactors	677.6	673.1	677.6	694.6	
Other National Security	1,722.4	555.1	592.2	579.5	--
Departmental Admin. (net)	99.5	84.6	42.5	81.4	--
Office of Inspector General	29.5	33.0	31.5	29.0	--
Power Marketing Admin.					
Alaska	0	0	0	0	--
Bonneville (non-add, capital obligations)	(309.5)	(331.2)	(331.2)	na	--
Southeastern (prior year balance for FY2000)	39.6	3.9	3.9	3.9	--
Southwestern	28.8	28.1	28.1	28.1	--
Western	193.4	164.9	160.9	164.9	--
Colorado River Basin (net)	--	--	--	--	--
Falcon & Armistad O&M	1.3	2.67	2.67	2.67	--
FERC (revenues)	175.0 (175.0)	175.2 (175.2)	175.2 (175.2)	175.5 (175.5)	—
Nuclear Waste	352.5	437.5	413.0	351.2	--
Adjustments	--	--	--	--	--
Total, Title III	**16,670.5**	**18,073.2**	**17,293.4**	**17,950.0**	**--**

Key Policy Issues — Department of Energy

Renewable Energy. "The solar and renewable energy program is a major component of the Administration's activities to address global climate change," according to the Appendix to the U.S. Government's FY2001 Budget (p. 403). In accordance with that policy, DOE proposes to boost solar and renewables funding to $456.6 million (net, including $47.1 million for programs under the Office of Science) — an increase of $100.0 million (32%) over the FY2000 level. This includes $409.5 million for DOE's Office of Energy Efficiency and Renewable Energy (EERE), an increase of $100.0 million, and $47.1 million for the Office of Science, which is the same as for FY2000. The EERE amount includes $31.7 million more for biofuels, $16.1 million more for photovoltaics, $18.0 million more for wind, $10.2 million more for electric and storage programs, and $7.7 million more for international renewable energy programs.

For Biofuels, DOE proposes an Integrated Bioenergy Technology Research and Technology Initiative, prompted by President Clinton's Executive Order 13134, *Developing and Promoting Biobased Products and Bioenergy*, and ethanol production from agricultural and forestry residues.

Wind initiatives would accelerate deployment, address regional barriers, and enhance wind energy use in developing countries. Photovoltaic initiatives support cost reductions, "Million Solar Roofs," and private sector "clean energy" projects and national action plans in developing countries. Electric/Storage initiatives focus on power system security and reliability, power electronics technology, and distributed power systems.

In contending that the Renewable Energy Program request does not merit a large funding increase, the House Appropriations Committee's report cites funding constraints, a lack of sufficient program justifications, and a recent critique of Program management by the National Academy of Public Administration. Thus, the Committee recommended $352.8 million (including $47.1 million for programs under the Office of Science) for the DOE Renewable Energy Program. However, voice vote approval of the Salmon/Udall/Boehlert/Kaptur amendment (H.Amdt.920, A006) added $37.7 million, bringing the House-passed total to $390.5 million.

Relative to the FY2000 appropriation, the House level would provide an increase of $28.3 million, or 8%, in current dollar terms. This includes $8.8 million more for Photovoltaics, $6.7 million more for Biofuels-Transportation, $3.9 million more for Wind, and $3.5 million more for Electric/Storage.

However, relative to the request, the House level would provide $64.4 million (14%) less for the Program. This includes $14.4 million less for Biofuels-Power, $13.2 million less for Wind, $8.0 million less for Biofuels-Transportation, $6.0 million less for Electric/Storage, $5.7 million less for Photovoltaics, and $5.5 million less for International programs.

The Senate bill contains $444.1 million (including $47.1 million for programs under the Office of Science) for the DOE Renewable Energy Program. Relative to the House level, the Committee would provide an increase of $53.6 million, or 14.0%,

in current dollar terms. This includes $17.1 million more for Electric/Storage, $14.1 million more for Biofuels-Power, $8.0 million more for Hydrogen, $6.7 million more for Wind, and $4.6 million more for Renewable American Indian Resources. Relative to the request, the Committee would provide a decrease of $10.7 million, or 2.4%, in current dollar terms. This includes $10.4 million less for Biofuels-Transportation, $6.5 million less for Wind, $5.0 million less for Photovoltaics, $5.5 million less for International Renewables, and $3.5 million less for Program Support. However, the Committee level also includes $11.1 million more for Electric/Storage and $8.0 million more for Hydrogen.

Nuclear Energy. For nuclear energy programs — including reactor research and development, space power systems, and closing of surplus facilities — the House approved $231.8 million for FY2001. This amount is $76.6 million below the Administration budget request, but most of the reduction comes from a transfer of $53.4 million for uranium management programs into a new Uranium Facilities Maintenance and Remediation account. The Senate version of H.R. 4733 has $262 million for nuclear energy, plus $62.4 million for the uranium management programs, which would be transferred to DOE's Environmental Management program.

The House-passed bill cuts the Administration's $35 million request for a program to support innovative nuclear energy research projects, the "nuclear energy research initiative" (NERI). The $12.5 million cut would leave NERI at the FY2000 funding level of $22.5 million. The House supported the Administration's full request of $5 million — nearly the same as the FY2000 appropriation — for "nuclear energy plant optimization" (NEPO), a separate research program to improve the economic competitiveness of existing nuclear power plants. The Senate voted $41.5 million for NERI and $5 million for NEPO. Report language calls for $4.5 million of the Senate's NERI funding to be spent on a "road map for the commercial deployment of a next-generation power reactor."

Funding for NEPO is part of the Administration's Climate Change Technology Initiative. To be matched by industry, the NEPO funding would focus on research to extend the operating lives of existing reactors and to allow them to operate more efficiently and reliably. The program's goal is to increase the average production of U.S. nuclear plants to 85% of full capacity by 2010; the capacity utilization percentage of U.S. reactors generally averages in the mid-70s, although it was close to 85% in 1999.

Because nuclear plants directly emit no carbon dioxide, greater production of nuclear power from existing reactors could help the United States reduce its total "greenhouse gas" emissions. "Nuclear energy is the only proven large-scale power source that has unlimited potential to provide clean and reliable electricity into the next century," according to the DOE budget justification. However, opponents have criticized DOE's nuclear energy research programs as providing wasteful subsidies to a failing industry.

Controversy has also been generated by the "electrometallurgical treatment" of DOE spent fuel, a process in which metal fuel is melted and highly radioactive isotopes are electrochemically separated from uranium and plutonium. DOE contends that such treatment may be the best way to render sodium-bonded spent fuel —

particularly from the closed Experimental Breeder Reactor II in Idaho — safe for long-term storage and disposal. DOE received $40 million in FY1999 to complete a demonstration program for the technology. After the National Research Council issues a report on the technology in 2000, DOE will determine whether to use the process to prepare sodium-bonded spent fuel for disposal. Continued research on sodium-bonded fuel treatment received $18 million for FY2000, and DOE is seeking $15 million for FY2001. The House approved the Administration budget request, but Committee report language requires DOE to submit a report by March 2001 on the types of waste that the process would produce.

Opponents of electrometallurgical treatment contend that it is unnecessary and that the process could be used for separating plutonium to make nuclear weapons. They note that the process uses much of the same technology and equipment developed for the plutonium-fueled Integral Fast Reactor, or Advanced Liquid Metal Reactor, which was canceled by Congress in 1993 partly because of concerns about nuclear weapons proliferation.

No FY2001 funding was requested or provided by the House for accelerator transmutation of waste (ATW), under the category of "civilian research and development." ATW would use powerful particle accelerators to transmute long-lived elements in radioactive waste into shorter-lived elements for safer disposal. DOE issued a "roadmap" for the program November 1, 1999, concluding that a six-year R&D program costing $281 million would be needed to support future technology decisions for deploying an ATW system. For FY2001, DOE is proposing to use some of the $9 million appropriated for FY2000 to continue studies of the technology. The Senate earmarked $5 million for ATW studies in Nevada.

The House reduced DOE's $44 million request for the Fast Flux Test Facility (FFTF) at Hanford, Washington, to $39 million. However, that level is still $11 million above the FY2000 appropriation. The Senate approved the $44 million request. FFTF, a sodium-cooled research reactor originally designed to support the commercial breeder reactor program, has not operated since 1992 and is being maintained in standby condition. DOE intends to decide in FY2001 whether to restart the reactor for nuclear research and medical isotope production or permanently shut it down. The increased FY2001 funding would be used to begin implementing the decision.

Science. DOE's science programs consist of a wide variety of basic research activities concentrated in the physical, biological, and computer sciences, and mathematics. These programs include high-energy physics, nuclear physics, basic energy sciences (BES), biological and environmental research (BER), fusion energy sciences, and advanced scientific computing. For the DOE science programs, the FY2001 request was 12.1% above FY2000. The House, however, approved $2.757 billion for these programs, 10.1% below the request, while the Senate appropriated $2.842 billion, 5.4% below the request.

About two-thirds of the requested increase was concentrated in three areas. First, DOE requested an increase of $162 million in construction funding for the Spallation Neutron Source (SNS) project. The House, citing "severe funding constraints," appropriated level funding for the project of $100 million. The Senate,

however, approved $221 million for construction, touting the importance of the project for advancing science and technology.

DOE also requested a $49 million increase for civilian information technology (IT) research. The latter focuses on development and application of high performance computing for scientific applications. The House, again citing funding limitations, approved only $5 million of the requested increase. The Senate approved funding about $20 million of the requested increase although much of that would come by shifting funds from other programs.

The third major program request by DOE was an additional $36 million for nanoscience and nanotechnology research within BES. The House made no mention of this initiative, although its appropriation for the BES program not including the SNS was $62.9 million below the request. The Senate expressed strong support for the initiative but provided only about 56% of BES funding requested for it.

The House's appropriation for the BER program was 8.8% below the request. Again, funding constraints were cited although the House argued that the appropriation was in line with previous years when new projects started in FY2000 were removed. The Senate approved funding the program at 0.3% below the request.

The House approved funding the High Energy and Nuclear Physics programs at their requested level. It did note, however, that it was not anxious to fund design work for large new accelerators in a period of limited funds. The Senate's appropriation for these two programs was about 5.3% below the request. The Senate cited "severe budget constraints" as the reason.

The House also approved an increase of $7.5 million above the request for the Fusion Energy Sciences program, which would be a slight increase over the FY2000 level. The Senate, again citing budget constraints, approved funding fusion research at 8.1% below the request.

Nuclear Weapons Stewardship R&D. This activity is aimed at developing the science and technology to maintain the nation's nuclear weapons stockpile in the absence of nuclear testing. Principal activities are the development of computational capabilities that can simulate weapons explosions and perform other important computations, and experimental facilities to simulate and test various aspects of weapons behavior without resorting to a full scale explosion. For the last four years, nuclear weapons stewardship R&D was called stockpile stewardship. This year, as DOE's defense programs were absorbed by the newly created National Nuclear Security Administration (NNSA), DOE reorganized the activity, eliminating both the stockpile stewardship and maintenance designations, and creating four new programs: directed stockpile work, campaigns, readiness in technical base and facilities, and construction. Weapons R&D falls across all four programs.

For FY2001, DOE requested a 3.0% increase for weapons R&D. The House approved a slight increase of 0.2% above the request. The House also directed DOE to consolidate its inertial confinement fusion and defense modeling and computing activities within the campaigns program, and approved a transfer of funds from the

readiness in technical base and facilities program to campaigns to this effect. The Senate approved a 4.9% increase above the request for weapons R&D. It is concerned about the slow pace of the stockpile stewardship program and believes that significantly more funding is needed if it is to meet its goals.

The national security budget for FY2001 was prepared for the first time under the rubric of the NNSA, the new organization created by Congress (P.L. 106-65, H.Rept. 106-301) to manage most of DOE's defense activities in the wake of security concerns uncovered in 1998. Implementation of the NNSA has been quite controversial, and several in Congress have expressed displeasure about the way DOE is undertaking this task. The House noted that it has been citing DOE management problems for some time and expressed its desire that the new director of the NNSA take the opportunity afforded by the reorganization to make major changes in the current DOE management structure. The Senate expressed hope that NNSA can resolve the serious concerns the Senate has with the current stockpile stewardship program.

A major problem that has emerged is the large cost overrun on the National Ignition Facility (NIF). Currently, DOE estimates the total project cost to be about $3.26 billion compared to the original estimate of $2.03 billion. GAO estimates the cost to be $3.9 billion. The overrun is due primarily to significant management and technical problems that emerged during NIF construction.[3] DOE has not amended its FY2001 budget request for NIF, which was $74 million for construction plus about $85 million in related costs. With the FY2000 appropriations, Congress had directed DOE to provide a new cost baseline by June 1, 2000, or provide an estimate of termination costs. DOE has only provided an estimate of the new baseline and will not have a firm number until September. The House noted DOE's failure to meet the deadline, and stated that it would reserve judgment about the NIF project until September. In the meantime it approved funding the original DOE request for NIF for FY2001. The Senate Appropriations Committee recommended the full $74 million but noted that additional funds will probably be necessary. It also stated that it would not consider a request for additional funds until DOE has expanded its assessment of the NIF project baseline to analyze options where the project would be completed at significantly less than design capacity.

When the bill reached the Senate floor, an amendment was adopted that would cap funding for NIF at $74.1 million until the results of a study by the National Academy of Sciences on the project was delivered. The study, which, if approved, is to be completed by September 1, 2001, would, among other things, examine the contribution of NIF to the Stockpile Stewardship program and determine whether existing technical problems are likely to add to the project's cost and whether a smaller version of NIF would suffice.

Another issue raised by the House concerned the amount and use of Laboratory Directed Research and Development (LDRD) funds. For FY2000, the Congress had reduced the LDRD funding level to 4% of funds appropriated for labs from 6%. DOE

---

[3]Congressional Research Service, *The National Ignition Facility: Management, Technical, and Other Issues*, by Richard Rowberg, CRS Report RL30540, updated May 16, 2000.

requested restoring the level to 6% for FY2001, but the House retained that 4% level and further directed DOE to submit a specific request for these funds within each program in future budget submissions. In an amendment adopted on the floor, the Senate approved a level of 8% and included funds from the Environmental Management programs.

Nonproliferation and National Security Programs. DOE's nonproliferation and national security programs provide technical capabilities to support U.S. efforts to prevent, detect, and counter the spread of nuclear weapons worldwide. Also included are Cooperative Threat Reduction programs to reduce nuclear, chemical, and biological weapon dangers in Russia and other countries of the former Soviet Union, and arms control treaty verification programs. Some intelligence programs are also included. These nonproliferation and national security programs are to be included in the newly established National Nuclear Security Administration (NNSA).

The Administration's FY2001 request for these programs was $682 million, an increase of $135 million from the FY2000 request. Congress appropriated $547 million for FY2000 and nearly $580 million for FY1999. The House approved $861 million for DOE nuclear nonproliferation programs in the Energy and Water appropriations bill for FY2001. Part of the increase is due to the Committee's inclusion of the U.S.- Russia fissile material disposition program and other Russia programs with the nonproliferation programs. The Administration had proposed separate funding.

The FY2001 request for nonproliferation and national security programs includes $100 million for a new long-term nonproliferation program with Russia. The new program, part of the Administration's Expanded Threat Reduction Initiative, is the result of several years of negotiations aimed at ending Russia's continuing production of plutonium that can be used to make nuclear weapons. The funds would be used to store Russian nuclear waste instead of reprocessing it to recover plutonium, and to accelerate efforts to improve the safety and security of nuclear materials in Russia. The House approved $48.5 million for these programs, but funded them separately instead of as a distinct new program.

Not included in the Administration's nonproliferation and national security budget request was a separate FY2001 budget request for $223 million to dispose of excess U.S. and Russian nuclear weapons materials, an increase of about $21 million over the FY2000 appropriation for fissile material disposition. The United States and Russia have each declared 50 tons of former weapons materials to be excess and removed from military stockpiles. Many tons of additional materials are expected to be added to these amounts. DOE's fissile material disposition program is aimed at disposing of the excess material to make sure that it is not reused to make nuclear weapons. The House included $241 million for U.S. and Russian fissile material disposition in its Energy and Water appropriations for FY2001, but not as a separate budget item from the nonproliferation account.

Environmental Management. DOE's Environmental Management Program (EM) is responsible for cleaning up environmental contamination and disposing of radioactive waste at DOE nuclear sites. The FY2001 House level for the program is $6.15 billion, excluding the Uranium Enrichment Decontamination and

Decommissioning Fund. Most of the House's $300 million reduction from the budget request comes from the appropriations account for the "privatization" of major DOE waste management projects, primarily a project to solidify high-level radioactive waste at Hanford, Washington. The Senate voted to cut the Administration request by about $100 million and provide $324 million for privatization.

The FY2001 EM budget is based on the program's accelerated cleanup strategy, which attempts to maximize the number of sites that can be completely cleaned up by the end of FY2006. DOE managers contend that substantial long-term savings can be gained by focusing on completing work at those sites, allowing the earliest possible termination of infrastructure costs. Major sites scheduled for completion during that period are included in the "Defense Facilities Closure Projects" account, for which about $1.1 billion was requested by DOE and approved by the House for FY2001. The largest facilities under that account are the Rocky Flats site in Colorado and the Fernald site in Ohio.

By far the largest project in EM's FY2001 privatization funding request is Phase 1 of the Hanford Tank Waste Remediation System (TWRS), for which DOE requested $450 million. The project consists of a pilot vitrification plant that would turn liquid high-level waste into radioactive glass logs for eventual disposal. TWRS suffered a severe setback in spring 2000 after contractor BNFL Inc. announced that costs would total $15.2 billion, more than twice the previously estimated level. DOE announced in May 2000 that it would select a new contractor and switch to traditional financing methods for the project. The House cut DOE's FY2001 appropriations request for TWRS to $194 million, while the Senate voted $259 million.

Another major privatized project is a facility to treat "mixed" radioactive and hazardous waste at the Idaho National Engineering and Environmental Laboratory, for which $65 million was requested and approved by the House. The Idaho project, the Advanced Mixed Waste Treatment Project, is opposed by some residents of Wyoming who are concerned about radioactivity from a planned incinerator. In response to that opposition, Energy Secretary Bill Richardson halted further work on the incinerator on March 27, 2000, and established a panel to recommend alternatives. However, the construction of the rest of the treatment project is to proceed.

The EM privatization effort is intended to reduce costs by increasing competition for cleanup work and shifting a portion of project risks from the federal government to contractors. Profits to contractors would depend on their success in meeting project schedules and holding down costs; potentially, profits could be substantially higher or lower than under traditional DOE contracting arrangements.

In a typical non-privatized DOE project, a contractor would be hired to build and operate a facility with government funds. DOE would approve and pay all the contractor's costs, and then award the contractor a profit based on performance. Under the privatization initiative, a contractor would be expected to raise almost all funding for necessary facilities and equipment for a project. The contractor would recover that investment and earn a profit by charging previously negotiated fees to DOE for providing services under the contract, such as solidification of radioactive waste.

With a privatized project, the contractor could earn higher profits by reducing costs, but the contractor could lose money if project costs were higher than expected or the required services were not delivered. If DOE cancelled the project, the federal government would repay the contractor's expenses to that date. To cover that contingency, DOE needs enough funding to be appropriated as construction proceeds. If the project were to begin operating as planned, the accumulated appropriations would be used to pay for waste treatment under the contract. In the case of the Hanford TWRS project, however, DOE concluded that the risks involved would cause the private sector to charge excessive prices to the government, negating the potential cost savings.

DOE's $295 million request for decontamination and decommissioning of uranium enrichment plants would provide a 21% boost over the FY2000 appropriation, but the House cut the request to $260 million because of "severe funding constraints," according to the Appropriations Committee report. The Senate Appropriations Committee recommended $298 million. Much of DOE's proposed increase was targeted toward environmental cleanup activities at DOE's uranium enrichment plants at Paducah, Kentucky, and Portsmouth, Ohio, which are currently leased to a private firm. Recent controversy has focused on environmental hazards posed by the plants, particularly contamination resulting from the past enrichment of reprocessed uranium at Paducah.

Civilian Nuclear Waste. The House voted to provide $413 million for the civilian nuclear waste program in FY2001 – a $24.5 million reduction from the budget request but a nearly 20% increase over the $351.2 million provided for FY2000. The Senate voted to provide $351 million, nearly the same as the FY2000 level. As required by the Nuclear Waste Policy Act, DOE is studying Yucca Mountain, Nevada, as the site for a national waste repository, currently scheduled to open in 2010. A final Environmental Impact Statement for the proposed Yucca Mountain repository is to be completed in FY2000. DOE contends that increased funding will be needed to prepare a site recommendation report for the President in FY2001, and to work on a license application to be sent to the Nuclear Regulatory Commission (NRC) in 2002, but the Committee report contended that DOE could meet its objectives with a smaller increase.

Funding for the program comes from two sources. Under the FY2001 budget request, $325.5 million would be provided from the Nuclear Waste Fund, which consists of fees paid by nuclear utilities, and $112 million would come from the defense nuclear waste disposal account, which pays for disposal of high-level waste generated by the nuclear weapons program. The House voted to appropriate $213 million from the Nuclear Waste Fund and $200 million for the defense disposal account. The House also voted to rescind $85 million appropriated in FY1986 for interim nuclear waste storage – funding that was contingent on the passage of legislation that was vetoed by the President. The Senate approved $292 million from the defense disposal account and $59 million from the Nuclear Waste Fund, and also included the rescission of $55 million for interim storage.

The 2010 target for opening a permanent repository is 12 years later than the Nuclear Waste Policy Act deadline of January 31, 1998, for DOE to begin taking waste from nuclear plant sites. Nuclear utilities and state utility regulators, upset over

DOE's failure to meet the 1998 disposal deadline, have won two federal court decisions upholding the Department's obligation to meet the deadline and to compensate utilities for any resulting damages. Utilities have also won several cases in the U.S. Court of Federal Claims, although specific damages have not yet been determined.

Power Marketing Administrations. DOE's four Power Marketing Administrations (PMAs) developed out of the construction of dams and multi-purpose water projects during the 1930s that are operated by the Bureau of Reclamation and the Army Corps of Engineers. The original intention behind these projects was conservation and management of water resources, including irrigation, flood control, recreation and other objectives. However, many of these facilities generated electricity for project needs. The PMAs were established to market the excess power; they are the Bonneville Power Administration (BPA), Southeastern Power Administration (SEPA), Southwestern Power Administration (SWPA), and Western Area Power Administration (WAPA).

The power is sold at wholesale to electric utilities and federal agencies "at the lowest possible rates ... consistent with sound business practice," and priority on PMA power is extended to "preference customers," which include municipal utilities, co-ops and other "public" bodies. The PMAs do not own the generating facilities, but they generally do own transmission facilities, except for Southeastern. The PMAs are responsible for covering their expenses and repaying debt and the federal investment in the generating facilities.

The 104th Congress debated sale of the PMAs and did, in 1995, authorize divestiture of one PMA, the Alaska Power Administration. The future of the remaining PMAs may rest on decisions yet to be made about the treatment of public power in the broader context of electric utility restructuring.

BPA receives no annual appropriation. The Administration's request for the other three PMAs for FY2001 was $199.6 million, a reduction of 25% from the FY2000 appropriation. The savings stemmed from the Administration's proposal that, beginning in FY2000, customers of SEPA, WAPA, and SWPA would be responsible for making their own power purchases and transmission arrangements from any suppliers other than the PMA to satisfy their needs. Under the Purchase Power and Wheeling Program (PPW), the PMAs have purchased electricity and transmission capability, which is repaid by PMA customers, to supplement federal generation. The premise behind the proposed elimination of the PPW program was that deregulation should make it less expensive and less complicated for PMA customers to make these arrangements. Another possible reason is that the money appropriated to the PMAs under PPW is repaid to the Treasury rather than to DOE. This means that the PPW appropriation is fully scored against the caps on discretionary domestic spending with which DOE must comply. The Committee recommended, and the House approved, $195.6 million, reflecting a reduction to WAPA that will be offset by the use of prior-year balances.

Title IV: Independent Agencies

Independent agencies that receive funding from the Energy and Water Development bill include the Nuclear Regulatory Commission (NRC), the Appalachian Regional Commission (ARC), and the Denali Commission. The House voted not to fund the Denali Commission for FY2001 or the proposed Delta Regional Authority.

Table 7. Energy and Water Development Appropriations
Title IV: Independent Agencies
(in millions of dollars)

Program	FY2000	FY2001 Request	H.R. 4733	Senate Bill	P.L. 106-
Appalachian Regional Commission	66.4	71.4	63.0	66.4	--
Nuclear Regulatory Commission	465.0	481.9	481.9	481.9	
(Revenues)	(447.9)	(447.9)	(457.1)	(457.1)	
Net NRC[4]	34.0	34.0	24.8	24.8	--
Tennessee Valley Authority	0	0	0	0	--
Defense Nuclear Facilities Safety Board	17.0	18.5	17.0	18.5	--
Nuclear Waste Technical Review Board	2.6	3.2	2.7	3.0	--
Denali Commission Rescission	20.0	20.0	0	30.0	--
Delta Regional Commission	--	30.0	0	20	--
Total	**129.0**	**177.2**	**$107.5**	**162.7**	**--**

Key Policy Issues — Independent Agencies

Tennessee Valley Authority. Until recently, the Tennessee Valley Authority (TVA) received congressional appropriations for its non-power activities, but as the consequence of debate and enactments during the late 1990s, the Administration did

[4] Includes appropriations from Nuclear Waste Fund, and excludes the NRC Inspector General's Office.

not seek, and the House did not grant, any new funds for TVA for FY2001. The Senate also voted to provide no FY2001 TVA funding.

TVA was established as a federal corporation in 1933 to bring electricity and development to a region encompassing all of Tennessee and portions of Kentucky, Virginia, North Carolina, Georgia, Alabama, and Mississippi. The agency's electric power operations are self-supporting and receive no appropriation.

TVA is also responsible for certain non-power functions intended to further the agency's mission to develop and conserve the region's natural resources. These include flood control, recreation, navigation, and an Environmental Research Center. TVA operates more than 50 dams and reservoirs and a 170,000-acre recreational area in Kentucky and Tennessee, Land Between the Lakes (LBL). These non-power programs represent roughly 2% of TVA's total budget and, until recently, were supported by congressional appropriation. However, critics of TVA argued in recent years that TVA should absorb the cost of these programs and could do so with the savings that could be realized from more efficient operation. The last appropriation for these programs was in FY1999.

An omnibus spending bill enacted shortly before the end of the 105th Congress (P.L. 105-277) also stipulated that if the recreational area, Land Between the Lakes, were not provided $7 million by Congress in future annual appropriations, administration of LBL would be transferred from TVA to the Forest Service. In line with this, the Administration requested only $7 million specifically for the operation of LBL for FY2000. The Senate concurred; the House did not. House Appropriations recommended no funding for TVA, commenting in the Committee report that "final year appropriations for the non-power programs" were provided in FY1999. The FY2000 conferees authorized TVA to spend $3 million from previously appropriated funds for administration of TVA, pending transfer of LBL to the Forest Service, and for expenses relating to the transition in stewardship.

Nuclear Regulatory Commission. The House approved the full request by the Nuclear Regulatory Commission (NRC) for $481.9 million in FY2001, an increase of $16.9 million over FY2000. Major activities conducted by NRC include safety regulation of commercial nuclear reactors, licensing of nuclear waste facilities, and oversight of nuclear materials users. The funding request provides an additional $6.2 million for the NRC inspector general's office, which the House cut to $5.5 million. The Senate took the same action.

The House and Senate Appropriations Committees sharply criticized NRC in 1998 for allegedly failing to overhaul its regulatory system in line with improvements in nuclear industry safety. The committees contended, among other problems, that NRC's regional offices were inconsistent with one another, that NRC was inappropriately interfering with nuclear plant management, and that numerous NRC review processes were outdated and unnecessary. But the panels praised NRC for making improvements during the FY2000 budget cycle, and the House Appropriations continued the positive tone in its FY2001 report.

For the past decade, NRC's budget has been offset 100% by fees on nuclear power plants and other licensed activities, including the DOE nuclear waste program.

The FY2000 Energy and Water bill included a one-year extension of the agency's current fee-collection authority; without a further extension, the fees would drop to 33% of the NRC budget at the start of FY2001. The nuclear power industry has long contended that the existing fee structure requires nuclear reactor owners to pay for a number of NRC programs, such as foreign nuclear safety efforts, from which they do not directly benefit. NRC had proposed phasing down its fee recovery to 90% during the next 5 years, to account for that concern. However, the House passed another one-year extension of the 100% fee for FY2001, with the Appropriations Committee contending that changes in the fee should be addressed by the authorizing committees. The Senate also approved a one-year extension that declined the proposed fee phasedown.

For Additional Reading

CRS Issue Briefs

CRS Issue Brief IB88090. *Nuclear Energy Policy*

CRS Issue Brief IB92059. *Civilian Nuclear Waste Disposal*.

CRS Issue Brief IB10041. *Renewable Energy: Tax Credit, Budget, and Electricity Restructuring Issues*

CRS Issue Brief IB10036. *Restructuring DOE and Its Laboratories: Issues in the 106th Congress.*

CRS Issue Brief IB10019. *Western Water Issues*.

CRS Reports

CRS Report RL30307. *Department of Energy Programs: Programs and Reorganization Proposals.*

CRS Report 97-464. *The National Ignition Facility and Stockpile Stewardship*.

CRS Report 96-212. *Civilian Nuclear Spent Fuel Temporary Storage Options*.

CRS Report RL30445. *Department of Energy Research and Development Budget for FY2001: Description and Analysis*.