

# CRS Report for Congress

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## **Appropriations for FY2004: Energy and Water Development**

**Updated July 21, 2003**

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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 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 FY2004: 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 \$26.94 billion for these programs for FY2004 compared with \$26.14 billion appropriated for FY2003. On July 18 the House passed a bill, H.R. 2754, containing appropriations of \$27.08 billion. On July 17 the Senate Appropriations Committee reported a bill funding energy and water development programs at \$27.3 billion.

Key issues involving Energy and Water Development appropriations programs include:

- Funding and progress of Corps projects not considered priorities by the Administration;
- Legislative proposals to expand the Corps' use of the Harbor Maintenance Trust Fund and the Inland Waterway Trust Fund;
- Funding for major water/ecosystem restoration initiatives such as Florida Everglades and California "Bay-Delta";
- Funding for the proposed national nuclear waste repository at Yucca Mountain, Nevada;
- Funding for developing a new nuclear warhead, the Robust Nuclear Earth Penetrator; 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."

This report will be updated as events warrant.

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

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# Appropriations for FY2004: Energy and Water Development

## Most Recent Developments

*The Bush Administration's FY2004 budget request, released February 3, 2003, would fund Energy and Water Development Programs at \$26.94 billion. The FY2003 Consolidated Appropriations Resolution (H.J.Res. 2, P.L. 108-7) and the Emergency Wartime Supplemental Appropriations Act, 2003 (P.L. 108-11) funded these programs at \$26.14 billion. On July 15 the House Appropriations Committee reported a bill (H.R. 2754) containing FY2004 appropriations of \$27.08 billion, and the House passed the bill with the same funding on July 18. The Senate Appropriations Committee approved a \$27.3 billion bill on July 17.*

## Status

**Table 1. Status of Energy and Water Development Appropriations, FY2004**

Subcommittee Markup		House Report	House Passage	Senate Report	Senate Passage	Conf. Report	Conference Report Approval		Public Law
							House	Senate	
7/8/03	7/17/03	108-212	7/18/03	108-105					

## 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 Bush Administration's request was \$26.940 billion for these programs for FY2004, compared with \$26.138 billion appropriated for FY2003. The House Appropriations Committee recommended \$27.080 billion for FY2004 (H.R. 2754), and the bill passed the House with that amount July 18. The Senate bill, S. 1424, reported out by the Senate Appropriations Committee July 17, contains funding of \$27.313 billion.

For the Corps of Engineers in FY2004, the Administration requested \$4.19 billion, almost 10% (\$445 million) less than the amount appropriated for FY2003. The House bill includes \$4.48 billion, the Senate Appropriations Committee bill

recommends \$4.427 billion. The Administration’s request focuses funding on construction projects that will be completed in FY2004 and eight projects considered priorities by the Administration, including the Florida Everglades. The request also contemplates legislative proposals for expanding the types of activities funded by the Harbor Maintenance Trust Fund and the Inland Waterway Trust Fund.

The Administration asked for \$891 million for FY2004 for the Department of the Interior programs included in the Energy and Water Development bill — the Bureau of Reclamation and the Central Utah Project. This would be a decrease of \$45 million from the FY2003 funding level. The House bill contains \$921 million; the Senate Appropriations Committee recommended \$994 million.

The FY2004 request for DOE programs in the bill is \$21.689 billion, about \$1.32 billion 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 bill funds these programs at \$21.542 billion. The Senate Appropriations Committee recommended \$22.148 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 FY2004 net appropriations request for these programs is \$1.7 billion.)

The request for funding the independent agencies in Title IV of the bill is \$148 million, compared with \$207 million in FY2003. The House bill contains \$138 million; the Senate Appropriations Committee recommended \$230 million for FY2004.

Table 2 includes budget totals for energy and water development appropriations enacted for FY1997 to FY2003 and the Administration’s request for FY2004.

**Table 2. Energy and Water Development Appropriations, FY1997 to FY2004**

(budget authority in billions of current dollars<sup>a</sup>)

FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04 (Req.)
20.0	21.2	21.2	21.2	23.9	25.2	26.1	26.9

<sup>a</sup> These figures represent current dollars, exclude permanent budget authorities, and reflect rescissions.

Tables 3-10 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 FY2003 - FY2004.

## Title I: Corps of Engineers

The President's request for FY2004 for the civil works program of the U.S. Army Corps of Engineers is \$4.19 billion, a decrease of \$445 million from the FY2003 appropriation. The request also contains legislative proposals for expanding the use of funds from the Inland Waterway Trust Fund and the Harbor Maintenance Trust Fund. (See "Key Policy Issues," below.) The House bill includes \$4.5 billion for FY2004, a decrease of \$156 million from the amount enacted for FY2003. The Senate Appropriations Committee recommends \$4.4 billion.

**Table 3. Energy and Water Development Appropriations  
Title I: Corps of Engineers**

(\$ millions)

Program	FY2003	FY2004 Request	House H.R. 2754	Senate Approp. Cte.	Conf.
Investigations and Planning	134.1	100.0	117.8	131.7	
Construction	1,744.6	1,350.0	1,642.9	1,538.0	
Flood Control, Mississippi River	342.3	280.0	301.1	329.0	
Operation and Maintenance	1,966.6 <sup>a</sup>	1,939.0	1,932.5	1,949.0	
Regulatory	138.1	144.0	144.0	139.0	
General Expenses	154.1	171.0	164.0	160.0	
FUSRAP <sup>b</sup>	144.1	140.0	140.0	140.0	
Flood Control and Coastal Emergencies	14.9	70.0	40.0	40.0	
<b>Total</b>	<b>4,638.8<sup>a</sup></b>	<b>4,194.0</b>	<b>4,482.3</b>	<b>4,426.7</b>	

<sup>a</sup> Includes \$39 million appropriated in Emergency Wartime Supplemental Appropriations Act, 2003, P. L. 108-11.

<sup>b</sup> "Formerly Utilized Sites Remedial Action Program"

The President's budget request would limit funding for the planning and design of new projects; however, it would fully fund all projects whose construction could be completed in FY2004, and provides substantial funding for eight projects considered by the Administration to be priorities. The Administration's budget would provide some support for 140 other projects, but construction would proceed more slowly than originally planned because these projects are not fully funded.<sup>1</sup> The

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<sup>1</sup> The President's request for FY2004 did not cut funding for beach nourishment activities (the placement of sand on beaches either as a means of dredging-spoil disposal or as an  
(continued...)

Administration's request includes funding to complete design of 22 proposed projects, while deferring work on all other design efforts.

The House bill maintains many of the characteristics of the President's budget. Due to concerns over the Corps backlog of maintenance and construction activities, no new studies are funded and construction is focused on projects that can be completed or are priorities. The House Appropriations Committee chose not to fund projects that were not previously authorized.

The Senate Appropriations Committee's recommendation surpasses the President's budget request by funding a limited number of study starts; however, it does not fund any new construction starts because of the constrained budget allocation. The committee, instead, used its resources to avoid the breaching of project contracts.

The request provided no funds for studies and "environmental infrastructure" projects in the following non-traditional mission areas: wastewater treatment, irrigation water supply, and municipal and industrial water supply treatment and distribution. By not seeking funding for these activities, the Bush Administration was again showing its interest in focusing available federal funding on navigation, flood control, storm damage reduction, and ecosystem restoration projects. Both the House and Senate Appropriations Committees recommended funding for environmental infrastructure projects.

Of the \$1.9 billion for the operation and maintenance (O&M) account requested by the President, \$104 million is planned for protecting facilities from terrorist attack. Of the \$104 million requested, \$91 million is for protecting the projects normally funded from the O&M account. The remaining \$13 million for this O&M account would be spent to protect administration buildings and facilities; projects from the Flood Control, Mississippi River, and Tributaries account; and the Washington Aqueduct drinking water plant that serves the District of Columbia. The House and Senate Appropriations Committees also recommended \$1.9 billion.

The Administration's \$70 million request for the Flood Control and Coastal Emergencies account was significantly higher than the FY2003 appropriation of \$15 million and the FY2003 request for \$20.2 million. The actual expenditure for activities under this account in previous years has averaged \$70 million, with much of the funding being provided through supplemental appropriations. This account finances response and recovery activities for flood and storm events, preparedness for these events, and the Corps' support of the Federal Emergency Management Agency (FEMA) through the Federal Response Plan. Because this is an emergency management program, annual costs vary significantly based on actual events and/or changing missions. According to testimony by the Acting Assistant Secretary of the Army for Civil Works, the requested amount of \$70 million ensures sufficient funds

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<sup>1</sup> (...continued)

effort to artificially widen beaches), a change from past submissions by both Democratic and Republican Administrations. (See CRS Report IB10120 *Army Corps of Engineers Civil Works Program: Issues for Congress* for more information.)

to respond to flood and storm emergencies and reduces the likelihood of having to borrow from other accounts or needing to seek emergency supplemental appropriations for recovery efforts. The House and Senate Appropriations Committee recommend \$40 million for these emergency activities.

## Key Policy Issues — Corps of Engineers

**Funding Level.** 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, 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 appropriation followed suit; it was \$466 million (11%) above the requested amount. The FY2004 budget request proposed a 10% cut from current spending. Some Members of Congress expressed their displeasure with the Administration's proposed cuts for the Corps at FY2004 budget hearings in February and March 2003. The House bill (H.R. 2754) restored \$288 million to the program. The Senate Appropriations Committee's bill (S. 1424) restored \$233 million.

**Trust Fund Proposals.** The Administration included in its request legislative proposals to fund more activities from several trust funds. The Administration proposed that for FY2004 these changes be made through the appropriations process. The two trust funds — the Inland Waterway Trust Fund (IWTF) and the Harbor Maintenance Trust Fund (HMTF) — have built up substantial unused balances in recent years, causing concern about why the funds were not being put to use and leading to interest in expanding their use to decrease the federal monies spent on inland waterways and harbors. Both the House and Senate Appropriations Committees dismissed the proposals related to the HMTF and the IWTF.

**Proposed "Reforms" of Corps Processes and Procedures.** During the 107th Congress, the Corps came under criticism for the way it evaluates and undertakes projects. Although the issue received media attention, it was not directly addressed through legislation. Numerous bills proposing changes to the project development and authorization process were introduced (*e.g.*, see H.R. 1310 and S. 1987); however, no action was taken. (For more information, see CRS Report RL30928, *Army Corps of Engineers: Reform Issues for the 107th Congress*.) Corps reform may be addressed during consideration of the next Water Resources Development Act (WRDA, *e.g.*, H.R. 2557), a separate bill (*e.g.*, HR. 2566), or the FY2004 Energy and Water Development Appropriations bill. (See CRS Issue Brief IB10120, *Army Corps of Engineers Civil Works Program: Issues for Congress*, for more information.)

Corps officials gave testimony at FY2004 budget hearings, and at a March 2003 hearing of the Subcommittee on Water Resources and Environment of the House Committee on Transportation and Infrastructure, on how the agency is "transforming" itself in response to these criticisms. In this testimony, Corps officials defended the integrity of the agency's review process and detailed efforts to further

strengthen it, including the use of independent peer review panels for a few complex projects.<sup>2</sup> The Administration's FY2004 budget request included \$3 million for a peer review panel to examine selected projects and \$2 million for *ex post facto* studies of 15 to 25 completed projects to compare the estimated and actual project costs and benefits.

**Missouri River Management.** Drought in the Missouri River basin has contributed to an ongoing debate on the operations of the basin's dams. This debate raises some fundamental question about water resources management in the nation, such as whether some river uses should take precedence over others and if the current institutional arrangements for river management need to be reconsidered. (See CRS Issue Brief IB10120, *Army Corps of Engineers Civil Works Program: Issues for Congress*, for more information.)

Differing opinions on how to best manage the Missouri River during drought conditions have increased attention on not only the annual operating plan but also the ongoing revision of the Master Manual, which guides the operation of the Missouri River's mainstem dams. The manual has been in revision for 14 years. The Corps' challenge in updating the manual is the multiple competing uses of the river. The timing and the quantity of the water released from the dams affects uses of the river such as barge traffic, threatened and endangered species protection, water supply, and river recreation.

Missouri River management has been raised numerous times during the appropriations process in recent years. An amendment offered by Senator Bond to the omnibus appropriations bill for FY2003 failed. It would have prohibited the Fish and Wildlife Service from both requiring a steady release flow and preventing the Corps from relocating bird nests along the Missouri River's banks. In the FY2002 Energy and Water appropriations bill after extended debate in both the House and the Senate, Section 116 included Senate language that prohibited 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 views of other federal and non-federal agencies and individuals "to ensure that other congressionally authorized purposes are maintained" in addition to endangered species protection. The provision represented a temporary compromise of an ongoing issue that had led President Clinton to veto the Energy and Water Development appropriations bill for FY2001.

**Everglades.** A significant addition to the Corps' mission in recent years is its growing role in large environmental restoration programs, raising concerns that funding for these programs could displace the funding for other water resources

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<sup>2</sup> Les Brownlee (Acting Assistant Secretary of the Army) and Lieutenant General Robert B. Flowers (Chief of Engineers) provided testimony before the Subcommittee on Energy and Water Development of the Senate Committee on Appropriations on March 5, 2003, before the Subcommittee on Energy and Water Development of the House Committee on Appropriations on March 26, 2003, and the Subcommittee on Water Resources and Environment of the House Committee on Transportation and Infrastructure on February 27, 2003.

development activities. (See CRS Report IB10120 *Army Corps of Engineers Civil Works Program: Issues for Congress* for more information.) The Corps plays a significant coordination role in the restoration of the Central and Southern Florida ecosystem. The Corps is particularly involved in the implementation of the Comprehensive Everglades Restoration Plan (CERP) that was authorized in 2002 by Title VI of WRDA. The annual Energy and Water Development Appropriations bill provides funding for the Corps' participation in these efforts.<sup>3</sup> During the first half of 2003, the quality of water entering the Everglades has received much attention because of the passage of a state law in Florida that may affect phosphorous mitigation deadlines and goals. (See CRS Issue Brief IB10120, *Army Corps of Engineers Civil Works Program: Issues for Congress*, for more information.)

The President's request for FY2004 included a total of \$145 million for the Corps' construction projects in the region, compared to \$151 million appropriated for FY2003. The FY2004 request for the Kissimmee River restoration project and the Everglades and South Florida ecosystem restoration project was \$17.7 million and \$14.8 million, respectively. For the Central and Southern Florida project, the Administration requested \$112.5 million (which included \$39.0 million for CERP activities).

The House bill provided the full amount requested for all three Everglades projects. However, the language in H.R. 2754 conditions availability of the funds for the preservation and restoration of the Everglades on a certification by the Secretary of the Army.<sup>4</sup> The Secretary is to certify within 30 days of enactment that the water entering the Loxahatchee National Wildlife Refuge and the Everglades National park meets specific water quality requirements.

The Senate Appropriations Committee provided the amount requested by the President for the Kissimmee River project and the Everglades and South Florida Ecosystem Restoration project. In S. 1424, the Committee conditioned the availability of funds for the Everglades and South Florida Ecosystem Restoration project on a certification by the Administrator of the Environmental Protection Agency that the funded activities meet certain water quality and phosphorous standards. The Committee provided \$90 million for the Central and Southern Florida project, instead of the \$112.5 requested. Ninety million was the same amount that the Committee recommended for FY2003 and that was enacted eventually enacted. In S.Rept. 107-220, the Committee explained that the reduction for FY2003 resulted from questions raised about restoration implementation, specifically concerns that it was too heavily weighted in favor of commercial development of water supplies.

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<sup>3</sup> Everglades restoration also receives funding through the Department of the Interior Appropriations bills. (See CRS Report RL31806, *Appropriations for FY2003: Interior and Related Agencies*).

<sup>4</sup> The bill language differs somewhat from language in H.Rept. 108-212. The report states: "The Committee has, therefore, included language in the bill which will allow funds appropriated for Everglades restoration to be freed for other worthwhile uses if non-federal participants do not meet the agreed-upon responsibilities under the governing consent decree."

## 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.

**Table 4. Energy and Water Development Appropriations  
Title II: Central Utah Project Completion Account**

(in millions of dollars)

Program	FY2003	FY2004 Request	House H.R. 2754	Senate Approp. Cte.	Conf.
Central Utah project construction	23.5	27.0	27.0	36.1	
Mitigation and conservation activities	11.2	15.4	9.4	9.4	
Oversight & Administration	1.3	1.7	1.7	1.7	
<b>Total, Central Utah Project</b>	<b>36.0</b>	<b>44.2</b>	<b>38.2</b>	<b>44.2</b>	

Columns may not total because of rounding.

**Table 5. Energy and Water Development Appropriations  
Title II: Bureau of Reclamation**

(in millions of dollars)

Program	FY2003	FY2004 Request	House H.R. 2754	Senate Approp. Cte.	Conf.
Water and Related Resources	832.2 <sup>a</sup>	771.2	817.9	853.5	
Loan Program Account	–	0.2	0.2	0.2	
Policy & Admin.	54.5	56.5	56.5	56.5	
Central Valley Project Restoration Fund	48.6	39.6	39.6	39.6	
California Bay-Delta (CALFED)	–	15.0	–	–	
<b>Gross Current Authority</b>	<b>936.3</b>	<b>878.0</b>	<b>914.2</b>	<b>949.8</b>	
CV Project Collections <sup>b</sup>	(40.0)	(31.0)	(31.0)	(38.9)	
<b>Net Current Authority</b>	<b>894.3</b>	<b>847.2</b>	<b>883.2</b>	<b>910.7</b>	

<sup>a</sup> Includes \$25 million appropriated in Emergency Wartime Supplemental Appropriations Act, 2003, P. L. 108-11.

<sup>b</sup> In presenting its budget justifications, the Bureau lists this amount as an “offset.” (Figures may not total due to rounding.)

## Bureau of Reclamation Budget In Brief

For FY2004, the President requested \$44.2 million for the Central Utah Project Completion Account, an increase of \$8.2 million over the FY2003 enacted amount. The Senate Appropriations Committee recommended \$44.2 million which is equivalent to the FY2004 requested amount and \$8.2 million over the FY2003 enacted level. The House bill included \$38.2 million, \$6.0 million less than the requested amount and \$2.2 million over the FY2003 enacted level. The FY2004 request for BOR totals \$878 million in gross current budget authority.<sup>5</sup> This amount is an increase of \$23.1 million from the amended FY2003 request (according to BOR), or \$33.1 million according to congressional sources,<sup>6</sup> and is approximately \$33.3 million less than enacted for FY2003 in P.L. 108-7. The Bureau has received an additional \$25 million in supplemental appropriations for FY2003 for homeland security purposes (P.L. 108-11). The House bill included \$914.2 million for the BOR, an increase of \$36.2 million above the FY2004 requested amount and a decrease of \$22.1 million from the FY2003 enacted level. The Senate Appropriations Committee recommended \$949.8 million, \$13.5 above the FY2003 enacted level and \$71.8 million above the FY2004 requested amount.

Included in the \$878 million BOR request is \$863 million in current appropriations for agency water resources management activities and \$15 million for the California Bay-Delta Restoration Account (CALFED). The House bill includes an increase of \$51.2 million above the requested amount for water resources management activities and no funds for the CALFED account; whereas the Senate Committee on Appropriations recommended an increase of \$86.8 million over the requested amount and no funds for CALFED. The FY2004 request as presented includes a \$30.8 million “offset” for the Central Valley Project (CVP) Restoration Fund, yielding a “net” current authority of \$847.2 million for BOR.

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. BOR requested \$771.2 million for this account for FY2004, \$37 million less than appropriated in P.L. 108-7. The House bill includes \$817.9 million for Water and Related Resources, \$46.7 million above the FY2004 request and \$9.7 million above the FY2003 enacted level. The Senate Committee on Appropriations recommended \$853.5 million, \$82.3 million above the FY2004 requested level and \$21.3 above the FY2003 enacted level.

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<sup>5</sup> The BOR budget also includes several permanent appropriations, which when added to the agency’s net current authority results in a grand total of \$927.7 million requested and projected for BOR operations for FY2004.

<sup>6</sup> The BOR budget justifications document for FY2004 shows a requested increase of \$23.1 million in gross budget authority, while tables accompanying the conference report on H.J. Res. 2 (consolidated appropriations for FY2003) yield an increase of \$33.1 million.

## Key Policy Issues – Bureau of Reclamation

**Background.** 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, primarily for irrigation to reclaim arid lands in the West. Today, BOR manages hundreds of dams and diversion projects, including 348 storage reservoirs in 17 western states. These projects provide 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. At the same time, operations of BOR facilities are often controversial, particularly for their effect on sensitive fish and wildlife species and conflicts among competing water users.

**CALFED.** Funds have not been appropriated for the California Bay-Delta Restoration Account (Bay-Delta, or CALFED) since FY2000, when the authorization for appropriations expired. However, funds were provided for FY2002 and FY2003 for activities that support the CALFED program. The Administration has requested \$15 million for this account for FY2004. The House Appropriations Committee and the Senate Appropriations Committee recommended that no funds be appropriated for CALFED, since the program has not been authorized for appropriations. (For more information on CALFED, see CRS Report RL31975, *CALFED Bay-Delta Program: Overview of Institutional and Water Use Issues*.)

The final FY2003 appropriation for BOR provided \$23 million for CVP activities that support the goals of the CALFED program within the Water and Related Resources Account. Several specific activities were identified in the conference agreement, including \$1.75 million for investigations of storage opportunities in the Upper San Joaquin watershed (Friant Division); \$9 million for the Environmental Water Account (under Miscellaneous Project Programs); \$1.5 million to continue planning activities related to the Sites Reservoir (Sacramento River Division); and \$2.5 million for evaluation of potential impacts of raising Shasta Dam (Shasta Division). Division D, Section 215, of the bill specifically authorizes the Secretary, "in carrying out CALFED-related activities," to begin feasibility studies for Sites Reservoir, enlargement of Los Vaqueros Reservoir, and an Upper San Joaquin Storage project.

**Security.** BOR requested \$28.6 million for continued heightened safety and security efforts at BOR facilities. The bulk of the request is for facility operations/security. Funding covers such activities as administration of the security program, periodic security reviews, and employee training and awareness. An additional \$1 million is being requested for national security cyber systems, under the category of Critical Infrastructure Protection. (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*.) The BOR received an additional \$25 million for homeland security expenses in P.L. 108-11.

**Sumner-Peck Settlement.** The federal government and the Westlands Water District, which receives CVP water, settled a long-standing lawsuit December 10, 2002. The lawsuit concerned the effects of irrigation water buildup beneath private land and the government's obligation to provide irrigation drainage service. The drainage problem has been an ongoing problem within the San Luis Unit of the CVP, where toxins such as selenium have built up in the soil and rendered land unsuitable for farming. The \$107 million settlement (federal share) has been quite controversial both for its initial sum and potential for additional suits from other nearby landowners, as well as for the specific terms of the agreement and how it will be paid. While the land will be retired from farming, Westlands will hold title to the land and water rights, the plaintiffs reserve valuable commodity base acreage, and the federal government receives certain easements and covenants guaranteeing the land will not be used again for farming. A proposal to pay for the first installment of the settlement using appropriated funds from the Energy and Water annual appropriations bill was blocked by a provision in the FY2003 omnibus appropriations bill (§212, Division D of P.L. 108-7), on the grounds that it would reduce funding for other programs. The action caused the Justice Department to reverse its earlier stance and allow the first \$34 million to be paid from the federal government Judgment Fund. However, it is not clear how future settlement payments will be made.

### 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 FY2004 request for DOE programs in the Energy and Water Development bill is \$21.67 billion, about \$780 million more than the amount appropriated for FY2003. The House Appropriations Committee recommended \$21.54 billion. (The FY2004 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 \$1.7 billion.)

**Table 6. Energy and Water Development Appropriations  
Title III: Department of Energy**

(\$ millions)

Program	FY2003	FY2004 Request	House H.R. 2754	Senate Approp. Cte.	Conf.
<b>Energy Supply R&amp;D</b>					
Solar and Renewable	419.5	444.2	330.1	358.4	
Nuclear Energy	260.0	277.1 <sup>c</sup>	268.0 <sup>c</sup>	437.4 <sup>c</sup>	
Environment, Safety, Health	22.6	30.0	24.0	22.4	
Adjustments	(5.2)	(3.0)	(8.0)	(16.0)	
<b>Total, Energy Supply</b>	696.9	748.3	691.5	920.4	
<b>Non-Defense Environmental Management</b>	213.6	–	–	–	
<b>Non-Defense Site Acceleration Completion<sup>b</sup></b>	–	170.9	170.9	171.9	
<b>Non-Defense Environmental Services<sup>b</sup></b>	–	292.1	320.5	302.1	
<b>Uranium Facilities Maintenance &amp; Remediation</b>	453.4	–	–	–	
<b>Uranium Decontamination and Decommissioning Fund<sup>b</sup></b>	– (442.0)	418.1 (452.0)	392.0 (452.0)	<b>396.1</b> <b>(452.0)</b>	
<b>General Science</b>					
High Energy Physics	722.3	738.0	748.0	738.0	
Nuclear Physics	381.9	389.4	399.4	389.4	
Basic Energy Sciences	1,023.3	1,008.6	1,016.6	1,008.6	
Bio. & Env. R&D	506.7	499.5	562.0	534.0	

<b>Program</b>	<b>FY2003</b>	<b>FY2004 Request</b>	<b>House H.R. 2754</b>	<b>Senate Approp. Cte.</b>	<b>Conf.</b>
Fusion	248.3	257.3	268.1	257.3	
Advanced Scientific Computing	168.5	173.5	213.5	183.5	
Other	234.7	249.0	278.0	254.0	
Adjustments	(13.4)	(4.4)	(5.4)	(4.4)	
<b>Total, General Science</b>	3,272.3 <sup>a</sup>	3,310.9	3,480.2	3,360.4	
<b>National Nuclear Security Administration (NNSA)</b>					
Weapons	5,981.4 <sup>a</sup>	6,378.0	6,117.6	6,473.8	
Nuclear Nonproliferation	1,168.8 <sup>a</sup>	1,340.2	1,280.2	1,340.2	
Naval Reactors	702.2	768.4	768.4	768.4	
Office of Administrator	325.1	348.0	342.0	338.0	
<b>Total, NNSA</b>	8,177.6	8,834.6	8,508.2	8,920.4	
<b>Defense Environmental Management</b>					
Environ. Restoration	5,434.8 <sup>a</sup>	–	–	–	
Defense Facilities Closure Projects	1,130.9	–	–	–	
Environ. Restoration Privatization	158.4	–	–	–	
Defense Site Accel. Completion <sup>b</sup>	–	5,814.6	5,758.3	5,770.7	
Defense Environmental Services <sup>b</sup>	–	995.2	990.2	987.7	
<b>Total, Defense Env. Man.</b>	6,723.1	6,809.8	6,748.5	6,758.4	
Other Defense Activities	515.7 <sup>a</sup>	636.2 <sup>c</sup>	666.5 <sup>c</sup>	492.2 <sup>c</sup>	
Defense Nuclear Waste	313.0	430.0	430.0	285.0	
<b>Total, Defense Activities</b>	15,729.3	16,635.5	16,278.2	16,456.0	
<b>Departmental Admin. (net)</b>	85.3	179.6	101.3	162.9	
<b>Office of Inspector General</b>	37.4	39.5	39.5	39.5	
<b>Power Marketing Administrations (PMA's)</b>					
Southeastern	4.5	5.1	5.1	5.1	
Southwestern	27.2	28.6	28.6	28.6	
Western	167.8 (22.0)	171.0 (22.0)	171.0 (22.0)	178.0 (24.0)	
Falcon & Armistad O&M	2.7	2.6	2.6	2.6	

<b>Program</b>	<b>FY2003</b>	<b>FY2004 Request</b>	<b>House H.R. 2754</b>	<b>Senate Approp. Cte.</b>	<b>Conf.</b>
<b>Total, PMA's</b>	202.3	207.3	207.3	214.3	
FERC (revenues)	192.0 (192.0)	199.4 (199.4)	192.0 (192.0)	199.4 (199.4)	
<b>Civilian Nuclear Waste</b>	144.1	161.0	335.0	140.0	
<b>Total, Title III</b>	<b>20,370.4</b>	<b>21,689.4</b>	<b>21,542.3</b>	<b>22,148.2</b>	

<sup>a</sup> Includes funding appropriated in the Emergency Wartime Supplemental Appropriations Act, 2003, P. L. 108-11.

<sup>b</sup> New program structures proposed for FY2004. See “Environmental Management” section, below.

<sup>c</sup> Budget Request and House bill transfers programs funded at \$113.4 million from Energy Supply–Nuclear Energy to Other Defense Activities. Senate Appropriations Committee bill does not transfer these programs.

## **Key Policy Issues — Department of Energy**

**Renewable Energy.** The Administration’s FY2004 budget request for DOE finds that hydrogen energy is the “most promising long-term revolution in energy use that can help the nation liberate itself from dependence on imported oil.” Thus, the request for DOE’s Renewable Energy Program says that its aim is to “accelerate progress” and make hydrogen technologies “cleaner, safer, and lower in cost.” Also, it stresses that the Administration’s proposed National Climate Change Technology Initiative will create “competitive solicitations” in applied research that aims to reduce greenhouse gas emissions and will “complement” existing R&D programs.

More specifically, the request for the Renewable Energy Program under DOE’s Office of Energy Efficiency and Renewable Energy (EERE) seeks \$444.2 million (including \$72.9 million for Electric/Storage and \$4.0 million for the Production Incentive), which is \$24.7 million more than the FY2003 appropriation of \$419.5 million (including \$84.4 million for Electric/Storage). It includes \$48.3 million more for Hydrogen (as part of the President’s Hydrogen Fuel Initiative) and \$15.0 million more for a National Climate Change Technology Initiative. It would terminate the Concentrating Solar Power Program and cut the Biomass and Biorefinery Program (which the FY2003 appropriations bill, P.L. 108-7, formed by combining the former biofuels and biopower subprograms) by \$19.7 million. The request presents a new budget structure that follows from a major reorganization of the EERE Office.

The House bill includes \$330.1 million for the Renewable Energy Program and \$77.4 million for a new Electricity Transmission and Distribution (ET&D) program that replaces the former Electric/Storage sub-program. Under the House bill’s structure, the total for the Renewable Energy Program is \$4.9 million less than the FY2003 appropriation. This includes \$19.7 million less for Biomass/Biofuels, \$14.7 million less for Solar Energy, \$4.3 million less for Geothermal, and \$3.7 million less for Program Direction. Partially offsetting these cuts, there is \$28.2 million more for

Hydrogen and \$3.6 million more for Facilities & Infrastructure. Further, the Committee seeks \$7.1 million less for ET&D.

Also, the House bill is \$41.2 million, or 11%, less than the request. This includes \$20.0 million less for Hydrogen, \$15.0 million less (zero funding) for the National Climate Change Technology Initiative, and \$4.3 million less for Program Direction. Partially offsetting these cuts, there is \$4.2 million more for Facilities & Infrastructure.

The Senate Appropriations Committee recommends \$358 million for Renewable Energy Technologies and \$100 million for Electricity transmission and distribution. Included is \$75 million for biomass/biofuels and \$90 million for solar energy.

**Nuclear Energy.** For nuclear energy research and development – including advanced reactors, fuel cycle technology, and nuclear hydrogen production – the Administration requested \$277.1 million for FY2004, a \$17.1 million increase from the FY2003 appropriation. An additional \$113.4 million was requested for defense-related activities at the Idaho National Engineering and Environmental Laboratory (INEEL), which is being transferred to the nuclear energy program from DOE's environmental management program, for a total of \$390.6 million.

The House cut the nuclear energy request to \$268.0 million, plus \$112.3 million for INEEL provided under “other defense activities.” The Senate boosted the request to \$437.4 million, without shifting any funds to “other defense activities.”

“Nuclear energy, which is already a vital component of our balanced energy portfolio, presents some of our most promising solutions to the world's long-term energy challenges,” according to DOE's FY2004 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 and economically uncompetitive.

Within the nuclear energy budget, the Administration requested \$48 million for the nuclear energy technologies program, which focuses on development of new reactors. That request is \$3.0 million above the FY2003 appropriation. The program includes \$35.0 million for an initiative to encourage construction of new commercial reactors by 2010 (“Nuclear Power 2010”) and \$9.7 million for advanced (“Generation IV”) reactor designs that could be ready for deployment after 2010. The House voted to cut the request to \$42.7 million, while the Senate Appropriations Committee recommended an increase to \$55.7 million. The Senate panel shifted funds for gas reactor technologies from Nuclear Power 2010 to the Generation IV program, with the funding directed toward development of a hydrogen-producing reactor at INEEL.

According to the DOE budget justification, the Nuclear Power 2010 program “will achieve near-term deployment of new power plants in the United States through cost-shared demonstration of the new, untested regulatory processes and cost-shared development of advanced reactor technologies.” 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 includes site approval, reactor design

certification, license applications, detailed design work, and development of improved construction techniques. DOE is soliciting proposals for joint DOE/industry teams in which DOE will pay up to half the cost of these activities.

DOE's Generation IV program is focusing on six advanced designs that could be deployed after 2010: two gas-cooled, one water-cooled, two liquid-metal-cooled, and one molten-salt concept. Some of these reactors would use plutonium recovered through reprocessing of spent nuclear fuel. The Administration's May 2001 *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, because of plutonium's potential use in nuclear bombs, undermines U.S. policy on nuclear weapons proliferation.

The development of plutonium-fueled reactors in the Generation IV program is closely related to the nuclear energy program's Advanced Fuel Cycle Initiative (AFCI), for which \$63.0 million is requested for FY2004 – about \$5 million above the FY2003 appropriation. According to the budget justification, AFCI will “develop advanced proliferation-resistant fuel treatment and fabrication technologies that could be deployed by 2015,” as well as technologies that could reduce the long-term hazard of spent nuclear fuel. Such technologies would involve separation of plutonium, uranium, and other long-lived radioactive materials from spent fuel for re-use in a nuclear reactor or for transmutation in a particle accelerator. AFCI includes a previously funded research program on accelerator transmutation called Advanced Accelerator Applications. The program also includes longstanding DOE work on electrometallurgical treatment of spent fuel from the Experimental Breeder Reactor II (EBR-II) at INEEL. The House approved \$58.5 million for the program, while the Senate Appropriations Committee recommended \$78.0 million.

In support of President Bush's program to develop hydrogen-fueled vehicles, DOE is requesting \$4.0 million in FY2004 for a new “Nuclear Hydrogen Initiative.” According to DOE's budget justification, the program would investigate the use of high-temperature nuclear reactors to make hydrogen from water in a thermo-chemical process. According to DOE, “preliminary estimates indicate that hydrogen produced using nuclear-driven thermo-chemical processes would be only slightly more expensive than gasoline” and result in far less air pollution. Activities planned in FY2004 include development of a “roadmap” for developing nuclear hydrogen technologies and laboratory testing of thermo-chemical processes and related research. Even if the technology is successful, however, DOE officials have predicted that significant quantities of nuclear-produced hydrogen would not become available until 2020-2030.<sup>7</sup> The House voted to cut the request to \$2.5 million, while the Senate panel recommended \$8.0 million, including support for the INEEL hydrogen reactor.

The Nuclear Energy Research Initiative (NERI) provides grants for research on innovative nuclear energy technologies. DOE is requesting \$12.0 million for NERI in FY2004, about half of the FY2003 appropriation. According to the budget

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<sup>7</sup> EnergyWashington.com Daily Updates, February 5, 2003.

justification, no new grants will be awarded in FY2003 and FY2004, with new program funding to be used only for completing previously initiated projects. The House voted to cut NERI to \$10.0 million, while the Senate panel urged the full request.

DOE proposes no new funding in FY2004 for the Nuclear Energy Plant Optimization program (NEPO), which received \$5.0 million in FY2003. The program supports cost-shared research by the nuclear power industry on ways to improve the productivity of existing nuclear plants. The House rejected the proposed elimination of NEPO, voting to provide \$4.0 million for the program. However, the Senate Appropriations Committee supported the Administration position.

**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 FY2004, DOE requested \$3.311 billion for Science. After adjusting for rescissions and the transfer of two programs from the Office of Science to the new Department of Homeland Security, the comparable FY2003 appropriation was \$3.261 billion. On this basis, the FY2004 request is a net increase of 1.5%. Within this overall funding, three of the six program areas would receive increases, and three would receive decreases; the largest change in either direction would be 4.2%.

The requested funding for the largest program, basic energy sciences (BES), is \$1.009 billion, a decrease of \$15 million below the comparable FY2003 appropriation. The request includes \$125 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. The FY2003 appropriation for the Spallation Neutron Source was \$209 million; the reduction reflects the planned construction schedule, with completion planned for 2006, not a delay or scaling back of the project. A growth area in basic energy sciences is nanoscience, for which the FY2004 budget requests \$193 million, of which \$85 million would fund construction of three Nanoscale Science Research Centers. The House bill increased research funding in the BES programs by \$8 million above the administration request. The Senate Appropriations Committee recommended funding at the requested level.

The FY2004 request for high-energy physics is \$738 million, an increase of \$20 million above the comparable FY2003 appropriation. The House bill funds the program at \$748 million. The Senate Appropriations Committee recommended the requested amount.

The requested funding for biological and environmental research is \$500 million, a decrease of \$7 million below the comparable FY2003 appropriation. Activities within this program relating to microbial pathogens, with FY2003 funding of \$20 million, were transferred to the Department of Homeland Security on March 1, 2003. The House bill includes \$562 million. The Senate Appropriations Committee recommended \$534 million.

The request for nuclear physics is \$389 million, an increase of \$8 million above the comparable FY2003 appropriation. The House bill would appropriate \$399 million. The Senate Appropriations Committee recommended the requested amount.

The request for fusion energy sciences is \$257 million, a \$9 million increase above the comparable FY2003 appropriation. In early 2003, the United States rejoined negotiations on construction of the International Thermonuclear Experimental Reactor (ITER), a fusion facility whose other participants include Canada, China, the European Union, Japan, and Russia. About \$12 million of the requested FY2004 budget for fusion energy sciences would be devoted to ITER. The budget impact of ITER in future years, once construction actually begins, depends on the outcome of the ongoing negotiations; the U.S. share is generally expected to be in the range of \$50 million to \$100 million per year. The House bill includes \$268 million for fusion programs. The Senate Appropriations Committee recommended the requested amount.

The smallest Science program, advanced scientific computing research, would receive \$173 million in the FY2004 request, an increase of \$5 million above the comparable FY2003 appropriation. The portion of this program that was located at Lawrence Livermore National Laboratory, with FY2003 funding of approximately \$3 million, was transferred to the Department of Homeland Security on March 1, 2003. The House bill includes \$213 million. The Senate Appropriations Committee recommended \$183 million.

**Nuclear Weapons Stockpile Stewardship.** Congress established the Stockpile Stewardship Program 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.

Stockpile stewardship consists of all activities in NNSA’s Weapons Activities account. Appropriations were \$4,908.7 million for FY2001 and \$5,560.2 million for FY2002; Table 7 provides FY2003 and FY2004 data. The three main elements of stockpile stewardship, described next, are Directed Stockpile Work, Campaigns, and Readiness in Technical Base and Facilities. NNSA manages two major programs outside of Weapons Activities: Defense Nuclear Nonproliferation, discussed in a subsequent section of this report, and Naval Reactors. Table 7 presents the main elements of the Weapons Activities program.

**Table 7. Funding for Weapons Activities**

(\$ millions)

<b>Program</b>	<b>FY2003</b>	<b>FY2004 Request</b>	<b>House</b>	<b>Senate Appro. Comm.</b>	<b>Conf.</b>
Directed Stockpile Work	1,198.6	1,364.8	1,343.8	1,367.8	
Campaigns	2,086.6	2,395.5	2,268.5	2,370.7	
Readiness in Tech Base and Facilities	1,794.0	1,613.5	1,511.1	1,751.1	
Other <sup>a</sup>	903.2	1,004.3	994.3	984.3	
<b>Total</b>	<b>5,981.4</b>	<b>6,378.0</b>	<b>6,117.6</b>	<b>6,473.8</b>	

<sup>a</sup> Includes Facilities and Infrastructure Recapitalization Program, Secure Transportation Asset, Safeguards and Security, use of prior year balances, and other adjustments.

Details may not add to totals due to rounding.

On July 18, 2003, the House passed H.R. 2754, the FY2004 Energy and Water Development Appropriations Bill, 377-26, without amending the Weapons Activities section. Thus, the amounts listed below that were recommended by the House Appropriations Committee were accepted by the House.

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; maintaining them through repairs, refurbishment, life extension, and modifications; R&D in support of specific warheads; and dismantlement. The FY2004 DSW request would support life extension programs for four nuclear warheads: B61 (gravity bomb), W76 (for Trident I and II submarine-launched ballistic missiles), W80 (for cruise missiles), and W87 (for Minuteman III and MX/Peacekeeper intercontinental ballistic missiles).

**Robust Nuclear Earth Penetrator (RNEP).** Within DSW, NNSA plans to conduct a study for the RNEP, for which \$15.0 million was appropriated for FY2003; another \$15.0 million is requested for FY2004. 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. This warhead is controversial. Supporters argue that it is needed to attack hard and deeply buried

targets (such as leadership bunkers or chemical weapons production facilities) in countries of concern, thereby deterring or defeating such nations; critics reply that RNEP would lower the threshold for use of nuclear weapons and prompt other nations to develop nuclear weapons to deter U.S. attack. (See CRS Report RS20834, *Nuclear Earth Penetrator Weapons*, and CRS Report RL31805, *Authorization and Appropriations for FY2004: Defense*.) The FY2003 National Defense Authorization Act, P.L. 107-314, fully funded the \$15.0 million request but barred obligation of FY2003 funds for the NNSA study until 30 days after the Department of Defense submits a study on RNEP, including military requirements, employment policy, targets, and conventional weapon alternatives. (The study was sent to Congress on March 19, 2003.) The Consolidated Appropriations Resolution for FY2003, P.L. 108-7, provided the amount requested. RNEP is part of the Advanced Concepts Initiative (ACI), which was established to explore future weapons concepts and technologies. For FY2004, \$6.0 million was requested (in addition to RNEP) for additional and exploratory studies under ACI.

In its FY2004 report, the House Appropriations Committee stated that the schedule for the first production unit of the refurbished W80 warhead had slipped to FY2008 or FY2009, yet the baseline of FY2006 drove the FY2004 budget request. Further, “the Committee has yet to receive an acceptable military justification for supporting such an aggressive W80 LEP [life extension project] program. ... As a result, the committee has reduced the weapons activity budget for the W80 LEP”. The committee expected NNSA to maintain the level of effort on this program that it had in FY2003, and reduced DSW by \$13.0 million to slow W80 LEP activity.

The committee recommended reducing RNEP funding from \$15.0 million requested to \$5.0 million, and eliminating the \$6.0 million requested for ACI. “The Committee is concerned the NNSA is being tasked to start new activities with significant outyear budget impacts before the Administration has articulated the specific requirements to support the President’s announced stockpile modifications.” Further, the committee felt that the Administration was acting prematurely in requesting funds for a range of new nuclear programs and preparing for expanded missions for nuclear weapons before NNSA has demonstrated that it can maintain the existing nuclear stockpile. Accordingly, “this Committee will not support redirecting the management resources and attention to a series of new initiatives.”

The Senate Appropriations Committee, in its FY2004 report, recommended increasing DSW by \$3.0 million, increasing one element (Stockpile Maintenance) by \$10.0 million and reducing another (Production Support) by \$7.0 million. The committee recommended providing the full request, \$21.0 million, for ACI.

**Campaigns.** These are “multi-year, multi-functional efforts” that “provide specialized scientific knowledge and technical support to the directed stockpile work on the nuclear weapons stockpile.” For FY2004, there are 16 campaigns. Examples are: Enhanced Surveillance (\$74.9 million appropriated for FY2003, \$94.8 million requested for FY2004), which seeks to assess lifetimes of weapons components and predict defects resulting from aging; Advanced Design and Production Technologies (\$72.0 million appropriated for FY2003, \$79.9 million requested for FY2004), which seeks to develop new technologies and processes to improve manufacturing in the nuclear weapons complex; Advanced Simulation and Computing (\$683.9 million

appropriated for FY2003, \$750.6 million requested for FY2004), which aims to advance the state of the art of nuclear weapon simulation, apply these advances to current stockpile tasks, and deliver by FY2008 “a high fidelity, full-system physics characterization of a nuclear weapon”; and Tritium Readiness (\$124.8 million appropriated for FY2003, \$134.9 million requested for FY2004), which is making preparations to use a commercial light water reactor to produce tritium, an isotope of hydrogen that is a key ingredient in nuclear weapons.

The House Appropriations Committee recommended reducing funding for Campaigns by \$127.0 million. It expressed concern about delays in some projects and unwarranted acceleration of others, and made some reductions consistent with its desire to slow the W80 LEP. Decreases were spread across many projects within Campaigns. The Senate Appropriations Committee recommended a net reduction of \$24.8 million for Campaigns. The largest increase, \$43.2 million, was to accelerate construction of the Microsystem and Engineering Science Applications facility at Sandia National Laboratories; the largest reductions were to Inertial Confinement Fusion, \$34.0 million, and Advanced Simulation and Computing, \$25.0 million. Details of House and Senate actions on two campaigns are discussed below.

*Pits.* Pits are the fissile cores of nuclear warheads that trigger the thermonuclear secondary stage. DOE has had no facility to produce pits for use in stockpiled weapons since it suspended pit production at the Rocky Flats Plant (CO) in 1989. As a result, the United States has been unable to make all-new nuclear warheads of existing or advanced new designs. The Pit Manufacturing and Certification 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. (See CRS Report RL31993, *Nuclear Warhead ‘Pit’ Production: Background and Issues for Congress.*)

This campaign has attracted much congressional interest. 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 would judge NNSA’s success on how well the pit project succeeds (H.Rept. 107-112). 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” (S.Rept. 107-39). In its FY2003 request, NNSA stated its 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 planned to defer detailed design of a Modern Pit Facility until FY2004, “with FY 2003 funding used to continue manufacturing concepts.” The FY2002 appropriation for this campaign was \$219 million.

The FY2003 request was \$194.5 million. The request included \$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 its FY2003 report, 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.” For pit manufacturing and certification, the House Appropriations Committee provided \$194.5 million, the requested amount, while the final appropriation provided \$220.6 million. According to the joint explanatory statement of the Committee of Conference, “The increase will ensure that the NNSA maintains its commitment to produce a certifiable W88 pit by 2003 and a certified W88 pit by 2007.”

For FY2004, the Administration requested a substantial increase to items in this campaign: \$126.8 million for manufacturing the pit for the W88 warhead, \$108.6 million for W88 pit certification, \$19.7 million for pit activities not specifically supporting the W88, and \$22.8 million for planning for the Modern Pit Facility. In addition, \$42.4 million is requested for “subcritical experiments [at the Nevada Test Site] which support the certification of the W88 pit.” For FY2004, this funding element was transferred into the Pit Manufacturing and Certification Campaign from Directed Stockpile Work; its FY2003 request was \$41.5 million. Thus the total request for FY2004 is \$320.2 million, an increase of 35.7% over the FY2003 request of \$236.0 million (with both figures including subcritical experiments supporting W88 pit certification).

The House Appropriations Committee saw the pit campaign as proceeding too quickly. It recommended reducing the request for this campaign by \$47.0 million, still an increase of \$12.2 million over the FY2003 budget. The committee praised NNSA and Los Alamos National Laboratory for “turning around” this campaign, but urged NNSA to reduce costs. It stated that the current plan would “aggressively pursue a multi-billion dollar Modern Pit Facility before the first production pit has even been successfully certified for use in the stockpile.” In reducing MPF to \$10.8 million from the requested \$22.8 million, it recommended that NNSA should look hard at better ways to use the pit production facility at Los Alamos for near-term requirements and “take a less aggressive planning approach” to MPF. It felt that it was premature to spend \$19.7 million to develop technologies for manufacturing pits other than for the W88 when MPF was at least 15 years from operating, and so recommended reducing this part of the request to \$4.7 million. The Senate Appropriations Committee recommended the amount requested for this campaign.

*National Ignition Facility (NIF).* This facility, 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.

Over the years, various reports have been highly critical of NIF on such grounds as technical problems, delays, and cost overruns.<sup>8</sup> 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. Since mid-2001, criticism of NIF has fallen sharply; for example, the Natural Resources Defense Council's NIF resources page was last updated February 7, 2000, and the most recent General Accounting Office report on NIF was dated June 1, 2001.<sup>9</sup> The NIF Project Office stated in 2002 that the project was on the schedule and budget set forth in the new baseline, and that no technical obstacles remained. The FY2004 budget document shows the total project cost of NIF to remain at \$2,248.1 million, plus \$1,200.0 million in other related costs, with physical construction to be completed in the fourth quarter of 2008; these dates and costs are the same as the FY2001 amended budget request. The document further states that the NIF project "continues to meet all major milestones on or ahead of schedule," and that the first stockpile stewardship experiments on NIF are planned for 2004.

In its FY2003 report, the Senate Appropriations Committee expressed concern that the project's scope seemed to be shifting "from a focus on achieving the specific goal of ignition to a generalized physics research program." 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 committee added \$35.0 million to the FY2003 request for inertial confinement fusion, for a total of \$487.3 million (S.Rept. 107-220). 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." (H.Rept. 107-681.) The final figure for FY2003 was \$489.7 million for inertial confinement fusion, including \$214.0 million, the same as the request, for continued construction of NIF. The conferees' statement did not provide further guidance on the focus of the inertial confinement fusion program.

For FY2004, the Administration requested \$466.8 million for the Inertial Confinement Fusion Ignition and High Yield Campaign, including \$150.0 million for NIF construction. The title of the campaign reflected congressional concerns. Further, Everet Beckner, Deputy NNSA Administrator for Defense Programs,

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<sup>8</sup> For links to reports criticizing NIF, see Natural Resources Defense Council, "National Ignition Facility and Science-Based Stockpile Stewardship Resource Page," available at [<http://www.nrdc.org/nuclear/nif/nifinx.asp>]. See also U.S. General Accounting Office. *National Ignition Facility: Management and Oversight Failures Caused Major Cost Overruns and Schedule Delays*, Report GAO/RCED-00-141, August 2000, 45 p.

<sup>9</sup> U.S. General Accounting Office. *Department of Energy: Follow-up Review of the National Ignition Facility*. Report GAO-01-677R, June 1, 2001, 18 p.

testified to the House Armed Services Committee on March 6, 2003, that NIF's "mission is to obtain fusion ignition."<sup>10</sup>

The House Appropriations Committee recommended \$511.8 million for this campaign for FY2004, an increase of \$45.0 million; included in the total was the \$150.0 million for construction, as requested. In marked contrast to concerns expressed in past years, the FY2004 House report states, "The Committee recognizes the recent successes on the NIF project and expects NNSA to focus on the core NIF project to maintain cost and schedule performance." The Senate Appropriations Committee recommended \$432.8 million, a reduction of \$34.0 million from the request; the total included \$150.0 million for construction. The committee expressed concern over "dramatic growth in other NIF-related activities funded elsewhere in the inertial confinement fusion campaign and specifically rejects that portion of the budget request."

**Readiness in Technical Base and Facilities (RTBF).** This program provides infrastructure and operations at the nuclear weapons complex sites. The request includes seven subprograms. By far the largest is Operations of Facilities (\$1,001.0 million appropriated for FY2003, \$972.8 million requested for FY2004). Others include Program Readiness, which supports activities occurring at multiple sites or in multiple programs (\$213.6 million appropriated for FY2003, \$131.1 million requested for FY2004), and Material Recycle and Recovery, which recovers plutonium, enriched uranium, and tritium from weapons production and disassembly (\$100.8 million appropriated for FY2003, \$76.2 million requested for FY2004). Construction is a separate category within RTBF; \$310.9 million was appropriated for FY2003, and \$273.4 million is requested for FY2004.

For FY2004, the House Appropriations Committee recommended a reduction of \$102.4 million from the request. Details include: \$997.8 million for Operations of Facilities, with an increase of \$20.0 million for Pantex Plant (TX) and \$5.0 million for Y-12 Plant (TN); \$106.2 million for Program Readiness, reflecting the elimination of funds for Enhanced Test Readiness (discussed below); \$76.2 million, as requested, for Material Recycle and Recovery; and \$178.9 million for construction, with almost all the reduction resulting from eliminating funds requested for three projects (\$20.0 million, exterior communications infrastructure modernization, Sandia National Laboratories; \$50.0 million, national security sciences building, and \$20.5 million, chemistry and metallurgy facility replacement project, both at Los Alamos National Laboratory).

The Senate Appropriations Committee recommended adding \$118.1 million to RTBF. Of the increase, \$117.0 million went to Operations of Facilities, including \$25.0 million for the National Center for Combating Terrorism, \$10.0 million for Pantex Plant, \$10.0 million for Y-12 Plant, \$20.0 million for Kansas City Plant (MO), \$15.0 million for Lawrence Livermore National Laboratory, \$20.0 million for Los Alamos National Laboratory, and \$8.0 million for Sandia National Laboratories.

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<sup>10</sup> Testimony of Everet Beckner, Deputy Administrator for Defense Programs, NNSA, on the FY2004 budget request for the Office of Defense Programs, before the Subcommittee on Strategic Forces of the House Armed Services Committee, March 6, 2003.

The RTBF element Nuclear Weapons Incident Response provides for a technical response to a nuclear or radiological emergency within DOE, in the United States, or abroad; \$88.4 million was appropriated for FY2003 and \$89.7 million was requested for FY2004. In addition, the RTBF element Operations of Facilities included \$32.5 million appropriated for FY2003 for the National Center for Combating Terrorism. The FY2004 request contains no funds for the center “due to the uncertainty about the ultimate sponsor, scope, and size of the mission for this facility.” For FY2004, the House and Senate Appropriations Committees provided the amount requested for Nuclear Weapons Incident Response. As noted, the latter committee added \$25.0 million for the National Center for Combating Terrorism as part of its RTBF increase.

***Nuclear Testing and Enhanced Test Readiness.*** A key issue is whether the United States can and should continue to maintain its weapons through the Stockpile Stewardship Program without nuclear testing. While that program has sought to do so, statements in early 2002 implied a reduced commitment to that approach. Secretary of Defense Donald Rumsfeld reportedly 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.”<sup>11</sup> 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.”<sup>12</sup>

The FY2004 budget request contains \$303.5 million for Weapons Activities at the Nevada Site Office, vs. \$292.5 million for FY2003.<sup>13</sup> Much of this is for operation of the site, safeguards and security, and operation and maintenance of experimental facilities at NTS.

Of particular interest regarding testing is Test Readiness, a component of the Program Readiness element of RTBF. Since FY1996, U.S. policy has been that NNSA (or DOE prior to NNSA’s establishment) should be ready to conduct a nuclear test within 24 to 36 months from the time the order is given. Recent studies identified work needed to reduce this time to 18 months. These studies were funded by “Enhanced Test Readiness.” The FY2004 budget document states, “The DoD and the NNSA agreed to transition to an 18-month test readiness posture while continuing to review the optimum posture. The actions necessary for moving toward an 18-month posture are expected to begin upon completion of the final FY 2003 appropriation.” The Senate Armed Services Committee’s bill for FY2004 national defense authorizations, S. 1050, section 3132, requires an 18-month posture unless

<sup>11</sup> Walter Pincus, “Nuclear Arms Plan: Saving, Not Scrapping,” *Washington Post*, January 9, 2002: 4.

<sup>12</sup> U.S. Department of Defense. News Transcript. *Special Briefing on the Nuclear Posture Review*, presented by J.D. Crouch, Assistant Secretary of Defense for International Security Policy, January 9, 2002.

<sup>13</sup> U.S. Department of Energy. *FY 2004 Congressional Budget Request: Laboratory Tables (Preliminary)*, p. 74.

the Secretary of Energy determines that a different posture is preferable. NNSA, however, prepared a study in April 2003 that concluded that an 18-month posture was preferable.<sup>14</sup> Meanwhile, through FY2003, funds in the “Nevada Site Readiness” account maintained the 24- to 36-month posture with ongoing work at the Nevada Test Site. Because no policy decision had been reached on reducing the time needed to test, the Enhanced Test Readiness and Nevada Site Readiness accounts had to be kept separated. With the move to an 18-month test readiness posture, the enhanced posture will become the current posture, making this separation unnecessary. Accordingly, the two accounts are expected to be merged into “Test Readiness” beginning in FY2004, depending on congressional language, though the FY2004 NNSA budget request level does not reflect that merger.

The FY2003 appropriation for enhanced test readiness was \$15.0 million. Conferees on the Consolidated Appropriations Resolution for FY2003 directed DOE to notify the Appropriations Committees before obligating any of these funds in FY2003. (H.Rept. 108-10.) Notification is pending. The FY2004 request for Test Readiness is \$24.9 million, and for Nevada Site Readiness is \$39.6 million.

In its FY2004 report, the House Appropriations Committee sharply criticized the plan for enhanced test readiness and recommended eliminating FY2004 funds for it. The committee expressed its concern over an “open-ended commitment” to enhanced test readiness “without any budget analysis or program plan to evaluate the efficiency or effectiveness of this funding increase,” argued that the proposal “does not address the fundamental difficulties in maintaining test readiness during a testing moratorium,” and noted that it took 18-24 months to conduct a fully-instrumented test during the era of routine testing so that a proposal to maintain indefinitely an 18-month posture during the testing moratorium “reflects a disturbing ‘cost is no object’ perspective.” Finally, even though NNSA and DOD decided to move to an 18-month test readiness posture, “The Committee does not recognize the NNSA declaring a revised test readiness posture as a new requirement nor is it convinced that the decision can be successfully implemented based on the planning information provided to date.” The Senate Appropriations Committee made no reference to nuclear test readiness, and provided the amount requested for Program Readiness, the component of RTBF containing test readiness funds.

**Budget Process Issues.** NNSA issued its first Future Years Nuclear Security Program (FYNSP) in March 2002. The House Appropriations Committee, however, criticized that effort. The committee, in its FY2003 report on Energy and Water Development Appropriations (H.Rept. 107-681), stated,

the FYNSP has several fundamental weaknesses that limit its usefulness for Congressional oversight. ... The NNSA budget and the FYNSP are built around activities rather than programs and products. ... The FYNSP includes a laundry list of performance targets – few of which are the same as an identifiable program – and there is no specific funding associated with any of the performance targets. Thus, it is impossible to determine

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<sup>14</sup> U.S. Department of Energy. National Nuclear Security Administration. *Report to Congress: Nuclear Test Readiness*. April 2003, 15 p.

how a specific resource allocation will impact performance. ... It is difficult for the Congress to determine what NNSA proposes to accomplish with these funds. ... [Accordingly, the] Committee directs the Department to conduct an independent assessment of the NNSA's PPBS [planning, programming, and budgeting system] process and structure, including its comparability to that of the Department of Defense.

Conferees agreed with the House language and "direct[ed] the NNSA to contract for an independent assessment of the NNSA's planning, programming, and budgeting system, including its comparability to that of the Department of Defense."

In its FY2003 budget request document, NNSA stated, "We are implementing a new PPBE [program planning, budgeting and evaluation] process that offers the potential for significant improvements in our resource management and decision making while still meeting all of the DOE's and Congress' requirements for information ... [beginning] with the FY 2004 budget cycle" and noted that DOE "is considering a parallel PPBES process." Accordingly, the FY2004 request document provided a five-year projection for NNSA's budget (Table 8):

**Table 8. NNSA 5-Year Budget Projection**  
(\$ millions)

	FY04	FY05	FY06	FY07	FY08	FY09
Office of Admin.	348	337	344	353	355	362
Weapons Activities	6,378	6,661	6,961	7,277	7,518	7,651
Nonproliferation	1,340	1,356	1,371	1,389	1,322	1,346
Naval Reactors	768	808	795	811	819	834
<b>Total</b>	<b>8,835</b>	<b>9,162</b>	<b>9,471</b>	<b>9,830</b>	<b>10,014</b>	<b>10,193</b>

In its FY2004 report, the House Appropriations Committee commended NNSA's efforts to implement a PPBE structure and a process to budget by weapon type. More generally, the committee found the process for budgeting and for setting priorities in nuclear weapons to be flawed, with DOD setting requirements for weapons without having to pay for them, and with DOE treating the Weapons Activities budget as untouchable because the requirements were set by DOD. Accordingly, "this Committee will not assume that all of the proposed nuclear weapons requests are legitimate requirements." The Senate Appropriations Committee directed DOE to retain the Institute for Defense Analyses to assess the process and structure of NNSA's planning, programming, and budgeting system.

**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.

Funding for these programs in FY2003 was provided in the Consolidated Appropriations Resolution (H.J. Res. 2, P.L. 108-7), which appropriated the amount requested by the Administration, \$1.1136 billion. An additional \$148 million was appropriated in the Emergency Wartime Supplemental Appropriations Act, 2003, P. L. 108-11 For FY2004, the Administration requested \$1.3402 billion. The House bill contains \$1.2802 billion. The Senate Appropriations Committee recommended the requested amount.

In particular, the Nonproliferation and Verification R&D program, which received a total of \$283 million for FY2003 (less \$79 million for programs transferred to the Department of Homeland Security, for a total of \$204 million), would be funded at \$204 million in the Administration FY2004 request. Nonproliferation and International Security programs, formerly called “Arms Control,” would receive \$102 million in the request, compared with \$93 million in FY2003. These programs include international safeguards, export controls, and treaties and agreements. The House bill would fund the R&D program at the requested level, and would boost the Nonproliferation and International Security program to \$105.7 million. The Senate Appropriations Committee recommended \$234.9 million for R&D and \$121.7 million for Nonproliferation and International Security.

**Table 9. DOE Defense Nuclear Nonproliferation Programs**  
(\$ millions)

Program	FY2003	FY2004 Request	FY2004 House H.R. 2754	Senate Approp. Cte.	Conf.
Nonproliferation and Verification R&D	222.5 <sup>a</sup>	203.9	203.9	234.9	
Nonproliferation and International Security	114.1 <sup>a</sup>	101.7	105.7	121.7	
International Materials Protection, Control and Accounting (MPC&A)	331.6 <sup>a</sup>	226.0	255.0	226.0	
Russian Transition Initiative	39.0	40.0	40.0	50.0	
International Nuclear Safety	14.5	14.1	6.1	–	
Elimination of Weapons-Grade Plutonium Production	49.0	50.0	50.0	50.0	
HEU Transparency Implementation	17.1	18.0	18.0	18.0	
Accelerated Materials Disposition	–	30.0	5.0	30.0	
Fissile Materials Disposition	445.1	656.5	656.5	656.5	
Adjustments	-64.0	–	-60.0	-46.9	
<b>Total, Defense Nuclear Nonproliferation</b>	<b>1,168.9<sup>a</sup></b>	<b>1,340.2</b>	<b>1,280.2</b>	<b>1,340.2</b>	

<sup>a</sup> Includes \$148 million total appropriated in Emergency Wartime Supplemental Appropriations Act, 2003, P. L. 108-11: \$20 million in R&D, \$22 million in Nonproliferation and International Security, and \$106 million in MPC&A.

International Materials Protection, Control and Accounting (MPC&A), which is concerned with reducing the threat posed by unsecured Russian weapons and weapons-usable material, would receive \$226 million under the President’s request, compared to \$233 million (less \$4 million transferred to DHS) appropriated for FY2003. The House bill would increase MPC&A to \$255 million, including an additional \$28 million for the “Megaports initiative,” which is intended to install

radiation detection equipment at the top 20 major overseas seaports to interdict nuclear material before it arrives in the United States. The Emergency Wartime Supplemental Appropriations Act, 2003, P. L. 108-11, included \$84 million for this new program for FY2003.

The Senate Appropriations Committee recommended the requested amount, \$226 million, for MPC&A.

Two programs in the former Soviet Union, Initiatives for Proliferation Prevention (IPP) and the Nuclear Cities Initiatives (NCI), which comprise the "Russian Transition Initiative," would receive \$40 million under the President's request, compared to the FY2003 appropriation of \$39.3 million. Requested funding for the Fissile Materials Disposition program for FY2004 is \$656.5 million, compared with \$448 million in FY2003. The increased funding is for disposal of U.S. surplus weapons plutonium by converting it into fuel for commercial power reactors, including construction of a facility to convert the plutonium to reactor fuel at Savannah River, SC. The House bill would fund these programs at the requested level. The Senate Appropriations Committee recommended \$50 million for the Russian Transition Initiative and the requested amount, \$656.5 million, for Fissile Materials Disposition.

(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 George H. W. 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 114 geographic sites in 31 states and one U.S. territory 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 million acres, which is equivalent to the land area of Rhode Island and Delaware combined. DOE reports that all response actions were complete at 75 sites as of the end of FY2002 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, if program reforms are not initiated, 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.

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* calendar year 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 calendar year 2006. The Defense Environmental Management Privatization Account funds cleanup and waste management projects at nuclear weapons sites that 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 FY2004, DOE has requested a total of \$7.24 billion for its Environmental Management Program, \$290 million more than the FY2003 enacted level of \$6.95 billion. While an increase has been proposed, the budget request would alter the existing appropriations account structure in order to focus funding on efforts to accelerate cleanup schedules and lower costs. These efforts are part of DOE's cleanup reform strategy, which is based on assessing the risk of exposure to determine which cleanup remedies are selected. Risk is currently one of many factors that DOE uses to select cleanup remedies. Altering the current process to use risk as the primary factor could result in decisions to contain waste on site as a means of preventing exposure, rather than removing it. While containment can often be accomplished more quickly and at less cost, the possibility of future exposure remains if the method of containment fails over time.

The proposed accounts are structured according to the purposes of "Site Acceleration Completion" and "Environmental Services," and there would be separate "Defense" and "Non-defense" accounts for each category. The Site Acceleration Completion accounts represent nearly \$6.0 billion of the total request, and would fund efforts to complete cleanup and close contaminated facilities at a faster pace than previously scheduled. The Environmental Services accounts would fund activities that indirectly support the mission of accelerated cleanup and closure, such as policy development and coordination, and the integration of mission activities across the complex of sites. DOE estimates that its cleanup acceleration strategy could save between \$50 billion and \$100 billion in total cleanup costs over the long term, and that the time frame for total site cleanup could be moved from 2070 to 2035.

While there has been widespread concern about the amount of time and money needed to clean up nuclear waste sites, questions have been raised as to how DOE would use a risk-based approach to accomplish its goals of faster and less costly

cleanups without weakening environmental protection. Some have drawn attention to the possibility that basing the selection of cleanup remedies on risk alone might result in more contamination being left on site, rather than it being removed. Because of the substantial amount of time required for radioactive decay to occur, arguments have been raised that contamination left in place may migrate in unexpected ways over the long-term, and result in pathways of exposure that could not have been predicted when the remedy was originally selected. Others counter that completely removing radioactive contamination from all sites to permit unrestricted future land use, and eliminate all future pathways of exposure, would not be economically feasible, and in some cases would be beyond the capabilities of current cleanup technologies.

DOE first proposed a risk-based cleanup reform strategy as part of its FY2003 budget request. In the 107<sup>th</sup> Congress, numerous questions were presented during the FY2003 appropriations debate as to whether the use of risk-based approaches would provide adequate environmental protection. Prior to final action on FY2003 appropriations, DOE signed letters of intent with EPA and the states to accelerate cleanup at most of its sites. Some Members criticized DOE's attempt to implement its cleanup reform strategy prior to the appropriation of funds as premature. While Congress did appropriate funding to honor these agreements, it provided the funds under the existing account structure rather than under a separate cleanup reform account that DOE had proposed. Some Members expressed concern about how the funds would have been distributed among the sites if DOE had been given an unallocated lump sum under a new account.

In the 108<sup>th</sup> Congress, the House would support the Administration's FY2004 request to change the existing account structure for the Environmental Management Program, in order to focus funding on the use of risk-based approaches to accelerate cleanup schedules. However, the House would provide less funding than requested for the program overall, primarily due to concern about DOE's lack of progress at many sites in renegotiating cleanup agreements to the satisfaction of EPA and the states, which would be necessary to allow the selection of cleanup remedies to be altered. Specifically, the House bill would appropriate a total of \$7.18 billion for the Environmental Management Program for FY2004, nearly \$60 million less than the Administration's request of \$7.24 billion, but about \$230 million more than the enacted FY2003 amount of \$6.95 billion. Report language indicates that additional funding could be provided in a future fiscal year if DOE can reach consensus with EPA and the states at sites where cleanup agreements have yet to be revised.

Additional concern is raised in the House bill that a sharp increase in the cost estimate for an accelerated cleanup project at the Hanford site may be an indicator that cost estimates of cleanup acceleration projects at other sites also could be understated. In light of this concern, the House bill would require DOE to review the cost estimates for all of the line-item construction projects in the FY2004 budget request. Another noted issue is the possible need for amendments to existing law to allow certain cleanup acceleration projects to proceed. To examine this need, the House bill would direct DOE to prepare a report to Congress on potential statutory restrictions that may delay or prohibit cleanup acceleration projects that are currently planned, and to submit a legislative proposal requesting these changes as part of the Administration's FY2005 budget submission to Congress.

The House bill also expresses concern about long-term stewardship needs once cleanup is finished at each site, and would direct DOE to consider these needs when implementing accelerated cleanup plans “to ensure that long-term stewardship is not used as a substitute for complete and effective site cleanup.” As discussed earlier, some have expressed concern that DOE’s cleanup acceleration strategy may result in more waste being left on site than would be allowed under original cleanup agreements. If more waste were permitted to remain, rather than being removed, the stewardship costs at such sites would likely rise as a result of the need for additional measures to ensure that the waste continues to be safely contained in future years to prevent exposure. In response to this issue, the House bill indicates that the Performance Management Plan for each cleanup site should identify the resources that would be necessary for fulfilling DOE’s responsibilities to manage the legacy of contained waste that is left behind after cleanup response actions are complete.

The Senate also would support the requested change in account structure for the Environmental Management Program, but would provide about \$3 million less overall than the House for the program. Like the House, the Senate bill expresses support for DOE’s efforts to reduce risk, accelerate cleanup, and lower costs. However, it also raises questions, similar to the House, regarding the possible understatement of costs for certain cleanup acceleration projects. The Senate bill expresses concern about the “highly optimistic” assumptions upon which estimates of cost savings and accelerated cleanup goals are based, such as changes in statutory and regulatory requirements that would be needed to alter certain requirements under existing cleanup agreements with EPA and state regulators.

In response to this concern, the Senate bill would provide an additional \$5 million for DOE’s Office of Management, Budget, and Evaluation to increase its oversight of cleanup acceleration and reform efforts. DOE would be directed to submit a proposal by March 15, 2004, for establishing a formal process by which the Office of Management, Budget, and Evaluation would certify that “new acceleration and reform agreements based on the site management performance plans are comprehensive in their cost estimates and contain adequate contingency.” The Senate bill indicates that the purpose of this certification would be to “improve oversight and confidence in the cost savings promised in the acceleration and reform agreements.”

**Civilian Nuclear Waste.** The Bush Administration requested \$591 million for the DOE civilian nuclear waste disposal program for FY2004, a 30% boost over FY2003. The increased budget is intended primarily to pay for preparing a construction permit application for a national nuclear waste repository at Yucca Mountain, Nevada. The additional funds are also needed for detailed repository design work, repository performance studies, and transportation planning, according to DOE. The Department contends that it cannot meet its 2010 target date for shipping nuclear waste to Yucca Mountain without receiving its entire FY2004 budget request for the program.

The House Appropriations Committee, contending that the nuclear waste program has suffered “chronic funding shortfalls,” voted to provide an additional \$174 million for the program in FY2004, for a total of \$765 million, to which the House concurred. The Appropriations Committee report stressed that the additional

funding should ensure that DOE could submit a license application for the repository to the Nuclear Regulatory Commission (NRC) by December 31, 2004. The Committee also directed DOE to prepare any plans and legislation necessary to allow shipments of spent nuclear fuel to Yucca Mountain to begin in 2007 – three years before the repository is scheduled to open. However, House Energy and Water Subcommittee Chairman Hobson promised in a floor colloquy to remove the report language about early shipments to Yucca Mountain.

The Senate Appropriations Committee voted to cut the Administration's request to \$425 million, setting up a potentially difficult confrontation with the House over the controversial program.

Between FY2005 and FY2010, nuclear waste funding will have to further increase to an average of \$1.3 billion per year to keep the repository on schedule, according to the DOE budget justification. The Administration is proposing that discretionary spending caps be adjusted to accommodate the program's higher future funding, although specific legislation has not been submitted.

The Nuclear Waste Policy Act of 1982 (NWPA, 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 NWPA to submit a "notice of disapproval" (or "state veto") to Congress. Under NWPA, the state disapproval would have blocked the Yucca Mountain site if a congressional approval resolution had not been 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 FY2004 budget request, \$161.0 million would be provided from the Nuclear Waste Fund, which consists of fees paid by nuclear utilities, and \$430.0 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 House Appropriations Committee would boost the Nuclear Waste Fund portion of the request to \$335 million.

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. (For details see CRS Issue Brief IB92059, *Civilian Nuclear Waste Disposal*.)

The State of Nevada has filed a variety of lawsuits to block the Yucca Mountain project, including a contention that the federal government lacks authority under the Constitution to force Nevada to accept the nation's nuclear waste.

**Power Marketing Administrations.** DOE's four Power Marketing Administrations (PMAs) developed during the 1930s out of the construction of dams and multi-purpose water projects 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 104<sup>th</sup> Congress debated sale of the PMAs and did, in 1995, authorize divestiture of one PMA (the Alaska Power Administration Act, P.L. 104-58). There has been no press to dispose of the remaining PMAs, and none seems likely given the broader uncertainties governing electric utility restructuring.

Congress enacted a funding level of \$203.5 million in the FY2003 Consolidated Appropriations Resolution (P.L. 108-7), including an additional \$6.1 million for WAPA above the Administration's FY2003 request. The request for FY2004 is \$207.3 million – \$5.1 million for SEPA, \$28.6 million for SWPA, \$171 million for WAPA, and \$2.6 million for operation of hydroelectric facilities at the Falcon & Amistad Dams located on the Rio Grande River between Texas and Mexico. The increase in the FY2004 request over the enacted FY2003 spending level may be attributed to an increase of nearly \$10 million for Program Direction at WAPA. Workload requirements attributed to certain orders from the Federal Energy Regulatory Commission (FERC), and additional hires are cited as the justification for an increase of nearly 10% in higher salaries and benefits for WAPA in FY2004. The House bill funds PMA's at the requested level, and the Senate Appropriations Committee recommended the same funding .

BPA receives no annual appropriation, but funds some of its activities from permanent borrowing authority, which was increased in FY2003 from \$3.75 billion to \$4.45 billion (a \$700 million increase). BPA is not requesting additional borrowing authority in FY2004. BPA intends to borrow \$528 million in FY2004, down from \$630.8 million in FY2003, to be used for generation and transmission services, conservation, energy efficiency, fish and wildlife, and capital equipment programs.

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

Program	FY2003	FY2004 Request	House H.R. 2754	Senate Approp. Cte.	Conf.
Appalachian Regional Commission	70.8	33.1	33.1	71.1	
Nuclear Regulatory Commission (Revenues)	585.0	626.1	626.1	626.1	
Net NRC	(526.5) 58.5	(545.6) 80.5	(545.6) 80.5	(545.6) 80.5	
Defense Nuclear Facilities Safety Board	18.9	19.6	19.6	19.6	
Nuclear Waste Technical Review Board	3.2	3.1	3.1	3.1	
Denali Commission	47.7	9.5	–	48.5	
Delta Regional Authority	7.9	2.0	2.0	7.0	
<b>Total</b>	<b>206.7</b>	<b>147.9</b>	<b>138.4</b>	<b>229.9</b>	

### Key Policy Issues — Independent Agencies

**Nuclear Regulatory Commission.** The Nuclear Regulatory Commission (NRC) is requesting a total budget of \$626.1 million for FY2003, including \$7.3 million for the NRC inspector general’s office. The funding request would provide a 8.3% increase over FY2003. 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 approved the full NRC request, and so did the Senate Appropriations Committee.

In the wake of the September 11, 2001, terrorist attacks against the United States, NRC has focused additional attention on the security of nuclear power plants and other users of radioactive material. NRC’s FY2004 budget request includes \$53.1 million for activities related to homeland security, a 50% increase over FY2003. During FY2003, NRC plans to finish revising the nuclear plant security “design-basis threat” – the potential attacks that nuclear plants must be capable of

withstanding. In FY2004, NRC intends to begin conducting “full security performance reviews, including force-on-force exercises, at each nuclear power plant on a 3-year cycle instead of the 8-year cycle that the agency used before September 11, 2001.” (For more information on protecting licensed nuclear facilities, see CRS Report RS21131, *Nuclear Power Plants: Vulnerability to Terrorist Attack*.)

NRC proposes to spend \$33.5 million on licensing activities for possible new commercial reactors, which are being encouraged by DOE’s Nuclear Power 2010 program. The FY2003 appropriation provided about \$25 million for new reactor licensing, up from \$10 million 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.

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 Development Appropriations Act (P.L. 106-377) 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, 92% of the FY2004 NRC request – minus \$33.1 million transferred from the Nuclear Waste Fund to pay for waste repository licensing – would be offset by fees on licensees.

## 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 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 107<sup>th</sup> Congress.*

CRS Report RS20569. *Water Resource Issues in the 107<sup>th</sup> 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 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.*