

Report for Congress

Received through the CRS Web

Appropriations for FY2003: Energy and Water Development

Updated September 6, 2002

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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 Appropriations Subcommittees on Energy and Water. 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.

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

Appropriations for FY2003: Energy and Water Development

Summary

The Energy and Water Development appropriations bill includes funding for civil works projects of the Army Corps of Engineers, the Department of the Interior's Bureau of Reclamation (BOR), most of the Department of Energy (DOE), and a number of independent agencies. The Bush Administration requested \$25.5 billion for these programs for FY2003 compared with \$25.2 billion appropriated in FY2002. The House Appropriations Committee recommended a bill with \$26.0 billion on September 5. On July 24, the Senate Appropriations Committee reported out its own bill, S. 2784, providing \$26.3 billion in funding.

Key issues involving Energy and Water Development appropriations programs include:

- ! Matching budget request amounts with ongoing Corps construction schedules (“full capability funding”) and congressional priorities;
- ! Funding for major water/ecosystem restoration initiatives such as Florida Everglades and California “Bay-Delta”;
- ! General provisions concerning operation of federal water projects on the Missouri River;
- ! Proposed higher funding for DOE’s civilian nuclear waste management program as the Department prepares a construction permit application for a waste repository under Nevada’s Yucca Mountain;
- ! Proposed \$800 million Environmental Management Cleanup Reform account in DOE, focused on radioactive sites where environmental regulators would allow alternative cleanup methods; and
- ! DOE’s “Nuclear Power 2010” initiative, to “identify the technical, institutional and regulatory barriers to the deployment of new nuclear power plants by 2010.”

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Division abbreviations: RSI = Resources, Science, and Industry; FDT= Foreign Affairs, Defense, and Trade.

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Appropriations for FY2003: Energy and Water Development

Most Recent Developments

The Administration request for FY2003 for energy and water development programs, forwarded on February 4, 2002, was \$25.5 billion, compared with \$25.2 billion appropriated in FY2002. The House Appropriations Subcommittee on Energy and Water Development marked up the bill on July 10, recommending funding of \$26.0 billion, and the full Appropriations Committee voted it out September 5. On July 24, the Senate Appropriations Committee reported out its own bill, S. 2784, providing \$26.3 billion in funding.

Status

Table 1. Status of Energy and Water Appropriations, FY2003

Subcommittee Markup		House Report	House Passage	Senate Report	Senate Passage	Conf. Report	Conference Report Approval		P.L.
House	Senate						House	Senate	
7/10/02	7/22/02	--	--	107-220	--	--	--	--	--

Overview

The Energy and Water Development bill includes funding for civil works projects of the Army Corps of Engineers, the Department of the Interior's Bureau of Reclamation (BOR), 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's request is \$25.5 billion for these programs for FY2003, compared with \$25.2 billion appropriated for FY2002.

The Administration's budget request included a legislative proposal to allocate federal retiree costs to agency programs, and the budget figures submitted to the Congress assumed that this proposal would be enacted. In reporting the bill, the Appropriations Committees recalculated the figures without the proposed reallocation of retiree costs. This report uses the recalculated numbers in citing FY2002 funding and FY2003 Administration requests.

For the Corps of Engineers, the Administration requested \$4.17 billion in FY2003, about \$450 million less than the amount appropriated for FY2002. The

House Appropriations Committee recommended \$4.76 billion, and the Senate Appropriations Committee recommended \$4.65 billion. The Administration asked for \$881 million for FY2003 for the Department of the Interior programs included in the Energy and Water bill — the Bureau of Reclamation and the Central Utah Project. This would be a decrease of approximately \$61 million from the FY2002 funding level. The House Appropriations Committee recommended \$944.5 million for this title, the same as appropriated for FY2002. The Senate Appropriations Committee approved \$992.3 million.

The request for DOE programs was \$20.53 billion, about \$660 million more than the previous year. The major activities in the DOE budget are energy research and development, general science, environmental cleanup, and nuclear weapons programs. The House Appropriations Committee recommended \$20.7 billion for these programs; the Senate Appropriations Committee recommended \$21 billion. (Funding of DOE’s programs for fossil fuels, energy efficiency, and energy statistics is included in the Interior and Related Agencies appropriations bill. The FY2003 net appropriations request for these programs is \$1.8 billion.)

For the Nuclear Regulatory Commission and other independent agencies funded in Title IV of the Energy and Water bill, the net appropriations request for FY2003 is \$195 million, compared to \$221 million appropriated for FY2002.

Table 2. Energy and Water Development Appropriations, FY1996 to FY2003

(budget authority in billions of current dollars*)

FY96	FY97	FY98	FY99	FY00	FY01	FY02	FY03 (Req.)
19.3	20.0	21.2	21.2	21.2	23.9	25.2	25.5

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

Table 2 includes budget totals for energy and water appropriations enacted for FY1996 to FY2002 and the Administration’s request for FY2003. 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 FY2002 - FY2003.

Title I: Corps of Engineers

The President's budget request for FY2003 includes \$4.172 billion for the civil projects of the U.S. Army Corps of Engineers (Corps), a decrease of \$450 million from the total enacted level for FY2002. (The Corps received \$4.486 billion via the annual Energy and Water appropriations bill for FY2002. An additional \$139 million was appropriated for Site Security/Counter Terrorism in the FY2002 Defense and Emergency Supplemental Appropriations bill, P.L. 107-117.) The House Appropriations Committee recommended funding of \$4.76 billion for Corps programs; the Senate Appropriations Committee bill includes \$4.65 billion.

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

Program	FY2002	FY2003 Request	House Bill	Senate S. 2784	Conf.
Investigations & Planning	154.3	102.5	143.7	148.3	--
Construction	1,716.0	1,415.6	1,824.0	1,745.1	--
Flood Control, Mississippi River	346.0	280.7	342.1	337.9	--
Operation and Maintenance	1,874.8	1,913.8	1,990.3	1,956.2	--
Regulatory	127.0	144.3	134.0	144.3	--
General Expenses	153.0	155.7	154.7	155.7	--
FUSRAP	140.0	140.3	150.0	140.3	--
Flood/Coastal Emergencies	--	20.2	20.0	20.2	--
Total	4,625.0	4,173.0	4,760.0	4,650.0	--

Key Policy Issues — Corps of Engineers

Funding for the Corps' civil works program has often been a contentious issue between the Administration and Congress, with final appropriations typically providing more funding than requested by the Administration, regardless of which political party controls the White House and Congress. For FY2001, for example, Congress added \$480 million (12%) to the \$4.08 billion requested by the Clinton Administration. Similarly, the FY2002 House bill funded the Corps at almost 15% more than requested by the Bush Administration, and the final act appropriated slightly more than that.

The FY2003 budget request may be beginning the same pattern. The request as presented in February 27 testimony in the House recommends a cut from current spending: approximately 4% overall, but 30% less for investigation/studies, and 16% less for construction¹ – with virtually no “new starts” in these two accounts during fiscal year 2003. Further budget request priorities include continuing only projects with Administration support – not congressionally-added projects from FY2002 that lack favorable executive branch review (such as water supply assistance). The House recommendation so far is 14.1% higher than the Administration request, and the Senate recommendation is 11.45% higher than the request.

The Administration’s request received considerable media attention in the wake of the recent resignation in early March of the Assistant Secretary of the Army for Civil Works (who sets policy for the Corps’ civil activities). The resignation, or dismissal by some accounts, was reportedly over a rift with the White House on the budget proposal. The Senate Committee notes the dismissal (firing) of the Assistant Secretary resulted in the committee accepting written testimony from the Administration in lieu of an oral statement from a temporary replacement. The House report did not comment on the dismissal per se, but did express its displeasure with the low budget request for the Corps.

Project Construction & Maintenance Backlog. The Administration estimates the current project backlog for ongoing work at \$21 billion and uses this backlog in part to justify its “no new starts” stance on construction. The Senate Committee has taken issue with this stance and counters that the budget proposal would cause the unconstructed project backlog to grow from \$40 billion to \$44 billion and result in a critical maintenance backlog of \$884 million (+ \$182 million from FY2002 levels). The House Appropriations Committee also notes that “many ongoing construction projects would be negatively impacted” and that it has included several new construction projects and studies “in the belief that the water resources development needs of the Nation are growing and cannot be met with just the projects currently underway.”²

Proposed Corps “Reforms.” The Corps has come under increasing criticism over the way it evaluates and undertakes its projects. While this issue has not been directly addressed in consideration of FY2003 appropriations, and some contested plans are still receiving new funds, the issue continues to get significant media attention.

Some have called for major agency “reforms”; others have called for review of Corps programs and policies. The 106th Congress, in passing the Water Resources Development Act of 2000 (WRDA, P.L. 106-541, Section 216), directed the Corps to contract with the National Academy of Sciences to study the feasibility of establishing an independent review panel for Corps project studies. The Academy released its report on July 25 and recommended that large-scale Corps projects be independently reviewed by experts outside the Corps. Further legislation proposing

¹The Senate Appropriations Committee report (S. Rpt. 107-220) notes that 4 projects account for 30% of the proposed general construction budget. p. 8.

² Ibid. p.7-8.

changes to the project development and authorization process has been introduced in the 107th Congress (*e.g.*, see H.R. 1310 and S. 1987), while internally, the Corps initiated during FY2002 an additional staff review for project justifications within the office of the Assistant Secretary of the Army for Civil Works.

In reporting the FY2002 Energy and Water Development Appropriations bills, the House and Senate Appropriations Committees acknowledged ongoing criticisms of the Corps' planning and project development process; however, both committees generally supported the Corps' efforts to deal with such criticisms. To date, neither committee has addressed reform issues in reporting the bills for FY2003. These issues might instead be addressed during consideration of a biennial authorization bill for the Corps, the Water Resources Development Act for 2002, which committees have begun working on. (For more information, see CRS Report RL30928, *Army Corps of Engineers: Reform Issues for the 107th Congress*.)

Missouri River Water Flows. After extended debate in both the House and the Senate, Section 116 of the final bill for FY2002 included Senate language that prohibits the use of funds "to accelerate the schedule to finalize the Record of Decision for the revision of the Missouri River Master Water Control Manual and any associated changes to the Missouri River Annual Operating Plan." The amended provision also directed the Corps to consider the views of other federal and non-federal agencies and individuals "to ensure that other congressionally authorized purposes are maintained." The provision was a temporary compromise of an ongoing issue that had led President Clinton to veto the previous year's Energy and Water Development appropriations bill.

The central issue behind the revision of the manual is how to operate dams along the Missouri River. Their operation determines the timing of water releases, which affect competing uses of the river such as barge traffic, threatened and endangered species protection, and upstream recreation. In November 2000, the U.S. Fish and Wildlife Service (FWS) issued a biological opinion pursuant to the Endangered Species Act that recommended altering dam operations to provide higher springtime water releases to benefit the pallid sturgeon. This change is also believed by some to benefit other threatened and endangered species affected by current dam operations. The Corps has issued a draft implementation plan and is currently evaluating the effects of the proposed spring rise on other Missouri River water users. The Corps is scheduled to release the new Master Manual no earlier than 2003. Neither the House nor the Senate Appropriations Committee mentions Missouri River operations in its report for FY2003.

Everglades. Implementation of a Comprehensive Everglades Restoration Plan (CERP) was authorized in WRDA, Title VI. Funding for CERP activities, as well as other ecosystem restoration projects in Central and Southern Florida is included for the Corps in the annual Energy and Water Development appropriations bill, and for DOI agencies such as the National Park Service and Fish and Wildlife Service in the annual Department of the Interior and Related Agencies appropriations bill. The Energy and Water bill now typically includes funding for other restoration projects done by the Corps in the Everglades and South and Central Florida. The President's request for FY2003 includes a total of \$151 million for construction projects in Southern Florida. For existing Central and Southern project construction, Kissimmee

River restoration, and Everglades and South Florida ecosystem restoration, \$108 million, \$23.7 million, and \$19.5 million respectively have been requested for FY2003. For CERP, \$37 million has been requested for the Corps for FY2003. The House and Senate Appropriations Committees recommend the same levels as requested for FY2003. An additional \$9 million for CERP activities is included in both the House and Senate versions of the Interior and Related Agencies Appropriations bills (H.R. 5093 and S. 2708). Note that funding for CERP activities has been typically included within funds appropriated for the Central and Southern Florida construction line item in the Corps budget.

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 (BOR) and the Central Utah Project Completion Account. For FY2003 the President has requested \$36 million for the Central Utah Project Completion Account and \$805.4 million for BOR (net current authority). The total Title II request for FY2003 is \$880.9 million. The total appropriation for these programs in FY2002, according to congressional sources, was \$944.5 million: \$908.3 million for BOR (gross current authority), and \$36.2 million for the Central Utah Project Completion Account.

The House Appropriations Committee recommended \$944.5 million for this title, the same as appropriated for FY2002. The Senate Appropriations Committee approved \$992.3 million.

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

Program	FY2002	FY2003 Request	House Bill	Senate S. 2784	Conf.
Central Utah project construction and oversight	--	25.0	--	23.6	--
Mitigation and conservation activities*	--	11.0	--	11.3	--
Total, Central Utah Project	36.2	36.2	36.2	36.2	--

* 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). Totals do not reflect permanent appropriations of approximately \$1.2 million.

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

Program	FY2002	FY2003 Request	House Bill	Senate S. 2784	Conf.
Water and Related Resources	792.8*	726.2	804.5	816.2	--
Loan Program Account	7.5	--	0.0	--	--
Policy & Admin.	53.0	54.9	54.9	54.9	--
Central Valley Project (CVP) Restoration Fund	55.0	48.9	48.9	48.9	--
California Bay-Delta (CALFED)	--	15.0	--	--	--
Gross Current Authority	908.3	844.9	908.3	956.1	--
CVP Restoration Fund Offset**	44.9	39.6	--	--	--
Net Current Authority	863.4	805.4	--	--	--

*Includes \$30.3 million from Site Security/Counter Terrorism appropriated in the FY2002 Defense and Emergency Supplemental Appropriation Act, P.L. 107-117.

** In presenting its budget justifications, the Bureau includes an "offset" of approximately \$39.6 million for the CVP restoration fund, resulting in Net Current Authority of \$805.4 million. (Figures may not total due to rounding.)

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 (BOR). Whereas the Corps built hundreds of flood control and navigation projects, BOR's mission was to develop water supplies and to reclaim arid lands in the West, primarily for irrigation. Today, BOR manages more than 600 dams in 17 western states, providing water to approximately 10 million acres of farmland and 31 million people. BOR is the largest supplier of water in the 17 western states and the second largest hydroelectric power producer in the nation. BOR facilities also provide substantial flood control, recreation, and fish and wildlife benefits.

Bureau of Reclamation Budget In Brief

For FY2003, BOR is requesting a total of \$805.4 in net current authority. This request is \$58 million, or 6.72 % less than BOR's appropriated funding of \$863.4 million for FY2002. The FY2003 request as presented includes a \$39 million "offset" for the Central Valley Project (CVP) Restoration Fund. The figures displayed above do not include \$24.9 million for the government-wide legislative proposal to shift to agencies the full cost of the Civil Service Retirement System pension and the Federal Employees Health Benefits Program for current employees.

BOR's single largest account, Water and Related Resources, encompasses the agency's traditional programs and projects, including operations and maintenance, the Dam Safety Program, Water and Energy Management Development, and Fish and Wildlife Management and Development, among others. For this account in FY2003, BOR is requesting \$726.1 million, \$66.7 million less than appropriated in the regular annual appropriations Act for FY2002. (BOR FY2002 funding for this account eventually included \$30.3 million for site security and counterterrorism appropriated in the FY2002 Defense and Emergency Supplemental Appropriations Act, P.L. 107-117).

Key Policy Issues – Bureau of Reclamation

CALFED. Funds have not been appropriated for the California Bay-Delta Restoration Program (Bay-Delta, or CALFED) since FY2000 when the authorization for appropriations expired. However, funds were provided for FY2002 for some activities that support the CALFED program. The Administration has requested \$15 million for the program, for the Environmental Water Account and costs associated with administrative support, for FY2003. Neither the House nor the Senate bill has provided funding directly for the program; however, the Senate has provided \$30 million for activities that support the goals of the program in funding for the Central Valley Project in the Water and Related Resources account, and the House has provided \$2 million in the account to support local work to accelerate investigations associated with determining the feasibility of constructing Sites Reservoir.

No funds were appropriated for FY2001 for the California Bay-Delta Restoration Program (Bay-Delta, or CALFED) or any of its projects. For FY2002, Congress included \$30 million in the Water and Related Resources account for projects supporting the goals of CALFED; however, it did not fund the CALFED program, per se. The Conference Committee report (H. Rpt. 107-258) while keeping language similar to the Senate Appropriations bill (S. 1171), directed funding toward several specific CALFED-related projects, including planning for the Sites Reservoir (\$0.75 million) and an assessment of raising Shasta Dam (\$1.9 million). At a February 28, 2002, hearing of the House Energy and Water Development Appropriations Subcommittee, committee members warned that appropriations for CALFED may not be forthcoming until Congress authorizes the program, in public law. In the past, FY2002 for example, Congress has funded discrete projects within the CALFED program, but, lacking an authorizing statute, has provided no appropriations for the overall program. (For information on the status of authorization bills, see CRS Issue Brief 10019, *Western Water Resource Issues*.)

Other Issues. BOR is requesting \$28.4 million for continued heightened safety and security efforts at BOR facilities. This request includes \$26.6 million specifically for counterterrorism measures including guards and surveillance and equipment to provide increased security for the general public, BOR employees and facilities, and information technology security. It appears no specific funding has been included for counterterrorism or site security as a separate line item, but rather additional funding for these activities may be added in project operations funds throughout the bills as has been the practice in the past in the regular annual appropriations cycle (i.e., outside of supplementals). (For more information on terrorism and security issues involving the water infrastructure sector, see CRS

Report RS21026: *Terrorism and Security Issues Facing the Water Infrastructure Sector*, CRS Report by Claudia Copeland and Betsy A. Cody, updated September 4, 2002; also, see the CRS Terrorism Electronic Briefing Book, updated regularly, accessed at <http://www.congress.gov/brbk/html/ebter1.shtml>).

Title III: Department of Energy

The Energy and Water Development bill includes funding for most of DOE's programs. 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 FY2003 request for DOE programs in the Energy and Water bill is \$20.53 billion, about \$650 million more than the amount appropriated for FY2002. (The FY2003 appropriations request for DOE's programs for fossil fuels, energy efficiency, the Strategic Petroleum Reserve, and energy statistics, included in the Interior and Related Agencies appropriations bill, is \$1.8 billion. For details, see CRS Report RL31306, *Appropriations for FY2003: Interior and Related Agencies.*)

The House Appropriations Committee recommendation for these programs was \$147 million over the Administration's request, \$800 million over the FY2002 appropriation. The Senate Appropriations Committee bill included funding of \$20.96 billion, \$430 million greater than the request.

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

Program	FY2002	FY2003 Request	House Bill	Senate S. 2784	Conf.
Energy Supply R&D					
Solar and Renewable	396.0	407.0	396.0	448.1	--
Nuclear Energy	250.5	249.8	213.7	324.1	--
Other	38.3	37.1	26.2	43.1	--
Adjustments	(18.1)		(2.0)	--	--
Total, Energy Supply	666.7	693.9	633.9	815.3	--
Uranium Facilities Maintenance & Remediation	418.4	382.2	382.2	471.2	--
General Science					
High Energy Physics	716.1	725.0	725.0	730.0	--
Nuclear Physics	380.5	382.4	382.4	387.4	--
Basic Energy Sciences	1,003.7	1,020.0	1,000.0	1,044.6	--
Bio. & Env. R&D	527.4	504.2	504.2	531.2	--
Fusion	248.5	257.3	248.5	259.3	--
Advanced Scientific Computing	158.1	169.6	174.6	169.6	--
Other	216.5	225.7	235.6	226.7	--
Adjustments	(17.7)	(4.4)	(18.6)	(19.4)	--

Program	FY2002	FY2003 Request	House Bill	Senate S. 2784	Conf.
Total, General Science	3,233.1	3,279.5	3,270.0	3,329.5	--
Non-Defense Environmental Management	236.4	166.0	--	176.0	--
National Nuclear Security Administration (NNSA)					
Weapons	5,560.2	5,867.0	5,770.0	6,109.0	--
Nuclear Nonproliferation	1,029.6	1,113.6	1,170.0	1,115.6	--
Naval Reactors	688.0	706.8	706.8	706.8	--
Office of Administrator	312.6	335.9	261.9	335.9	--
Total, NNSA	7,590.5	8,023.3	7,900.0	8,267.3	--
Defense Activities					
Defense Environmental Management					
Environ. Restoration	5,242.8	4,544.1	4,543.7	5,406.5	--
Environ. Mgmt. Cleanup Reform		800.0	1,100.0	--	--
Defense Facilities Closure Projects	1,092.9	1,091.3	1,091.3	1,125.3	--
Environ. Restoration Privatization	153.5	158.4	158.4	158.4	--
Total, Defense Env. Man.	6,489.2	6,593.8	6,893.4	6,690.3	--
Other Defense Activities	547.5	468.7	485.1	537.7	--
Defense Nuclear Waste	280.0	315.0	315.0	280.0	--
Total, Defense Activities	14,907.2	15,400.9	15,601.9	15,775.2	--
Departmental Admin. (net)	73.0	161.7	128.7	97.7	--
Office of Inspector General	32.4	37.7	37.7	37.7	--
Power Marketing Administrations (PMA's)					
Southeastern	4.9	4.5	4.5	4.5	--
Southwestern	28.0	27.4	27.4	27.4	--
Western	171.9	162.8	162.8	168.9	--
Falcon & Armistad O&M	2.7	2.7	2.7	2.7	--
Total, PMA's	207.5	197.4	197.4	203.5	--
FERC (revenues)	184.1 (184.1)	192.0 (192.0)	192.0 (192.0)	192.0 (192.0)	--
Civilian Nuclear Waste	95.0	209.7	209.7	56.0	--
Total, Title III	19,869.8	20,528.9	20,700.0	21,000.0	--

Key Policy Issues — Department of Energy

Renewable Energy. The FY2003 request for DOE's Renewable Energy Program seeks "to meet the growing need for clean and affordable energy," according to the Appendix to the U.S. Government's FY2003 Budget (p. 397). In accordance with this policy, DOE proposes to increase solar and renewables funding under DOE's Office of Energy Efficiency and Renewable Energy (EERE) from \$396.0 million in FY2002 to \$407.0 million in FY2003 (excluding funding for programs under the Office of Science).

Overall, this is a relatively flat budget request. However, some programs would get either a significant increase or decrease. The major cuts in proposed spending include decreases of \$11.3 million for Concentrated Solar, \$6.2 million for Biopower, and \$2.6 million for Program Direction.

The Senate Appropriations Committee recommends \$448.0 million (excluding \$15.0 million in prior year balances) for the Renewable Energy Program. This is \$41.1 million, or 13%, more than the request. This includes \$14.0 million more for Biomass/Biofuels, \$10.5 million more for Geothermal, \$6.0 million more for Wind, \$5.1 million more for Hydrogen, \$4.1 million more for Concentrating Solar Power, and \$4.0 million more for Program Support.

The Senate report finds that DOE has not adequately implemented "congressionally-directed activities" that were specified in the previous year's conference report. The report directs that this situation be addressed "before the Conference Committee completes action on the final funding bill."

In contrast, the House Appropriations Committee seeks \$396.0 million for the Renewable Energy Program. This is the same amount, not accounting for inflation, as the FY2002 appropriation, and it is \$11 million, or 3%, less than the Administration's request.

Relative to the Senate Appropriations Committee, the House Appropriations Committee would provide \$52.0 million, or 13%, less for the Program. This includes \$10.5 million less for Geothermal, \$9.5 million less for Hydrogen, \$6.0 million less for Wind, \$4.1 million less for Concentrating Solar, \$4.0 million less for Program Support, \$3.3 million less for Photovoltaics, and \$3.0 million less for Renewable American Indian Resources.

As in the Senate report, the House report also expresses concern about DOE's "slow pace in executing projects" directed in the previous year's appropriation bill. Additionally, the House report "renews" its previous year's direction to DOE to provide Congress with "quantitative measures that can be used to evaluate the potential costs and benefits of various renewable energy technologies." The House finds that DOE failed to meet the previous request for this information and, thus, "has no objective basis for supporting the changes in research emphasis proposed in the fiscal year 2003 budget request."

Nuclear Energy. For nuclear energy programs — including reactor research and development, spent fuel processing, and closing of surplus facilities — the Bush

Administration is requesting \$249.8 million for FY2003. The Administration's National Energy Policy, issued in May 2001, calls for "the expansion of nuclear energy in the United States." The FY2003 nuclear energy request reflects that policy with a funding initiative to encourage construction of new commercial reactors by 2010 ("Nuclear Power 2010") and additional funding for advanced ("Generation IV") reactor designs that could be ready for deployment after 2010. However, total funding for nuclear energy supply programs would remain about the same as in FY2002.

"Nuclear energy is the only expandable, large-scale electricity source that avoids air emissions and meets the energy demands of a growing, modern economy," according to the DOE FY2003 budget justification. However, opponents have criticized DOE's nuclear research program as providing wasteful subsidies to an industry that they believe should be phased out as unacceptably hazardous.

The House Appropriations Committee recommended \$213.7 million for nuclear energy programs, a decrease of \$36.1 million from the Administration request. However, the reduction would come entirely from transferring funds for decommissioning the Fast Flux Test Facility (FFTF) from nuclear energy to the environmental management program. The Senate Appropriations Committee approved \$324.1 million, including FFTF and the Advanced Accelerator Applications program, which was previously a separate funding category.

The budget request would provide \$46.5 million for nuclear energy technologies, which includes \$38.5 million for Nuclear Power 2010 and \$8.0 million for Generation IV advanced reactor technologies. The House Appropriations Committee recommended cutting the nuclear energy technologies request to \$41.5 million so that \$5 million could be shifted to the nuclear energy plant optimization program (NEPO, described below), which the Administration had proposed to terminate. The House panel also called for \$5 million of the nuclear energy technologies funding to go toward pursuing the advanced nuclear reactor and fuel-cycle recommendations of a joint U.S.-Russian task force. The Senate panel voted to boost the nuclear energy technologies request to \$48.5 million.

According to the DOE budget justification, the Nuclear Power 2010 program, which is to receive a \$30.5 million increase over FY2002, will "identify the technical, institutional and regulatory barriers to the deployment of new nuclear power plants by 2010." The program seeks to deploy both a water-cooled reactor (similar to most existing commercial plants) and a gas-cooled reactor. The current phase of the initiative would include site approval, reactor design certification, license applications, detailed design work, and development of improved construction techniques. DOE announced it would seek proposals for joint DOE/industry teams in which DOE would pay up to half the cost of these activities.

DOE's request for Generation IV technologies is double the FY2002 level. A variety of concepts are under consideration, according to the budget justification, including reactors fueled by plutonium recovered through reprocessing of spent nuclear fuel. The Administration's *National Energy Policy* report contends that plutonium recovery could reduce the long-term environmental impact of nuclear waste disposal and increase domestic energy supplies. However, opponents contend

that the separation of plutonium from spent fuel poses unacceptable environmental risks and undermines U.S. policy on nuclear weapons proliferation.

DOE is requesting \$18 million to study pyroprocessing technology and for electrometallurgical treatment of spent fuel from the Experimental Breeder Reactor II (EBR-II) in Idaho. No funding is requested for waste transmutation, which involves bombarding nuclear waste with neutrons from a fast reactor or particle accelerator to convert long-lived radioactive isotopes into radioisotopes that decay more quickly. Because those programs involve plutonium separation, they are generally opposed by nuclear nonproliferation groups. DOE announced July 17, 2002, that work on advanced nuclear reactor and reprocessing technologies would be centered at the Idaho National Engineering and Environmental Laboratory (INEEL), which would be placed under the control of the DOE Office of Nuclear Energy, Science, and Technology. The Senate Committee would boost DOE's nuclear fuel cycle activities to \$77.9 million, including the requested \$18 million for EBR-II fuel treatment and transmutation research under the Advanced Accelerator Applications program. According to the Senate report, "This program subsumes the Advanced Accelerator Applications program and its activities and will focus on the development of advanced fuel cycles, recycle or reprocessing of spent fuel, and transmutation technologies." The House panel also approved the \$18 million request for EBR-II but, aside from the \$5 million related to the joint U.S.-Russia task force (noted above), provided no additional FY2003 funding for reprocessing and transmutation.

A DOE program to support innovative nuclear energy research projects, the "nuclear energy research initiative" (NERI), would receive \$25 million under the FY2003 request, a \$7 million reduction from FY2002. The House Appropriations Committee recommended the full NERI request, while the Senate panel called for a \$4 million increase. As noted above, the House Committee recommended \$5 million for NEPO, a research program to improve the economic competitiveness of existing nuclear power plants. The Senate Appropriations Committee also recommended \$5 million for the program, \$2 million below the FY2002 level.

Science. The DOE Office of Science conducts basic research in six program areas: basic energy sciences, high-energy physics, biological and environmental research, nuclear physics, fusion energy sciences, and advanced scientific computing research. Through these programs, DOE is the third-largest federal supporter of basic research and the largest federal supporter of research in the physical sciences.

For FY2003, DOE requested \$3.279 billion for Science, compared with \$3.233 billion appropriated in FY2002. Within this nearly flat overall funding, five of the six programs would receive increases, while one, biological and environmental research, would receive a reduction. The House Appropriations Committee recommended a net reduction of \$8 million from the request. The Senate Appropriations Committee recommended an increase of \$50 million.

The requested funding for the largest program, basic energy sciences, is \$1.020 billion, compared with \$1.004 billion in FY2002. This request includes \$211 million for continued construction of the Spallation Neutron Source, a large facility at Oak Ridge National Laboratory for research in physics, materials science, and other fields.

Funding for the Spallation Neutron Source in FY2002 was \$276 million; the reduction in FY2003 reflects the planned construction schedule, not a delay or scaling back of the project. The House Appropriations Committee recommended funding basic energy sciences at the requested level. The Senate Appropriations Committee recommended an increase of \$25 million. Both recommendations include full funding for the Spallation Neutron Source.

The largest requested percentage increase is for the smallest program, advanced scientific computing research, which would increase almost 8% to \$170 million. The House Appropriations Committee recommended an additional increase of \$5 million for this program. The Senate Appropriations Committee recommended funding the program at the requested level.

The only program to be reduced in the request is biological and environmental research, which would receive \$504 million, compared with \$527 million the previous year. The proposed reduction results mainly from the completion of 74 medical applications projects that were funded at congressional direction in FY2002. Funding for the Genomes to Life project, which was a new initiative in FY2002, would increase to \$37 million. The House Appropriations Committee recommended funding biological and environmental research at the requested level. The Senate Appropriations Committee recommended an increase of \$27 million above the request, more than reversing the requested reduction. Of the Senate increase, \$10 million is designated for the Genomes to Life program, which the Committee “strongly encourages” DOE to expand in FY2004, stating that it “shows tremendous potential and deserves enhanced support.” Another \$6 million of the Senate increase is designated for research and demonstration projects on removal of arsenic from municipal water supplies.

The House Appropriations Committee recommended funding high-energy physics and nuclear physics at the requested levels of \$725 million and \$382 million respectively. In both cases this is an increase over FY2002. The Senate Appropriations Committee recommended increasing each of these programs by an additional \$5 million above the request.

The House Appropriations Committee recommended reducing funding for fusion energy sciences by \$9 million from the requested level of \$257 million. It also directed DOE to prepare an updated fusion program plan, including an evaluation of the possibility of re-engaging in the International Thermonuclear Experimental Reactor (ITER) project. (U.S. participation in ITER was discontinued in 1998 at the end of the initial engineering design phase. The remaining partners, Canada, Europe, Japan, and Russia, are currently in negotiations prior to the start of construction.) The Senate Appropriations Committee recommended a \$2 million increase above the request for fusion energy sciences to fund an evaluation of the concept known as “fast ignition”; a report on this evaluation is to be provided to the Committee by August 1, 2003.

Nuclear Weapons Stockpile Stewardship. Congress established the Stockpile Stewardship Program (SSP) in the FY1994 National Defense Authorization Act (P.L. 103-160) “to ensure the preservation of the core intellectual and technical competencies of the United States in nuclear weapons.” The program is operated by

the National Nuclear Security Administration (NNSA), a semiautonomous agency established by Congress in the FY2000 National Defense Authorization Act (P.L. 106-65, Title XXXII) within DOE. It seeks to maintain the safety and reliability of the U.S. nuclear stockpile.

A key issue is whether this task can and should continue to be done without nuclear testing. While SSP has sought to maintain warheads without testing, statements in early 2002 implied a reduced commitment to that approach. Secretary of Defense Donald Rumsfeld said that nations with nuclear weapons have “a responsibility to see that they are safe and reliable. To the extent that can be done without testing, clearly that is the preference. And that is why the President has concluded that, thus far, that is the case.” J.D. Crouch, Assistant Secretary of Defense for International Security Policy, stated that there is “no change in the Administration’s policy at this point on nuclear testing. We continue to oppose CTBT [Comprehensive Test Ban Treaty] ratification. We also continue to adhere to a testing moratorium.” The Administration requested \$15 million to begin to improve “nuclear test readiness” – to reduce the time between a decision to test and the conduct of the test – pending completion of a study and policy on optimum test readiness time. The Senate Appropriations Committee, in its report on the FY2003 Energy and Water Development Appropriation Bill, stated the matter differently: “weapons activities [funds] provide for the continuing assurance of safety, reliability, and security of the nuclear weapons in our enduring nuclear weapons stockpile while adhering to the spirit of the Comprehensive Test Ban Treaty.” The committee bill provides “within available funds” \$64.2 million for test site readiness (a category broader than nuclear test readiness), as well as other funds that “contribute to the test readiness posture.” The House Appropriations Committee recommended providing the requested amount, while directing DOE to notify the committee before obligating any of these funds in FY2003.

Stockpile stewardship consists of all activities in NNSA’s Weapons Activities account, for which the FY2003 request was \$5,867.0 million and the Senate bill provided \$6,109.0 million. The House bill provided \$5,967.1 million, of which \$195.0 million was prior year balances. Comparable appropriations were \$4,908.7 million for FY2001 and \$5,560.2 million for FY2002. The three main elements of stockpile stewardship, described below, are Directed Stockpile Work, \$1,045.8 million for FY2002, \$1,234.5 million requested for 2003 and provided by the House and Senate bills; Campaigns, \$2,167.1 million for FY2002, \$2,067.8 million requested for FY2003, \$2,148.2 million provided by the Senate bill, and \$2,088.9 million provided by the House bill; and Readiness in Technical Base and Facilities, \$1,553.1 million for FY2002, \$1,688.2 million for FY2003, \$1,849.8 million provided by the Senate bill, and \$1,738.2 million provided by the House bill.

NNSA manages two major programs in addition to Weapons Activities: Defense Nuclear Nonproliferation (\$1,113.6 million requested; see below) and Naval Reactors (\$706.8 million requested). The total FY2003 request for NNSA, including the foregoing elements and several smaller ones, is \$8,023.4 million, compared with \$7,590.5 million appropriated for FY2002. The Senate bill provides \$1,115.6 million for Defense Nuclear Nonproliferation, \$706.8 million for Naval Reactors, and \$8,267.3 million in total for NNSA. Comparable figures for the House bill are \$1,167.6 million, \$706.8 million, and \$7,908.4 million, respectively.

Most stewardship activities take place at the nuclear weapons complex, which consists of three laboratories (Los Alamos National Laboratory, NM; Lawrence Livermore National Laboratory, CA; and Sandia National Laboratories, NM and CA), four production sites (Kansas City Plant, MO; Pantex Plant, TX; Savannah River Site, SC; and Y-12 Plant, TN), and the Nevada Test Site. NNSA manages and sets policy for the complex; contractors to NNSA operate the eight sites.

Directed Stockpile Work (DSW). This program involves work directly on nuclear weapons in the stockpile, such as monitoring the condition of weapons and maintaining them through repairs, refurbishment, life extension, and modifications. It includes R&D to support activities to be undertaken for specific warheads. The FY2003 DSW request would support work on a number of nuclear weapons: full-scale refurbishment of the W87, development engineering for the B61 mods 7/11, an engineering study of the W80 to extend its life and enhance surety, and development engineering to extend the life, refurbish major systems, and add new components to the W76. NNSA plans to begin production engineering for the latter two warheads in FY2003. It also plans to conduct a study for the “Robust Nuclear Earth Penetrator” (RNEP), for which \$15.0 million was requested for FY2003. Warheads of this type would burrow into the ground before detonating in order to destroy underground targets with less explosive yield than a surface-burst weapon would require. The Senate Armed Services Committee’s FY2003 defense authorization bill, S. 2514, included no funds for the RNEP, and the Senate Appropriations Committee bill was silent on the matter. In contrast, the House Appropriations Committee bill provided the amount requested for RNEP.

Campaigns. These are “focused scientific and engineering efforts” that seek to “develop and maintain special capabilities and tools needed for continued certification of the stockpile ... in the absence of underground nuclear testing.” For FY2003, there are 16 campaigns. Examples are: Enhanced Surveillance (\$82.3 million appropriated for FY2002, \$77.2 million requested for FY2003 and provided by the Senate and House bills), which seeks to assess lifetimes of weapons components and predict defects resulting from aging; Advanced Design and Production Technologies (\$75.5 million for FY2002, \$74.1 million requested for FY2003 and provided by the Senate and House bills), which seeks to improve individual manufacturing processes, integrate product information, and develop the ability to fabricate complex parts in small lots; Advanced Simulation and Computing (\$729.9 million for FY2002, \$724.9 million requested for FY2003 and provided by the House bill, \$704.3 million provided by the Senate bill), which aims to obtain a 100-trillion operations per second computer by 2005 and is developing computer models (e.g., of nuclear weapon performance) needed to certify the stockpile; and Tritium Readiness (\$123.5 million for FY2002, \$126.3 million requested for FY2003 and provided by the House bill, and \$112.9 million provided by the Senate bill), which is developing means of using a commercial light water reactor to produce tritium, an isotope of hydrogen that is a key ingredient in nuclear weapons.

The Pit Manufacturing and Certification campaign has attracted much congressional interest. Pits are the fissile cores of nuclear warheads that trigger the thermonuclear secondary stage. The United States has been unable to produce pits for use in stockpiled weapons since 1989, when DOE suspended pit production at the Rocky Flats Plant (CO). As a result, the United States has been unable to make all-

new nuclear warheads of existing or advanced new designs. The campaign supports two pit projects: installation of a low-capacity pit production facility, and supporting R&D, at Los Alamos National Laboratory; and planning for a higher-capacity Modern Pit Facility. R&D, procurement, and construction costs for the two projects might total some \$5 billion over two decades. The FY2003 request is \$194.5 million, compared with \$219 million appropriated for FY2002. The request includes \$112.5 million for manufacturing the pit for the W88 warhead, one of the two types of warheads used on the Trident II missile, \$78.0 million for W88 pit certification, \$2.0 million for pit activities not specifically supporting the W88, and \$2.0 million for planning for the Modern Pit Facility.

In action on this issue for FY2002, the House Appropriations Committee recommended the requested amount, \$128.5 million, but asserted that DOE cannot show “that it has a viable plan to manufacture and certify pits on the schedule dictated by national security needs,” criticized the project as “years behind schedule and hundreds of millions of dollars over the original cost estimate,” and stated that it will judge NNSA’s success on how well the pit project succeeds. The Senate Appropriations Committee for FY2002 recommended increasing funding substantially to “fully fund” all relevant activities, viewing the then-current schedule, which would not certify a pit for use in the stockpile until FY2009, as “unacceptable.” In its FY2003 request, NNSA states that it plans to “certify a W88 pit built at [Los Alamos National Laboratory] without underground nuclear testing by FY 2009, with a goal of achieving an earlier date of FY 2007.” Further, NNSA plans to defer detailed design of a Modern Pit Facility until FY2004, “with FY 2003 funding used to continue manufacturing concepts.”

In its report on FY2003 energy and water appropriations, the Senate Appropriations Committee recommended \$246.0 million for pit manufacturing and certification, an increase of \$51.5 million over the request. The sum includes the requested \$2.0 million for pit activities and \$2.0 million for the Modern Pit Facility. The committee, however, “remains greatly concerned about the NNSA’s refusal to request funds consistent with its own project plan submitted less than 1 year ago.” Because this was not done, which would have resulted in a lower request for this important project, “the Committee has been forced to reduce other items in the budget.” The Senate Appropriations Committee directed NNSA to revise the plan and report to Congress before the end of the current fiscal year and then annually. The House Appropriations Committee provided \$194.5 million, the requested amount, for pit manufacturing and certification.

The National Ignition Facility (NIF), under construction at Lawrence Livermore National Laboratory, is to be the world’s largest laser. It is a key project for the stockpile stewardship program. NIF is intended to help solve weapons problems, attract top physicists to the nuclear weapons program, and advance the quest for fusion power. A top priority of the facility is to achieve “ignition,” in which nuclear fusion of deuterium and tritium (isotopes of hydrogen) would release more energy than was provided by the laser to achieve fusion.

In 1999, the NIF Project identified several problems with the original cost estimates and notified DOE that NIF could not be completed for the original estimated cost. The project was rebaselined and revalidated in 2000, adding

approximately \$1 billion to the cost and several years to the schedule. Over the years, various reports have raised questions about technical issues. The NIF Project Office, however, states that the project is now on the schedule and budget set forth in the new baseline, and that no technical obstacles remain. In its FY2003 request, DOE estimated total project-related costs for NIF at \$3,448.1 million.

In its report on FY2003 energy and water appropriations, the Senate Appropriations Committee expressed great concern over changes to the project's scope implied by the request. The title of the campaign has changed from "Inertial Confinement Fusion and High Yield" to "High Energy Density Physics," which the Senate Appropriations Committee felt marked a shift "from a focus on achieving the specific goal of ignition to a generalized physics research program." The committee was also concerned that the performance criteria for acceptance testing of the laser beams could be reduced "significantly below what is required to support ignition experiments." The Senate Appropriations Committee expressed its "impression that NNSA is not committed to the NIF Project and might down scope the project to the point where laser performance that is needed to evaluate ignition targets would never be realized." In response, "[t]he Committee rejects this re-prioritization and down-scoping. Ignition is now and will remain the primary objective" for NIF. In part because of concern that the Administration did not request certain funds for equipment and technology essential for ignition, the Senate Appropriations Committee added \$35.0 million to the FY2003 request for inertial confinement fusion, for a total of \$487.3 million. The House Appropriations Committee provided \$498.8 million, and also expressed concern that NNSA was changing the focus "from the specific goal of ignition to a generalized physics research program." Accordingly, it "direct[ed] NNSA to re-establish ignition as the primary objective and justification for the NIF."

Readiness in Technical Base and Facilities (RTBF). This program provides infrastructure and operations at the nuclear weapons complex sites. The request includes eight categories. By far the largest is Operations of Facilities (\$897.8 million for FY2002, \$949.9 million requested for FY2003, \$1,026.0 million provided by the Senate bill, \$994.9 provided by the House bill). Other large categories include Program Readiness, which supports activities occurring at multiple sites or in multiple programs (\$192.0 million appropriated for FY2002, \$208.1 million requested for FY2003 and provided by the House bill, \$218.0 in the Senate bill), Material Recycle and Recovery (\$90.3 million appropriated for FY2002, \$98.8 million requested for FY2003 and provided in the Senate bill, \$103.8 million in the House bill), and Construction (\$204.9 million appropriated for FY2002, \$270.3 million requested for FY2003 and provided by the House bill, \$328.2 million in the Senate bill). Of particular interest is the RTBF element Nuclear Weapons Incident Response, for which \$91.0 million is requested for FY2003 and provided in the House bill, and \$96.0 million provided in the Senate bill, compared with \$88.9 million appropriated for FY2002. This activity provides funds for an appropriate technical response to any nuclear or radiological emergency within DOE, in the United States, or abroad. In addition, the RTBF element Operations of Facilities includes \$10.0 million requested for FY2003, unchanged from FY2002, for the National Center for Counterterrorism. The Senate bill provides \$27.0 million for this center; the House bill did not specify an amount for it.

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. These nonproliferation and national security programs are included in the National Nuclear Security Administration (NNSA).

Funding for these programs in FY2002 was provided both in the regular Energy and Water Development bill, which appropriated \$803.6 million, and in the FY2002 Defense and Emergency Supplemental Appropriations Act (P.L. 107-117), which added \$223 million, for a total of \$1.0266 billion. In FY2001 these programs received \$872.3 million. The FY2003 request would maintain an increased level, at \$1.1136 billion. The House Appropriations Committee recommended \$1.17 billion. The Senate Appropriations Committee bill included \$1.1156 billion.

In particular, the Nonproliferation and Verification R&D program, which received a total of \$286.5 million for FY2002, would be funded at \$283 million in the Administration request and the House bill, and \$293 million in the Senate bill. Nonproliferation and International Security programs, formerly called "Arms Control," would receive \$132 million in the request and in both House and Senate bills, compared with \$118 million in FY2002. These programs include international safeguards, export controls, treaties and agreements, and two programs in the former Soviet Union, Initiatives for Proliferation Prevention (IPP) and the Nuclear Cities Initiatives (NCI). (The House and Senate Appropriations Committees broke out IPP and NCI into a separate line item called "Russian Transition Initiative" and list the FY2003 request for them as \$39.3 million, compared to \$42.0 million appropriated for FY2002.)

International Materials Protection, Control and Accounting (MPC&A), which is concerned with reducing the threat posed by unsecured Russian weapons and weapons-usable material, received a big increase in FY2002 to \$293 million, from \$174 million in FY2001. The request for FY2003 is \$233 million. The Senate bill includes the same amount; the House Appropriations Committee recommends \$243 million.

Requested funding for the Fissile Materials Disposition program for FY2003 is \$448.0 million, compared with \$302.4 million in FY2002. The Administration proposes to abandon plans to vitrify and immobilize a portion of surplus plutonium from dismantled U.S. nuclear weapons and instead dispose of almost all of it as fuel for commercial power reactors. Some of the increased funding would go toward construction of a facility to convert the plutonium to reactor fuel at Savannah River, SC. FY2003 funding for the project would be \$93.0 million, compared to \$65.9 million for FY2002. Money for Russian surplus materials disposition would also increase, from \$61.0 million in FY2002 to \$98.0 million in FY2003. House and Senate funding for these programs matched the Administration request.

(For details on these programs, see CRS Issue Brief IB10091, *Nuclear Nonproliferation Issues*.)

Environmental Management. The amount of time and money needed to clean up environmental contamination resulting from the production of nuclear

weapons during the Cold War has been a longstanding issue. Since the beginning of the U.S. atomic energy program, DOE and its predecessors have been responsible for administering the production of nuclear weapons and managing radioactive and other hazardous waste. In later years, DOE expanded its efforts to include the environmental restoration of radioactive sites and those with other hazardous contamination in buildings, soil, and water to ensure their safety for future uses. In 1989, the Bush Administration established an Environmental Management Program within DOE to consolidate the agency's efforts in cleaning up contamination from defense nuclear waste, as well as waste from civilian nuclear energy research. DOE is responsible for complying with numerous federal environmental laws and regulations in administering the program, and is subject to fines and penalties for violations of these requirements. Consequently, DOE has signed numerous legally binding compliance agreements with the Environmental Protection Agency (EPA) and the states to perform cleanup activities and dispose of waste according to specific deadlines.

DOE reports that there are a total of 114 contaminated sites in 30 states where the production of nuclear weapons, and civilian nuclear energy research and development activities, resulted in radioactive and other hazardous contamination. Together, these sites occupy approximately 2.1 million acres, which is equivalent to the land area of Rhode Island and Delaware combined. DOE reports that all response actions were complete at 74 sites as of the end of FY2001 at a cost of over \$60 billion, and that cleanup is expected to be complete at two additional sites by the end of FY2003. However, the sites that have been cleaned up are relatively small and are among the least hazardous, and the sites where cleanup remains underway contain some of the most severely contaminated areas. DOE estimates that cleanup at the remaining sites may take 70 years to complete, and that total cleanup costs may range from \$220 billion to as high as \$300 billion if program reforms are not initiated.

Five accounts within the annual appropriations bill for Energy and Water Development have traditionally funded DOE's Environmental Management Program. The Defense Environmental Restoration and Waste Management Account funds cleanup and waste management activities at nuclear weapons sites where all response actions are projected to continue *beyond* 2006. The Defense Facilities Closure Projects Account supports cleanup and waste management activities at nuclear weapons sites where all response actions are scheduled to be complete by the *end* of 2006. The Defense Environmental Management Privatization Account funds cleanup and waste management projects at nuclear weapons sites, which are performed under "privatization" contracts. This contracting approach relies on the private sector to construct and operate facilities or conduct cleanup actions on a fixed-price, fee-for-service basis. The Non-Defense Environmental Management Account funds cleanup and waste management activities at civilian nuclear energy research and development sites. Lastly, the Uranium Facilities Maintenance and Remediation Account funds the cleanup of uranium and thorium processing sites.

For FY2003, DOE initially requested a total of \$6.7 billion for the above accounts, approximately the same amount as enacted for FY2002. However, \$800 million of the initial request was allocated to a new Environmental Management Cleanup Reform Account, which would fund efforts to reduce risk, decrease cleanup costs, and accelerate cleanup schedules. The Administration budgeted the majority

of the funding for this new account by decreasing support for sites funded under the Defense Environmental Restoration and Waste Management Account. Under this approach, funding would be restored at these sites only if compliance agreements with the Environmental Protection Agency (EPA) and the states are re-negotiated to accelerate cleanup schedules. DOE contends that many of the requirements under its existing compliance agreements are too costly, ineffective, and unnecessarily time-consuming, and that its agreements need to be re-examined to explore ways to increase the pace of cleanup and reduce costs. Concerns have been raised over whether EPA and the states might agree to weaker cleanup standards, rather than face the possibility of the loss of funds which may prevent sites from fulfilling existing agreements.

To date, DOE has signed letters of intent with EPA and the states to accelerate cleanup at the following sites: the Hanford site in Washington, the Oak Ridge site in Tennessee, the Idaho National Engineering and Environmental Laboratory, the Nevada Test Site, the Savannah River site in South Carolina, the Pantex site in Texas, and the Los Alamos National Laboratory and Sandia National Laboratories in New Mexico. On August 2, 2002, the President submitted a budget amendment to request an additional \$300 million in FY2003 to fulfill these new agreements, increasing the request for a new Environmental Management Cleanup Reform Account to \$1.1 billion, and the overall request for the Environmental Management Program to \$7.0 billion.

The largest portion of the cleanup reform funds would be allocated to the Hanford site, which is the largest and most severely contaminated of all of DOE's sites, and is estimated to be the most costly to clean up. Of the cleanup reform request, approximately \$433 million, nearly 40%, would be allocated to accelerating cleanup at the Hanford site, increasing its funding to over \$2 billion in FY2003. Under the letter of intent to accelerate cleanup at the site, DOE, EPA, and the state of Washington have agreed to work together to complete cleanup at Hanford 35 to 45 years sooner than the current estimated completion date of 2070. Subsequently, DOE has completed a performance management plan that outlines six strategic initiatives to achieve this goal. However, the compliance agreement for the Hanford site has not been re-negotiated thus far, and DOE remains legally bound to meeting cleanup schedules and other regulatory requirements that were previously agreed upon. Concerns have arisen over whether DOE will seek to expedite cleanup by leaving more radioactive waste at the site than previously planned. State officials want DOE to remove nearly all of the high-level radioactive waste from 177 underground tanks. Environmental organizations and others have expressed concerns that the "reform" agreement would allow more waste to be stabilized, or "grouted," in the tanks and left in place.

The Subcommittee on Oversight and Investigations of the House Committee on Energy and Commerce held a hearing on DOE's cleanup reform initiative on July 19, 2002. Jesse Roberson, Assistant Secretary for Environmental Management, testified that the objective of the cleanup reform initiative is to identify and implement more risk-oriented and efficient cleanup approaches, and that the intent is not to weaken any of DOE's compliance agreements. The General Accounting Office (GAO) testified on the status of compliance agreements with EPA and the states at each nuclear waste cleanup site, and indicated that DOE faces challenges in developing

and implementing a risk-based method to prioritize cleanup activities due to failed attempts to do so in the past. GAO also indicated that DOE's reform initiative in some cases could involve "potential changes in technology or approach that would result in leaving more of the waste on site than currently planned and thus could significantly reduce cleanup costs. In other cases, it could allocate funding using a greater emphasis on risk reduction, which could shift funding among sites." Representatives from the states of Washington, Idaho, and Tennessee indicated that the letters of intent to re-negotiate cleanup agreements in their states would not result in weakened cleanup standards, but would provide a framework for cooperation among the parties involved to establish new cleanup goals.

The House Appropriations Committee approved the Administration's request of \$1.1 billion for a new Environmental Management Cleanup Reform Account, and indicated its overall support for DOE's goals of accelerating cleanup and reducing costs through more efficient and innovative approaches. The committee directed DOE to continue to focus on reducing risk and accelerating cleanup, and to eliminate activities that do not contribute to these goals. However, the committee indicated that none of the \$1.1 billion in cleanup reform funds would be released until a performance management plan is executed for each site and is submitted to the congressional defense committees. DOE was also directed to revise its budget justification for the Environmental Management Program in future years to fully identify the effects of the accelerated cleanup initiative. Overall, the House Appropriations Committee provided a total of \$7.0 billion for the defense and non-defense accounts which support the Environmental Management Program, the same as DOE's amended budget request.

Unlike the House, the Senate Appropriations Committee did not allocate any funding for the Environmental Management Cleanup Reform Account, due to its concerns over the lack of information on how this funding would be used to increase the pace of cleanup and lower costs. The committee also questioned whether simply appropriating additional funds would accomplish this objective. The committee criticized DOE for entering agreements with EPA and the states to accelerate cleanup before funding for the account has been appropriated. To honor the letters of intent that DOE has already signed, the committee increased funding for the Defense Environmental Restoration and Waste Management Account by over \$1 billion, rather than provide funding for the requested cleanup reform account. The committee also directed DOE to clearly identify the amount of funding that would be necessary to fulfill these agreements in its future budget submissions to Congress, and ordered that any reprogramming within the Environmental Management Program budget receive prior approval from the House and Senate Appropriations Committees. Overall, the Senate Appropriations Committee approved a total of \$6.9 billion for the defense and non-defense accounts which support the Environmental Management Program, about \$100 million less than the House Appropriations Committee amount and the amended budget request of \$7.0 billion.

In addition to the consideration of appropriations legislation for FY2003, the second session of the 107th Congress has enacted legislation to appropriate supplemental funding for FY2002. The FY2002 Supplemental Appropriations Act for Further Recovery from and Response to Terrorist Attacks on the United States (P.L. 107-206, H.R. 4775) provides a total of \$70 million for DOE to enhance

safeguards and security at several defense nuclear waste cleanup sites in FY2002. However, the conference report on H.R. 4775 indicated that the availability of these funds is contingent upon the submission of a budget request from the President, which has not occurred to date. The law also rescinded \$15.5 million in unobligated funds appropriated in past years to the Defense Environmental Restoration and Waste Management Account.

Civilian Nuclear Waste. The Bush Administration is seeking \$524.7 million for the DOE civilian waste disposal program for FY2003, a 40% boost over FY2002. The increased budget is intended primarily to pay for preparing a construction permit application for a national nuclear waste repository at Yucca Mountain, Nevada. DOE expects to submit the 10,000-page application to NRC in late 2004 – a one-year delay from the previous schedule. The additional funds are also needed for detailed repository design work, repository performance studies, and transportation planning, according to DOE. Despite the delay in submitting a construction application, DOE contends that it can still begin receiving waste at the site by 2010 as previously scheduled.

The House Appropriations Committee recommended the full Administration request, citing enactment of the Yucca Mountain approval resolution discussed below. However, the Senate Appropriations Committee recommended cutting the request to \$336 million, nearly 10% below the FY2002 level. The Yucca Mountain approval resolution was vigorously opposed by Senator Reid, Chairman of the Senate Committee's Energy and Water Development Subcommittee.

The Nuclear Waste Policy Act of 1982 (NWPAA, P.L. 97-425) as amended, names Yucca Mountain as the sole candidate site for a national geologic repository. Following the recommendation of Energy Secretary Abraham, President Bush on February 15, 2002, recommended to Congress that DOE submit an application to NRC to construct the Yucca Mountain repository. Nevada Governor Guinn then exercised his right under NWPAA to submit a "notice of disapproval" (or "state veto") to Congress. Under NWPAA, the state disapproval blocks the Yucca Mountain site unless a congressional approval resolution is signed into law within 90 days of continuous session. The approval resolution was signed July 23, 2000 (H.J.Res. 87, P.L. 107-200), allowing the Yucca Mountain project to proceed to the licensing phase.

Funding for the nuclear waste program comes from two sources. Under the FY2003 budget request, \$209.7 million is to be provided from the Nuclear Waste Fund, which consists of fees paid by nuclear utilities, and \$315 million from the defense nuclear waste disposal account, which pays for disposing of high-level waste from the nuclear weapons program in the planned civilian repository.

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 many of 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. There has been no press to dispose of the remaining PMAs, and none seems likely given the broader uncertainties governing electric utility restructuring.

The Administration's request for SEPA, SWPA, and WAPA for FY2003 is \$197.4 million, a reduction from the FY2002 appropriation of \$207.3 million. The House Committee on Appropriations has indicated that it has recommended that the PMAs be "generally funded" at the Administration-requested levels. The Senate Committee on Appropriations recommended \$203.5 million, which included an additional \$6.1 million, added to the budget for the Western Power Administration, which would be transferred to the Utah Reclamation Mitigation and Conservation Commission. Otherwise, the recommended levels were the same as in the Administration budget. The House Committee recommended the levels sought by the Administration.

BPA receives no annual appropriation, but funds some of its activities from a permanent borrowing authority, currently \$3.75 billion. For FY2003, BPA plans to borrow \$630.8 million, to be used for transmission system construction, system replacement, energy resources, fish and wildlife, and capital equipment programs. BPA had requested an additional \$2 billion in permanent borrowing authority in the FY2002 budget "to address critical infrastructure needs," but Congress did not support the request. The Administration requested an additional \$700 million in borrowing authority for BPA in the FY2003 budget request. However, a provision for an increase of \$1.3 billion in borrowing authority was included in the Senate version of comprehensive energy legislation, H.R. 4, currently in conference, where this issue presumably will be settled. (For details on BPA's funding procedure see

CRS Report RL31215, *Bonneville Power Administration's Authority to Borrow from the U.S. Treasury.*)

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.

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

Program	FY2002	FY2003 Request	House Bill	Senate S. 2784	Conf.
Appalachian Regional Commission	71.3	66.3	71.3	74.4	--
Nuclear Regulatory Commission (Revenues)	578.5 (479.5)	585.0 (498.9)	578.0 (520.0)		
Net NRC	99.0	85.6	58.0	58.1	--
Defense Nuclear Facilities Safety Board	18.5	19.0	19.0	19.0	--
Nuclear Waste Technical Review Board	3.1	3.1	3.1	3.2	--
Denali Commission	38.0	29.9	--	50.0	--
Delta Regional Authority	10.0	10.0	--	15.0	--
Total	220.5	195.1	151.9	214.6	--

Key Policy Issues — Independent Agencies

Nuclear Regulatory Commission. The Nuclear Regulatory Commission (NRC) is requesting a total budget of \$585.0 million for FY2003, including \$6.8 million for the NRC inspector general's office. The funding request would provide an increase of \$25.3 million from FY2002 (including FY2002 supplemental funding). Major activities conducted by NRC include safety regulation and licensing of commercial nuclear reactors, licensing of nuclear waste facilities, and oversight of nuclear materials users.

The House and Senate Appropriations panels recommended the full NRC request.

In the wake of the September 11 terrorist attacks against the United States, NRC has focused additional attention to the security of nuclear power plants and other users of radioactive material. NRC's FY2003 budget request includes \$29.3 million for activities related to homeland security, about \$6 million below the \$36 million provided in the FY2002 Emergency Supplemental Appropriations bill. According to the NRC budget justification, the funding is being used for:

- ! Re-analyzing the threat of radiological sabotage and the theft of nuclear material;
- ! Re-analyzing the adequacy of physical protection requirements for nuclear facilities and transportation of radioactive materials;
- ! Re-analyzing procedures for authorizing access to nuclear facilities;
- ! Strengthening NRC emergency preparedness and response capabilities;
- ! Better integrating NRC security and emergency preparedness planning; and
- ! Strengthening NRC infrastructure and communications capabilities.

(For more information on protecting licensed nuclear facilities, see CRS Report RS21131, *Nuclear Powerplants: Vulnerability to Terrorist Attack*.)

NRC proposes to more than double its spending on licensing of new commercial reactors, which are being seriously considered for the first time in at least 20 years. The FY2003 request includes \$24.8 million for new reactor licensing, up from \$10 million provided in FY2002. According to the NRC budget justification, the funding will be used for early site permits (sites approved for future reactors), reactor pre-licensing and licensing reviews, and updating the nuclear licensing infrastructure. The NRC licensing program dovetails with DOE's program to encourage construction of two new nuclear power plants by 2010.

For the decade before FY2001, NRC's budget was offset 100% by fees on nuclear power plants and payments by other licensed activities, such as the DOE nuclear waste program. The nuclear power industry had long contended that the fee structure required nuclear reactor owners to pay for a number of NRC programs, such as foreign nuclear safety efforts, from which they did not directly benefit. To account for that concern, the FY2001 Energy and Water Appropriations Bill included an NRC proposal to phase down the agency's fee recovery to 90% during the subsequent 5 years – two percentage points per year. As a result, 94% of the FY2003 NRC appropriation – minus \$24.9 million transferred from the Nuclear Waste Fund to pay for waste repository licensing and \$29.3 million for homeland security – is to be offset by fees on licensees, under the budget request. The House and Senate Appropriations Committees recommended that the 94% offset also apply to the homeland security funding, resulting in a lower net appropriation than in the budget request.

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 Production Issues

CRS Issue Brief IB10019. Western Water Resource Issues.

CRS Issue Brief IB10072. Endangered Species: Difficult Choices.

CRS Issue Brief IB10091. Nuclear Nonproliferation Issues.

CRS Reports

CRS Report RS20702. South Florida Ecosystem Restoration and the Comprehensive Everglades Restoration Plan.

CRS Report RL30928. Army Corps of Engineers: Reform Issues for the 107th Congress.

CRS Report RS20569. Water Resource Issues in the 107th Congress.

CRS Report RS20866. The Civil Works Program of the Army Corps of Engineers: A Primer.

CRS Report RL31116. Water Infrastructure Funding: Review and Analysis of Current Issues.

CRS Report RL31044. Renewable Energy Legislation in the 107th Congress.

CRS Report RL31215. Bonneville Power Administration's Authority to Borrow from the U.S. Treasury.

CRS Report RL30478. Federally Supported Water Supply and Wastewater Treatment Programs.

CRS Report RS21026. Terrorism and Security Issues Facing the Water Infrastructure Sector.

CRS Report RS21131. Nuclear Powerplants: Vulnerability to Terrorist Attack.

CRS Report RL31098. Klamath River Basin Issues: An Overview of Water Use Conflicts.