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{ REPORT
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ENERGY AND WATER DEVELOPMENT APPROPRIATIONS
BILL, 2019

MAY 24, 2018.—Ordered to be printed

Mr. ALEXANDER, from the Committee on Appropriations, submitted
the following

REPORT

[To accompany S. 2975]

The Committee on Appropriations reports the bill (S. 2975) making appropriations for energy and water development and related agencies for the fiscal year ending September 30, 2019, and for other purposes, reports favorably thereon and recommends that the bill do pass.

New obligatory authority

Total of bill as reported to the Senate	\$43,766,000,000
Amount of 2018 appropriations	60,582,716,000
Amount of 2019 budget estimate	31,610,121,000
Bill as recommended to Senate compared to—	
2018 appropriations	– 16,816,716,000
2019 budget estimate	+ 12,155,879,000

CONTENTS

	Page
Purpose	4
Summary of Estimates and Recommendations	4
Introduction	4
Title I:	
Department of Defense—Civil: Department of the Army:	
Corps of Engineers—Civil:	
Investigations	11
Construction	17
Mississippi River and Tributaries	25
Operation and Maintenance	27
Regulatory Program	47
Formerly Utilized Sites Remedial Action Program	47
Flood Control and Coastal Emergencies	48
Expenses	48
Office of the Assistant Secretary of the Army (Civil Works)	48
General Provisions—Corps of Engineers—Civil	49
Title II:	
Department of the Interior:	
Central Utah Project Completion Account	49
Bureau of Reclamation:	
Water and Related Resources	51
Central Valley Project Restoration Fund	59
California Bay-Delta Restoration	60
Policy and Administration	60
General Provisions—Department of the Interior	61
Title III:	
Department of Energy:	
Energy Efficiency and Renewable Energy	65
Cybersecurity, Energy Security, and Emergency Response	78
Nuclear Energy	81
Fossil Energy Research and Development	84
Naval Petroleum and Oil Shale Reserves	91
Strategic Petroleum Reserve	91
Northeast Home Heating Oil Reserve	91
Energy Information Administration	91
Non-Defense Environmental Cleanup	91
Uranium Enrichment Decontamination and Decommissioning Fund ..	92
Science	92
Advanced Research Projects Agency—Energy	98
Innovative Technology Loan Guarantee Program	99
Advanced Technology Vehicles Manufacturing Loan Program	99
Tribal Energy Loan Guarantee Program	100
Office of Indian Energy Policy and Programs	100
Departmental Administration	100
Office of the Inspector General	101
Weapons Activities	102
Defense Nuclear Nonproliferation	105
Naval Reactors	107
Federal Salaries and Expenses	108
Defense Environmental Cleanup	108
Other Defense Activities	111
Power Marketing Administrations:	
Operation and Maintenance, Southwestern Power Administra-	
tion	112

	Page
Title III—Continued	
Department of Energy—Continued	
Power Marketing Administrations—Continued	
Construction, Rehabilitation, Operations and Maintenance, West- ern Area Power Administration	113
Falcon and Amistad Operating and Maintenance Fund	113
Federal Energy Regulatory Commission	113
General Provisions—Department of Energy	138
Title IV:	
Independent Agencies:	
Appalachian Regional Commission	138
Defense Nuclear Facilities Safety Board	139
Delta Regional Authority	139
Denali Commission	140
Northern Border Regional Commission	140
Nuclear Regulatory Commission	140
Office of Inspector General	141
Nuclear Waste Technical Review Board	142
General Provisions	143
Title V: General Provisions	144
Compliance With Paragraph 7, Rule XVI, of the Standing Rules of the Senate	144
Compliance With Paragraph 7(c), Rule XXVI, of the Standing Rules of the Senate	146
Compliance With Paragraph 12, Rule XXVI, of the Standing Rules of the Senate	147
Budgetary Impact of Bill	147
Comparative Statement of Budget Authority	148

PURPOSE

The purpose of this bill is to provide appropriations for fiscal year 2019, beginning October 1, 2018 and ending September 30, 2019, for energy and water development, and for other related purposes. It supplies funds for water resources development programs and related activities of the Corps of Engineers' civil works program in title I; for the Department of the Interior's Bureau of Reclamation and Central Utah Project in title II; for the Department of Energy's energy research and development activities, including environmental restoration and waste management, and atomic energy defense activities of the National Nuclear Security Administration in title III; and for independent agencies and commissions, including the Appalachian Regional Commission, Delta Regional Authority, Denali Commission, Northern Border Regional Commission, and the Nuclear Regulatory Commission in title IV.

SUMMARY OF ESTIMATES AND RECOMMENDATIONS

The fiscal year 2019 budget estimates for the bill total \$31,610,121,000 in new budget (obligational) authority. The recommendation of the Committee totals \$43,766,000,000. This is \$12,155,879,000 above the budget estimates and \$16,816,716,000 below the enacted appropriation for the current fiscal year.

The Committee notes the enacted appropriation for the current fiscal year includes \$17,419,716,000 in supplemental appropriation for disaster relief requirements.

SUBCOMMITTEE HEARINGS

To develop this recommendation, the Committee held three budget hearings in April 2018 in connection with the fiscal year 2019 budget requests for the Corps of Engineers, Bureau of Reclamation, Department of Energy and National Nuclear Security Administration, and the Nuclear Regulatory Commission. The hearings provided officials from the agencies with an opportunity to present the administration's most pressing priorities to the Committee. The Committee also invited and received recommendations from Senators and outside witnesses.

INTRODUCTION

The Subcommittee on Energy and Water Development's 302(b) allocation totals \$43,766,000,000 of net budget authority for fiscal year 2019, including adjustments, which represents an increase of \$566,000,000 above fiscal year 2018 enacted levels. Within the amount recommended, \$21,892,000,000 is classified as defense (050) spending and \$21,874,000,000 is classified as non-defense (non-050) spending.

The Committee's recommendation includes funding for the highest priority activities across the agencies funded in the bill. The recommendation includes funds for critical water infrastructure, including our Nation's inland waterways, ports, and harbors; agricultural water supply and drought relief in the West; groundbreaking scientific research and development, including world-class supercomputing; support for the Nation's nuclear weapons, non-proliferation, and nuclear Navy programs; and critical economic development.

TITLE I
CORPS OF ENGINEERS—CIVIL
DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS—CIVIL
OVERVIEW OF RECOMMENDATION

The Committee recommends \$6,927,000,000 for the Corps of Engineers [Corps], an increase of \$2,142,417,000 above the budget request.

The Committee's recommendation sets priorities by supporting our Nation's water infrastructure. Specifically, the Committee recommendation provides adequate appropriations to utilize all of the estimated fiscal year 2019 revenues for the fifth consecutive year, from the Inland Waterways Trust Fund and for the fifth consecutive year meets the target prescribed in the Water Resources Reform and Development Act of 2014 [WRRDA], as amended, for Corps projects eligible for Harbor Maintenance Trust Funds.

INTRODUCTION

The Corps' civil works mission is to provide quality, responsive engineering services to the Nation in peace and war. Approximately 23,000 civilians and about 290 military officers are responsible for executing the civil works mission. This bill only funds the civil works functions of the Corps.

The Corps maintains our inland waterways, keeps our ports open, manages a portion of our drinking water supply, provides emission free electricity from dams, looks after many of our recreational waters, helps manage the river levels during flooding, provides environmental stewardship, and emergency response to natural disasters. The annual net economic benefit generated by the Corps' civil works mission is estimated to be \$109,830,000,000, which equates to a return of about \$16.60 for every \$1 expended.

The Corps' responsibilities include:

- navigation systems, including 13,000 miles of deep draft channels, 12,000 miles of inland waterways, 239 lock chambers, and 1,067 harbors which handle over 2.3 billion tons of cargo annually;
- flood risk management infrastructure, including 709 dams, 14,700 miles of levees, and multiple hurricane and storm damage risk reduction projects along the coast;
- municipal and industrial water supply storage at 136 projects spread across 25 States;
- environmental stewardship, infrastructure, and ecosystem restoration;

- recreation for approximately 370 million recreation visits per year to Corps projects;
- regulation of waters under Federal statutes; and
- maintaining hydropower capacity of nearly 24,000 megawatts at 75 projects.

ONGOING CORPS REFORM EFFORTS

The Committee commends the Corps for its several ongoing internal initiatives to change itself and improve how it delivers Civil Works water infrastructure and related programs. Recent efforts to streamline the processing of section 408 actions for alterations or use of Corps Civil Works projects are vitally important. Important changes include maximum delegation of decision-making to the field, narrowed scope for evaluating impacts and elimination of certain procedural requirements. For example, the requirement for a section 408 action for routine Operation and Maintenance was eliminated; the requirement for developing a 60-percent design before submitting an application for a 408 action has been eliminated; and a more limited application of navigational servitude to 408 actions which eliminated the need for numerous permits in coastal areas. The Director of Civil Works has also issued formal direction to, among other things, operationalize risk-informed decisionmaking to change behavior by shifting from a more regimented- and compliance-based paradigm to a more agile approach that allows for more project- and situation-specific adaptation based on risk after documenting any associated risks. The Corps is also pursuing 12 specific actions to improve permitting efficiencies, including aggressive implementation of Executive Order 13807 (One Federal Decision); clarification of policy to consider removal of obsolete structures as creditable mitigation bank actions; alignment of section 404 or section 10 permits with section 408 actions; and establishment of a Lead District approach for projects that cross multiple jurisdictions such as pipeline projects. The Committee strongly encourages the continuation of these and other aggressive actions to improve program and project delivery.

BUDGET STRUCTURE CHANGES

The fiscal year 2019 budget request for the Corps proposed numerous structural changes, including creation of two new accounts—Harbor Maintenance Trust Fund and Inland Waterways Trust Fund—and the shifting of various studies and projects between accounts. The Committee rejects all such proposed changes and instead recommends funding for the requested studies and projects in the accounts in which funding has traditionally been provided. Unless expressly noted, the Committee recommends studies and projects remain at the funding levels included in the budget request, but in different accounts than in the budget request. In particular:

- Projects requested in the Harbor Maintenance Trust Fund account are shown in the Construction, Mississippi River and Tributaries, or Operation and Maintenance accounts, as appropriate;
- Projects requested in the Inland Waterways Trust Fund account are shown in the Construction account;

- Dredged material management plans requested in the Investigations account are shown in the Operation and Maintenance account;
- Dam safety modification studies requested in the Investigations account are shown in the Dam Safety and Seepage/Stability Correction Program in the Construction account;
- Dam Safety and Seepage/Stability Correction Program management costs requested in the Expenses account are shown in the Construction account; and
- Sand mitigation projects requested in the Harbor Maintenance Trust Fund account are shown in the Construction account.

Additionally, the recommendation includes the Poplar Island, Maryland beneficial use of dredged material project within the Environmental Restoration business line as in previous years.

If the Corps proposes budget structure changes in future fiscal years, the proposal shall be accompanied by a display of the funding request in the traditional budget structure.

DEEP DRAFT NAVIGATION

The budget request this year fails to adequately fund our nation's harbors. The Committee is disappointed the fiscal year 2019 budget request only proposes to spend \$965 million for Harbor Maintenance Trust Fund [HMTF]-related activities, which is \$477 million below the spending target of \$1,442,000,000 established by WRRDA, as amended. For fiscal year 2019, the Committee recommends an estimated \$1,528,401,000 for HMTF-related activities, which exceeds the WRRDA spending target.

INLAND WATERWAYS SYSTEM

The Committee notes that the budget request only proposed to spend \$5,250,000 of the estimated \$105,000,000 deposits for fiscal year 2019 into the Inland Waterways Trust Fund [IWTF]. This would leave an estimated \$99,750,000 of fiscal year 2019 deposits unspent. By only proposing to fund one of the four ongoing construction projects that were funded last year, the budget request disregards the existing Capital Investment Strategy and the advice and recommendations of industry experts and professional engineers.

The Committee rejects the budget request's proposal to reform inland waterways financing by increasing the amount paid by commercial navigation users of inland waterways, particularly when the administration fails to make full use of the fees already collected for this purpose.

ADDITIONAL FUNDING

The Committee recommends funding above the budget request for Investigations, Construction, Operation and Maintenance, and Mississippi River and Tributaries. This funding is for additional work (including new starts) that either was not included in the budget request or was inadequately budgeted. A study or project may not be excluded from evaluation for additional funding for being inconsistent with administration policy.

The administration is reminded these funds are in addition to its budget request, and administration budget metrics shall not be a reason to disqualify a study or project from being funded. The focus of the allocation process shall favor the obligation, rather than the expenditure, of funds for work in fiscal year 2019.

Funding associated with each category may be allocated to any eligible study or project, as appropriate, within that category; funding associated with each subcategory may be allocated only to eligible studies or projects, as appropriate, within that subcategory.

Work Plan.—Not later than 60 days after the date of enactment of this act, the Corps shall provide to the Committees on Appropriations of both Houses of Congress a work plan consistent with the following general guidance, as well as the specific direction the Committee provides within each account: (1) a detailed description of the rating system(s) developed and used to evaluate studies and projects; (2) delineation of how these funds are to be allocated; (3) a summary of the work to be accomplished with each allocation, including phase of work and the study or project's remaining cost to complete (excluding Operation and Maintenance); and (4) a list of all studies and projects that were considered eligible for funding but did not receive funding, including an explanation of whether the study or project could have used funds in fiscal year 2019 and the specific reasons each study or project was considered as being less competitive for an allocation of funds.

The work plan shall include a single group of new starts for Investigations and Construction. None of the funds may be used for any item for which the Committee has specifically denied funding.

The Committee urges the Corps within its Flood and Coastal Storm Damage Reduction mission to strive for a balance between inland and coastal projects.

New Starts.—The recommendation includes seven new study starts and six new construction starts to be distributed across the authorized mission areas of the Corps. Of the new starts in Investigations, two shall be for navigation studies, two shall be for flood and storm damage reduction studies, one shall be for an environmental restoration study, and two shall be for navigation, flood and storm damage reduction, environmental restoration, or multi-purpose studies. Of the new study starts for navigation, one shall be for a Small, Remote, or Subsistence Harbor. Of the new study starts for flood and storm damage reduction, one shall be for a multi-purpose watershed study to assess coastal resiliency. Of the new construction starts, one shall be for a navigation project, one shall be for a flood and storm damage reduction project, one shall be for an additional navigation or flood and storm damage reduction project, two shall be for environmental restoration projects, and one shall be for a navigation, flood and storm damage reduction, environmental restoration, or multi-purpose project.

As all new starts are to be chosen by the Corps, all shall be considered of equal importance, and the expectation is that future budget submissions will include appropriate funding for all new starts selected.

A study is not completed until preconstruction engineering and design [PED] is completed. No new start or new investment decision shall be required when moving from feasibility to PED. When

evaluating proposals for new feasibility studies, the Corps is encouraged to give priority to those studies with executed Feasibility Cost Sharing Agreements and a sponsor with the ability to provide any necessary cost share for the study phase. The Corps is encouraged to support opportunities to restore critical habitat and enhance the Nation's economic development, job growth, and international competitiveness.

A new construction start shall not be required for work undertaken to correct a design deficiency on an existing Federal project; it shall be considered ongoing work.

ASIAN CARP

The Secretary of the Army, acting through the Chief of Engineers, shall make every effort to submit to Congress the Report of the Chief of Engineers for the Brandon Road feasibility study according to the original published schedule of February 2019. The Corps is encouraged to allocate sufficient funding provided in this act to ensure the Report of the Chief of Engineers for the Brandon Road feasibility study is published in this timeframe. The Corps is also directed to provide quarterly updates to the Committees on Appropriations of both Houses of Congress on the progress and status of efforts to prevent the further spread of Asian carp as well as the location and density of carp populations, including the use of emergency procedures.

The Corps shall continue to collaborate with the U.S. Coast Guard, the U.S. Fish and Wildlife Service, the State of Illinois, and members of the Asian Carp Regional Coordinating Committee to identify and evaluate whether navigation protocols would be beneficial or effective in reducing the risk of vessels inadvertently carrying aquatic invasive species, including Asian carp, through the Brandon Road Lock and Dam in Joliet, Illinois. Any findings of such an evaluation shall be included in the quarterly briefings to the Committees. The Corps is further directed to implement navigation protocols shown to be effective at reducing the risk of entrainment without jeopardizing the safety of vessels and crews within 90 days of enactment of this act. The Corps and other Federal and State agencies are conducting ongoing research on potential solutions.

UNMANNED AERIAL SYSTEMS

The Committee is concerned by a U.S. Immigration and Customs Enforcement bulletin published in 2017 that confidently assesses that a Chinese unmanned aerial systems (UAS) manufacturer was using its products to provide critical infrastructure data to the Chinese Government. The Corps shall immediately determine whether UAS that were the subject of the August 2017 bulletin are currently in use and report back to the Committee within 180 days. Due to the critical infrastructure funded in this bill that has an extensive national security component, any vulnerability to foreign surveillance is a serious concern to this Committee and the Corps shall prioritize purchases of American-made UAS in the future.

REPROGRAMMING

The Committee is retaining the reprogramming legislation provided in the Energy and Water Development and Related Agencies Appropriations Act, 2018.

CONGRESSIONALLY DIRECTED SPENDING

The Committee did not accept or include congressionally directed spending, as defined in section 5(a) of rule XLIV of the Standing Rules of the Senate. However, the Committee has recommended additional programmatic funds for Investigations, Construction, Operations and Maintenance, and Mississippi River and Tributaries to address deficiencies in the budget request. In some cases, these additional funds have been included within defined categories, as in prior years, and are described in more detail in their respective sections below.

REPORTING REQUIREMENT

The Corps shall provide a monthly report to the Committees on Appropriations of both Houses of Congress, which includes the total budget authority and unobligated balances by year for each program, project, or activity, including any prior year appropriations.

The Assistant Secretary of the Army (Civil Works) shall provide a monthly report to the Committees on Appropriations of both Houses of Congress, which includes the total budget authority and unobligated balances by year for each activity funded in the Office of the Assistant Secretary of the Army (Civil Works) account, including any prior year appropriations.

INVESTIGATIONS

Appropriations, 2018	\$123,000,000
Budget estimate, 2019	82,000,000
Committee recommendation	123,000,000

The Committee recommends \$123,000,000 for Investigations, an increase of \$41,000,000 from the budget request. The Committee’s recommendation allows the Corps to begin seven new feasibility study starts.

INTRODUCTION

Funding in this account is used to develop feasibility and PED studies to address the Nation’s water infrastructure needs, in support of project authorization. The Committee recognizes that the budget request does not provide adequate funding for Investigations, and specifically PED funding, to allow many of America’s most important waterways to move efficiently from planning to construction. The Committee therefore recommends additional funding to be used to seamlessly continue feasibility studies into the PED study phase.

NEW STARTS

The Corps is directed to designate new starts in accordance with the direction in the front matter under the heading “Additional Funding”.

COMMITTEE RECOMMENDATION

The table below displays the budget request and the Committee’s recommendation for Investigations.

CORPS OF ENGINEERS—INVESTIGATIONS

[In thousands of dollars]

Project title	Budget estimate	Committee recommendation
ALABAMA		
BLACK WARRIOR AND TOMBIGBEE RIVERS, AL	100	.....
GULF INTRACOASTAL WATERWAY, AL	250	.....
CALIFORNIA		
EAST SAN PEDRO BAY ECOSYSTEM RESTORATION, CA	298	298
ILLINOIS		
INTERBASIN CONTROL OF GREAT LAKES—MISSISSIPPI RIVER. AQUATIC NUISANCE SPECIES, IL, IN, OH & WI (BRANDON ROAD)	200	200
INDIANA		
MISSISSINEWA LAKE, IN	1,500	.....
IOWA		
GRAND RIVER BASIN, IA & MO	100	100
NEW MEXICO		
RIO GRANDE, SANDIA PUEBLO TO ISLETA PUEBLO, NM	825	825
NEW YORK		
BUFFALO HARBOR, NY	300	.....
HUDSON RIVER HABITAT RESTORATION, NY	355	355
OHIO		
CLEVELAND HARBOR, OH	350	.....
DELAWARE LAKE, OH	750	.....
OREGON		
COLUMBIA RIVER TREATY 2024 IMPLEMENTATION	10,265	.....
COUGAR LAKE, OR	1,500	.....
HILLS CREEK, OR	1,500	.....
LOOKOUT POINT LAKE, OR	1,500	.....
TEXAS		
COASTAL TEXAS PROTECTION AND RESTORATION STUDY, TX	2,675	2,675
CORPUS CHRISTI SHIP CHANNEL, TX	250	.....
GIWW— BRAZOS RIVER FLOODGATES & COLORADO RIVER LOCK, TX	50	50
GRAPEVINE LAKE, TX	1,500	.....
HOUSTON SHIP CHANNEL, TX	603	603
MATAGORDA SHIP CHANNEL, TX	200	200
PROCTOR LAKE, TX	1,500	.....
VIRGINIA		
ATLANTIC INTRACOASTAL WATERWAY BRIDGE REPLACEMENT AT NORTH LANDING, VA	1,600	1,600
NORFOLK HARBOR, VA	300	.....
SUBTOTAL, ITEMS UNDER STATES	28,471	6,906
REMAINING ITEMS		
ADDITIONAL FUNDING FOR ONGOING WORK		
FLOOD AND STORM DAMAGE REDUCTION .....	.....	7,500
FLOOD CONTROL .....	.....	5,000
SHORE PROTECTION .....	.....	2,000
NAVIGATION .....	.....	9,823

CORPS OF ENGINEERS—INVESTIGATIONS—Continued

[In thousands of dollars]

Project title	Budget estimate	Committee recommendation
COASTAL AND DEEP-DRAFT		9,000
INLAND		6,000
OTHER AUTHORIZED PROJECT PURPOSES		5,000
ENVIRONMENTAL RESTORATION OR COMPLIANCE		5,500
COORDINATION STUDIES WITH OTHER AGENCIES		
ACCESS TO WATER DATA	360	360
COMMITTEE ON MARINE TRANSPORTATION SYSTEMS	50	50
OTHER COORDINATION PROGRAMS		
COORDINATION WITH OTHER WATER RESOURCE AGENCIES	400	400
INTERAGENCY AND INTERNATIONAL SUPPORT	400	400
INTERAGENCY WATER RESOURCE DEVELOPMENT	100	100
INVENTORY OF DAMS	400	400
SPECIAL INVESTIGATIONS	1,000	1,000
FERC LICENSING	100	100
PLANNING ASSISTANCE TO STATES	5,000	8,000
COLLECTION AND STUDY OF BASIC DATA		
AUTOMATED INFORMATION SYSTEMS SUPPORT TRI-CADD	250	250
COASTAL FIELD DATA COLLECTION	1,000	1,000
ENVIRONMENTAL DATA STUDIES	80	80
FLOOD DAMAGE DATA	230	230
FLOOD PLAIN MANAGEMENT SERVICES	15,000	15,000
HYDROLOGIC STUDIES	500	500
INTERNATIONAL WATER STUDIES	125	125
PRECIPITATION STUDIES	200	200
REMOTE SENSING/GEOGRAPHIC INFORMATION SYSTEM SUPPORT	75	75
SCIENTIFIC AND TECHNICAL INFORMATION CENTERS	50	50
STREAM GAGING	550	550
TRANSPORTATION SYSTEMS	1,000	1,000
RESEARCH AND DEVELOPMENT	16,258	25,000
OTHER—MISCELLANEOUS		
DISPOSITION OF COMPLETED PROJECTS	1,000	1,000
NATIONAL FLOOD RISK MANAGEMENT PROGRAM	5,000	5,000
NATIONAL SHORELINE MANAGEMENT STUDY	400	400
PLANNING SUPPORT PROGRAM	3,500	3,500
TRIBAL PARTNERSHIP PROGRAM	500	1,500
SUBTOTAL, REMAINING ITEMS	53,528	116,093
ACCOUNTING ADJUSTMENT	1	1
GRAND TOTAL	82,000	123,000

Biscayne Bay Coastal Wetlands Project.—The Committee continues to support this vital project to protect drinking water supplies in eastern Miami-Dade County from saltwater intrusion and to enhance the coastal and marine ecology of Biscayne Bay and the offshore coral reef system. The Committee notes support from Miami-Dade County and the South Florida Water Management District to incorporate highly treated, reclaimed wastewater as an additional source of freshwater to assist the rehydration of these coastal wetlands. The Committee encourages the Corps to consider the incorporation of this potential source of freshwater into further study, design, and construction of the project and to evaluate the potential to use additional volumes of reclaimed wastewater to restore freshwater artesian springs within the Bay through underground injection to the shallow, underlying aquifer.

Bubbly Creek.—The Committee encourages the Corps to resume its study of the revitalization of the South Fork of the South Branch of the Chicago River (known as “Bubbly Creek”) now that the Environmental Protection Agency has completed its evaluation of the study area and removed the site from its Superfund program.

Disposition of Completed Projects.—Disposition studies not included in the budget request that have a non-federal interest who has expressed interest in assuming responsibility for a facility shall be considered eligible for additional funding provided in this account. The Committee understands the Corps recommended no action for the Upper Monongahela and Allegheny River Studies in 2017. No funds provided may be used to take any action on the recommendations from the Upper Monongahela and Allegheny River Studies.

Mid-Chesapeake Bay Island.—The Corps has completed the supplemental chief’s report and is awaiting approval from the administration before budgeting for the Mid-Chesapeake Bay Island Project (James and Barren Islands). The Committee encourages the Corps to provide funding for PED for this project through the annual budget process or with additional funds.

Puget Sound Nearshore Study.—The Committee encourages the Corps to proceed with the tiered implementation strategy using all existing authorities as outlined in the Puget Sound Nearshore Ecosystem Restoration Project Feasibility Study, Completion Strategy Guidance dated June 2015. The Corps is further directed to recognize the Puget Sound Nearshore Study as the feasibility component for the purposes of Section 544 of the Water Resources Development Act of 2000. The Committee notes that the WIIN Act authorized construction of the Puget Sound Nearshore Ecosystem Restoration Project, and reminds the Corps that no new start, new investment decision, or new phase decision shall be required to move this project from feasibility to PED.

Rahway River Basin (Upper Basin), New Jersey.—There has been an agreement to provide further analysis of the Rahway River Basin Flood Risk Management Feasibility Study led by the Corps’ New England District. The Corps is encouraged to include funding in the fiscal year 2019 work plan to complete the necessary detailed analysis in conjunction with cost sharing agreements with the non-federal sponsor.

Research and Development.—The Committee recommends additional funding for increasing collaboration research partnerships to advance the capability to evaluate methods for restoring ecosystem conservation.

Research and Development, Additional Topic—Urban Flood Damage Reduction and Stream Restoration in Arid Regions.—The Committee recommendation includes \$1,500,000 for the Corps’ Flood & Coastal Systems research and development [R&D] program to continue its focus on the management of water resources infrastructure and projects that promote public safety, reduce risk, improve operational efficiencies, reduce flood damage, sustain the environment, and position our water resource infrastructure to be managed as adaptable systems due to the implications of hydrologic uncertainties. The R&D program shall also continue its focus on

science and technology efforts to address needs for resilient water resources infrastructure, specifically as impacted by post-wildfire conditions including increased sedimentation and debris flow. The tools and technologies developed under this program shall also be applicable to other parts of the country.

Research and Development, Additional Topic.—The Committee recognizes the importance of sustainable oyster reefs for protecting vital navigation channels and coastal infrastructure, supporting commercial fisheries, and maintaining healthy ecosystems. Recent restoration efforts have not achieved the intended success for U.S. oyster populations, and the identification of effective restoration strategies remains a critical gap. The Corps is encouraged to develop partnerships with research universities to leverage expertise and enhance the Engineer Research and Development Center’s mission.

San Francisco Waterfront Seawall.—The Committee is deeply concerned that the seawall protecting over three miles of San Francisco’s waterfront and the city’s financial district is in disrepair and at risk of failure. The Seawall provides essential flood protection for 24 million residents and visitors, \$100,000,000,000 in real estate and economic activity, and the confluence of several rail transportation lines. The Committee understands the Corps first determined there was a Federal interest in the project in 2016 and has begun the Continuing Authorities Program section 103 project to address the highest priority areas first. Given expected sea level rise, increasing earthquake risk, and the unstable nature of the Seawall’s Bay Mud infill foundation, the Committee strongly urges the Corps to prioritize work on this critical life safety project.

Study of Water Resources Development Projects by Non-Federal Interests.—Section 1126 of the Water Infrastructure Improvements for the Nation Act of 2016 [WIIN Act] allows the Secretary, at the request of a non-federal interest, to provide technical assistance relating to any aspect of a feasibility study if the non-federal interest contracts with the Secretary to pay all costs of providing such technical assistance. The Committee has heard concerns that the Corps is not providing technical assistance consistent with the spirit of this provision and directs the Corps to brief the Committees on Appropriations of both Houses of Congress on the perceived limitations to providing (1) review and comment of a non-federal interest’s draft work products by Corps staff at the District and Division levels, (2) Corps District staff preparation of work products and assistance to the non-federal interest in preparing work products, (3) assistance in obtaining public review and comments, and (4) consultation and coordination with other State and Federal agencies and affected Native American Tribes on environmental, permitting, and cultural resource compliance matters.

Study on Performance of Innovative Materials.—Section 1173 of the WIIN Act required the Secretary to enter into a contract with the Transportation Research Board of the National Academy of Sciences “to develop a proposal to study the use and performance of innovative materials in water resources development projects carried out by the Corps of Engineers.” The Committee encourages the Corps to prioritize commencing this work with the National Academy of Sciences.

Upper Des Plaines River and Tributaries Project.—The Committee is aware that the project area was flooded with record high crests overflowing the Des Plaines River last summer, resulting in damage to more than 3,200 residences. The Committee urges the Corps to move forward with design of the flood damage reduction project, while the non-federal sponsor prepares a proposal for advance work on a number of flood features under Section 204 of the Water Resources Development Act of 1986, as amended.

Upper Mississippi River-Illinois Waterway System.—The Committee is concerned that despite longstanding bipartisan support from Congress for the Navigation Ecosystem Sustainability Program [NESP], the Corps has failed to move forward on this project. The Committee recognizes that an updated economic analysis of the project is necessary to produce a benefit-to-cost ratio [BCR], which will inform how the Corps is able to move forward to construction of the project. The Corps is directed to determine the necessary cost and scope of this analysis and report to the Committees on Appropriations of both Houses of Congress on their findings within 30 days of enactment of this act. This analysis shall also consider the benefits of potentially re-scoping the project.

Water Quality and Salinity Impacts on Oyster Reefs.—The Committee encourages the Corps, when conducting or reviewing environmental assessments or environmental impact statements for navigation or coastal restoration projects in areas where oyster reefs exist, to consider water quality and salinity impacts on those reefs and, when appropriate, to mitigate any negative impacts. The Committee also looks forward to the Corps' completion of the Congressionally-required assessment and report on the beneficial use of dredged material as substrate for oyster reef development.

Willamette River.—The Committee directs the Corps to prioritize the restoration floodplain and aquatic habitat through cost-effective and tested means, such as fish-passage and culvert enhancement for salmon and steelhead listed under the Endangered Species Act.

Additional Funding for Ongoing Work.—The Committee recommendation includes \$41,000,000 in additional funds for Investigations. From these additional funds, the Corps is authorized to begin seven new feasibility studies. The Corps is directed to allocate these additional funds in accordance with the direction in the front matter under the heading "Additional Funding". Of the additional funding provided in this account, not less than \$16,500,000 shall be allocated to PED activities. Of the additional funding recommended in this account for Navigation and Coastal and Deep Draft Navigation, the Corps shall allocate not less than \$2,500,000 for Navigation PED. Additionally, the Corps shall comply with the following direction in allocating funds made available for Investigations:

—When evaluating ongoing studies for funding, the Corps shall consider completing or accelerating ongoing studies or to initiating new studies that will enhance the Nation's economic development, job growth, and international competitiveness; are for projects located in areas that have suffered recent natural disasters; are for projects the protect life and property; or are for projects to address legal requirements.

- The Corps shall consider giving priority to flood and storm damage reduction studies related to preserving National Historic Landmarks that are threatened by shoreline erosion.
- The Corps shall include appropriate requests for funding in future budget submissions for PED and new feasibility studies initiated in fiscal year 2019. The Corps shall prepare the budget to reflect study completions, defined as completion of PED.
- Funding shall be available for existing studies, including studies in the PED phase, and the updating of economic analyses and cost estimates for studies that have received appropriations. Ongoing studies that are actively progressing and can utilize the funding in a timely manner are eligible for these additional funds.

CONSTRUCTION

Appropriations, 2018	\$2,085,000,000
Budget estimate, 2019	871,733,000
Committee recommendation	2,161,000,000

The Committee recommends \$2,161,000,000 for Construction, an increase of \$1,289,267,000 from the budget request. The Committee's recommendation allows the Corps to select six new construction starts to begin in fiscal year 2019.

INTRODUCTION

Funding in this account is used for construction, major rehabilitation, and related activities for water resources development projects having navigation, flood and storm damage reduction, water supply, hydroelectric, environmental restoration, and other attendant benefits to the Nation. Funds to be derived from the HMTF will be applied to cover the Federal share of the Dredged Material Disposal Facilities Program.

NEW STARTS

The Corps is directed to designate new starts in accordance with the direction in the front matter under the heading "Additional Funding".

COMMITTEE RECOMMENDATION

The table below displays the budget request and Committee's recommendation for Construction:

CORPS OF ENGINEERS—CONSTRUCTION

[In thousands of dollars]

Item	Budget estimate			Committee recommendation
	Construction	HMTF	IWTF	
CALIFORNIA				
AMERICAN RIVER COMMON FEATURES, NATOMAS BASIN, CA	42,000	.....	.....	42,000
HAMILTON CITY, CA	6,000	.....	.....	6,000
ISABELLA LAKE, CA	118,000	.....	.....	118,000
SANTA ANA RIVER MAINSTEM, CA	15,000	.....	.....	15,000
YUBA RIVER BASIN, CA	35,500	.....	.....	35,500

CORPS OF ENGINEERS—CONSTRUCTION—Continued

[In thousands of dollars]

Item	Budget estimate			Committee recommendation
	Construction	HMTF	IWTF	
DELAWARE				
DELAWARE BAY COASTLINE, ROOSEVELT INLET TO LEWIS BEACH, DE		150		150
FLORIDA				
HERBERT HOOVER DIKE, FL (SEEPAGE CONTROL)	96,000			96,000
SOUTH FLORIDA ECOSYSTEM RESTORATION (EVERGLADES), FL	67,500			67,500
GEORGIA				
SAVANNAH HARBOR DISPOSAL AREAS, GA & SC		10,500		10,500
SAVANNAH HARBOR EXPANSION, GA	49,000			49,000
ILLINOIS				
OLMSTED LOCKS AND DAM, OHIO RIVER, IL & KY	29,750		5,250	35,000
UPPER MISSISSIPPI RIVER RESTORATION, IL, IA, MN, MO & WI	33,170			33,170
IOWA				
MISSOURI RIVER FISH AND WILDLIFE RECOVERY, IA, KS, MO, MT, NE, ND & SD	10,000			10,000
KENTUCKY				
ROUGH RIVER LAKE, KY	40,000			40,000
MARYLAND				
ASSATEAGUE, MD		600		600
POPLAR ISLAND, MD		21,000		21,000
MASSACHUSETTS				
BOSTON HARBOR, MA	15,105			15,105
NEW JERSEY				
CAPE MAY INLET TO LOWER TOWNSHIP, NJ		7,200		7,200
RARITAN RIVER BASIN, GREEN BROOK SUB-BASIN, NJ	5,000			5,000
OREGON				
COLUMBIA RIVER AT THE MOUTH, OR & WA	28,000			28,000
PENNSYLVANIA				
EAST BRANCH CLARION RIVER LAKE, PA	14,000			14,000
TEXAS				
BUFFALO BAYOU AND TRIBUTARIES, TX	11,908			11,908
CORPUS CHRISTI SHIP CHANNEL, TX	13,000			13,000
LEWISVILLE DAM, TX	55,000			55,000
WASHINGTON				
COLUMBIA RIVER FISH MITIGATION, WA, OR & ID (CRFM)	46,000			46,000
MUD MOUNTAIN DAM, WA	25,000			25,000
WEST VIRGINIA				
BLUESTONE LAKE, WV	7,810			7,810
SUBTOTAL, ITEMS UNDER STATES	762,743	39,450	5,250	807,443
REMAINING ITEMS				
ADDITIONAL FUNDING.				
FLOOD AND STORM DAMAGE REDUCTION				150,000
FLOOD CONTROL				150,000

CORPS OF ENGINEERS—CONSTRUCTION—Continued

[In thousands of dollars]

Item	Budget estimate			Committee recommendation
	Construction	HMTF	IWTF	
SHORE PROTECTION				50,000
NAVIGATION				500,250
INLAND WATERWAYS TRUST FUND REVENUES				122,750
OTHER AUTHORIZED PROJECT PURPOSES				70,000
ENVIRONMENTAL RESTORATION OR COMPLIANCE				50,000
ENVIRONMENTAL INFRASTRUCTURE				75,000
AQUATIC PLANT CONTROL PROGRAM				12,000
CONTINUING AUTHORITIES PROGRAM				
AQUATIC ECOSYSTEM RESTORATION (SECTION 206)	1,500			10,000
BENEFICIAL USES OF DREDGED MATERIAL (SECTION 204)		500		8,317
EMERGENCY STREAMBANK AND SHORELINE PROTECTION (SECTION 14)				8,000
FLOOD CONTROL PROJECTS (SECTION 205)	500			8,000
MITIGATION OF SHORE DAMAGES (SECTION 111)				500
NAVIGATION PROGRAM (SECTION 107)				8,000
PROJECT MODIFICATIONS FOR IMPROVEMENT OF THE ENVIRONMENT (SECTION 1135)	1,000			8,000
SHORE PROTECTION (SECTION 103)				3,000
DAM SAFETY AND SEEPAGE/STABILITY CORRECTION PROGRAM	88,655			100,405
EMPLOYEES' COMPENSATION	17,000			17,000
INLAND WATERWAYS USERS BOARD—BOARD EXPENSE	60			60
INLAND WATERWAYS USERS BOARD—CORPS EXPENSE	275			275
RESTORATION OF ABANDONED MINES				2,000
SUBTOTAL	108,990	500		1,353,557
TOTAL	871,733	39,950	5,250	2,161,000

Aquatic Plant Control Program.—Of the funding recommended for the Aquatic Plant Control Program, \$1,000,000 shall be for activities for the control of flowering rush. Of the funding recommended for the Aquatic Plant Control Program, \$5,000,000 shall be for nationwide research and development to address invasive aquatic plants; within this funding, the Corps is encouraged to support cost-shared aquatic plant management programs. Of the funding recommended for the Aquatic Plant Control Program, \$6,000,000 shall be for watercraft inspection stations, as authorized by section 1039 of the WRRDA, and related monitoring.

Camp Ellis Beach, Saco, Maine.—The Committee is concerned by the continued delay in implementing a solution at Camp Ellis Beach in Saco, Maine. To address continued erosion which has destroyed 37 homes to date, the Committee is aware that the Corps' initial study recommended a shore damage mitigation project consisting of a 750-foot-long spur jetty, and placement of about 360,000 cubic yards of beach fill along the beach. The Committee is further aware that the project's design and costs are under review and being updated in preparation of a new report to Congress detailing a path ahead on the project. Accordingly, the Committee directs the Secretary to expeditiously submit this report to the Committees on Appropriations of both Houses of Congress. This re-

port shall include any additional legislative authorities necessary for the project to be approved and constructed.

Caño Martín Peña Ecosystem Restoration Project, San Juan, Puerto Rico.—The Committee recognizes the importance of the Caño Martín Peña Ecosystem Restoration Project to residents' health and wellbeing, the local economy and environment, and the reduction of coastal flood and storm damage risk. The Committee encourages the Corps to include appropriate funding in future budget requests and to coordinate closely with non-federal interests in Puerto Rico to minimize project planning and construction delays.

Central Everglades Planning Project.—The Committee recognizes the importance of restoring America's Everglades, and urges the Corps to expedite the required validation report for the Central Everglades Planning Project and begin PED work and construction on PPA South as soon as practicable to complement the efforts of the South Florida Water Management District.

Chicago Sanitary and Ship Canal Dispersal Barrier, Illinois.—The issue of hydrologic separation should be fully studied by the Corps and vetted by the appropriate congressional authorizing committees and specifically enacted into law. No funds provided in this act may be used for construction of hydrologic separation measures.

Columbia River Fish Mitigation.—The Committee understands the Pacific Lamprey are a culturally and ecologically important fish species to Pacific Northwest Tribal nations. The Corps and several Tribal nations have worked in partnership for years to develop and execute a Pacific Lamprey conservation program in the Columbia River basin, focused on implementing passage improvements. In part these activities have made it unnecessary for this species to be listed under the Endangered Species Act, however, adult returns remain low. The Committee understands the Corps is currently crafting a status report on these Pacific Lamprey improvements, and identifying possible activities to support Pacific Lamprey passage. The Committee directs the Corps to uphold the agency's Tribal treaty responsibilities by working with relevant Tribal nations to develop and implement a plan based on the status report to support efforts to restore the Pacific Lamprey.

Comprehensive Everglades Restoration Plan [CERP]—Indian River Lagoon-South.—The Committee recognizes the importance of restoring America's Everglades, and eliminating discharges from Lake Okeechobee that help fuel harmful algal blooms in the St. Lucie River and Indian River Lagoon. The Committee urges the Corps to expedite preparations for design work on the C-23 and C-24 Reservoirs that, along with the C-44 Reservoir, will serve as crucial elements of the Indian River Lagoon-South CERP project to collect and clean discharges before they enter the Lagoon.

Continuing Authorities Program.—The Committee recommends \$53,817,000 for the Continuing Authorities Program [CAP], an increase of \$50,817,000 from the budget request. CAP is a useful tool for the Corps to undertake small localized projects without being encumbered by the lengthy study and authorization phases typical of most Corps projects. Within the CAP and to the extent already authorized by law, the Corps is encouraged to consider projects that enhance coastal and ocean ecosystem resiliency. The manage-

ment of CAP should continue consistent with direction provided in previous fiscal years.

Cook County Environmental Infrastructure.—The Committee is aware of the high level of interest in Cook County for additional resources for the Section 219 Cook County Infrastructure Project. Given Cook County's population of 5.2 million people, the Committee urges the Corps to support the project at a higher funding level to address the wide and expansive range of needs in this County.

Dam Safety Assurance and Seepage/Static Instability Correction Program.—The Committee rejects the budget request proposal regarding Herbert Hoover Dike, which would make funds provided in this program available only if the State of Florida commits certain funds. Consistent with long-standing congressional direction, the Corps may not require funding in excess of legally required cost-shares for studies and projects as a criterion for funding decisions. The Corps shall apply dam safety funds to the highest priority projects.

Howard Hanson Dam.—The Committee is aware that the National Marine Fisheries Service [NMFS] is preparing a Biological Opinion [BiOp] to determine the impact of ongoing operations of Howard Hanson Dam, including the Howard Hanson Dam—Additional Water Storage Project, on Endangered Species Act [ESA]-listed species and is engaging in consultations with the Corps. The Committee is also aware that an updated BiOp is anticipated in fiscal year 2018. The Committee encourages the Corps to continue consultations with NMFS and urges the Corps to work with resource co-managers to develop interim and long-term measures to maintain fish runs past Howard Hanson Dam, while upholding ESA and municipal and industrial water supply responsibilities.

La Grange Lock and Dam.—The Corps is directed to brief the Committee not later than 30 days after the enactment of this act on the current status of this project.

Levee Safety Program.—The Committee noted in the report for the Consolidated Appropriations Act, 2018 that it is concerned that the Corps has not taken steps to implement the levee safety initiatives required under WRRDA. The Committee directed the Corps, in conjunction with FEMA, to put together a plan of action by June 21, 2018, that includes tangible milestones for how the Agencies will meet the requirements under WRRDA section 3016. The Committee has not yet received a progress report and directs the Corps to provide an update within 30 days after enactment of this act.

McCook and Thornton Reservoirs, Illinois.—The Committee encourages the Corps to use McCook Reservoir as a test pilot for the Non-Federal Implementation Pilot Program under WRRDA section 1043.

Metro East Levees.—The Committee is disappointed by the lack of funding provided to the Metro East levee system. This levee rehabilitation project will help protect communities in the Metro East region from rising waters on the Mississippi River. The Committee urges the Corps to include funding for the Metro East levee system in the Corps' fiscal year 2019 work plan.

Mud Mountain Dam.—The Committee commends the Corps for initiating construction to support the October 2014 Mud Mountain

BiOp and mitigate the impact of the ongoing operation of Mud Mountain Dam on species listed under ESA by replacing the barrier structure and building a new fish passage facility. The Committee notes with interest that the Corps awarded a contract for the construction of the fish passage facility in March 2018, and reminds the Corps that complex, multi-year construction projects require consistent funding. Therefore, the Committee encourages the Corps to uphold the agency's ESA and Tribal treaty responsibilities by requesting sufficient funding in future budgets to complete construction of the fish passage facility by 2020 and fully implement the BiOp requirements.

Napa River.—The Committee urges the Corps to expeditiously complete the Determination of Federal Interest in coordination with the local sponsor and to continue construction through completion of the justified and necessary elements of the project. The Committee also urges the Corps to prioritize repairs of the defective floodgates.

Natural Infrastructure Options.—The Committee directs the Corps to engage with State and local government and non-profit organizations, where appropriate, on projects in diverse geographic areas to evaluate the effectiveness of a variety of natural infrastructure options, such as shellfish reef and natural vegetation, in order to promote resiliency and reduce damage from coastal erosion, storm surge, and flooding. Such features should be incorporated into approved projects where appropriate and effective.

Oyster Restoration.—The Committee supports Gulf Coast oyster restoration efforts and the Chesapeake Bay Oyster Restoration Program and encourages the Corps to provide sufficient funding in future budget submissions or the fiscal year 2019 work plan.

Prioritization of Projects in Drought-Stricken Areas.—The Committee urges the Corps to prioritize any authorized projects that would alleviate water supply issues in areas that have been afflicted by severe droughts in the last three fiscal years, to include projects focused on the treatment of brackish water.

Project Modifications for Improvement of the Environment.—Within the Section 1135 Continuing Authorities Program authority and to the extent already authorized by law, the Committee urges the Corps to give priority to projects that restore degraded wetland habitat and stream habitat impacted by construction of Corps levees with executed Feasibility Cost Share Agreements.

Public-Private Partnerships.—The Committee notes that the Chief of Engineers continues to express strong support for public-private partnerships as a method to reduce the Federal cost of future construction projects. In 2018, Congress directed the Corps to issue its policy on how proposals for public-private partnerships will be considered by the Corps and how these partnerships will be incorporated into budget policy. The Corps is directed to prioritize completion of this policy to meet the September 18, 2018 deadline.

Rehabilitation of Corps Constructed Dams.—The Committee is aware that implementation guidance for section 1177 of the WIIN Act is awaiting approval from the administration. The Corps is directed to submit this implementation guidance to the Committees on Appropriations of both Houses of Congress as expeditiously as possible.

South Florida Ecosystem Restoration Justification Sheet Accuracy.—The Committee, the Department of the Interior, and non-federal project sponsors rely on accurate and timely budget information for South Florida Ecosystem Restoration [SFER] projects from the Corps. The Committee directs the Corps to carefully ensure the accuracy of all budget justification sheets that inform SFER Integrated Financial Plan documents for fiscal year 2019 by September 30, 2018.

South San Francisco Bay Shoreline.—The Committee was deeply disappointed by the lack of a new construction start in the fiscal year 2019 budget request for the first phase of the South San Francisco Bay Shoreline project and the lack of funding for a feasibility study of the next phase of the project. This project provides critical flood protection to communities, businesses, and municipal structures in Santa Clara County. In addition, this project will restore approximately 2,900 acres of former salt production ponds to tidal marsh habitat and improve recreational access to surrounding communities. The Committee strongly urges the Corps to prioritize progress on this project with additional funding allocated through the fiscal year 2019 work plan or with recently appropriated disaster funds.

The Dalles Dam.—The Committee is aware that Section 204 of the Flood Control Act of 1950 (Public Law 81–516) authorized the construction of the Dalles Dam on the Columbia River. The original project authorization recognized that construction of the Dalles would result in population dislocations and that Indian villages would necessarily have to be relocated. The original authorization intended that the Corps would build a new Indian village in response to the dislocation of Tribes. It is not the Committee’s intent to expand the Corps’ mission. Rather, the Committee intends that the Corps uphold its responsibility to Tribes as was originally intended when Congress authorized the Dalles by mitigating the impacts of a Corps project to Tribes.

Additional Funding for Ongoing Work.—The Committee recommendation includes \$1,289,267,000 in additional funds for Construction above the budget request. The Corps shall allocate these additional funds in accordance with the direction in the front matter under the heading “Additional Funding”. Of the additional funding provided for flood and storm damage reduction, flood control, and environmental restoration or compliance, the Corps shall allocate not less than \$15,400,000 for projects for hurricane and storm damage risk reduction and environmental restoration with both structural and nonstructural project elements. Of the additional funds recommended in this account for flood and storm damage reduction and flood control, the Corps shall allocate not less than \$20,000,000 to continue construction of projects which principally include improvements to rainfall drainage systems that address flood damages. Of the additional funds recommended in this account for flood and storm damage reduction, navigation, and other authorized project purposes, the Corps shall allocate not less than \$30,000,000 to authorized reimbursements for projects with executed project partnership agreements and that have completed construction or where non-Federal sponsors intend to use the funds for additional water resource development activities. Of the addi-

tional funds recommended in this account, no less than \$1,800,000 is to complete a plan for a purpose outside of the Corps' traditional mission.

When allocating the additional funding provided in this account, the Corps is encouraged to evaluate authorized reimbursements in the same manner as if the projects were being evaluated for new or ongoing construction and shall consider giving priority to the following:

- Benefits of the funded work to the national economy;
- Extent to which the work will enhance national, regional, or local economic development;
- Number of jobs created directly by the funded activity;
- Ability to obligate the funds allocated within the calendar year, including consideration of the ability of the non-Federal sponsor to provide any required cost share;
- Ability to complete the project, separable element, or project phase with the funds allocated;
- Legal requirements, including responsibilities to Tribes;
- For flood and storm damage reduction projects (including authorized nonstructural measures and periodic beach renourishments),
- Population, economic activity, or public infrastructure at risk, as appropriate, and
- The severity of risk of flooding or the frequency with which an area as experienced flooding;
- For shore protection projects, projects in areas that have suffered severe beach erosion requiring additional sand placement outside of the normal beach renourishment cycle or in which the normal beach renourishment cycle has been delayed;
- For navigation projects, the number of jobs or level of economic activity to be supported by completion of the project, separable element, or project phase;
- For projects cost shared with the IWTF, the economic impact on the local, regional, and national economy if the project is not funded, as well as discrete elements of work that can be completed within the funding provided in this line item;
- For other authorized project purposes and environmental restoration or compliance projects, to include the beneficial use of dredged material; and
- For environmental infrastructure, projects in rural communities, projects with greater economic impact, projects in counties or parishes with high poverty rates, projects owed past reimbursements, and projects that will provide substantial benefits to water quality improvement.

The Committee recommendation includes the full use of all estimated fiscal year 2019 annual revenues in the IWTF as well as the sufficient additional IWTF prior year revenues to ensure ongoing new construction projects may proceed with an efficient funding profile. Funds recommended herein for inland waterways shall only be available for ongoing new construction projects, which have a fiscal year 2019 estimate of \$246,000,000 above the administration's budget request. The Corps shall allocate all funds recommended in the IWTF Revenues line item along with the statutory cost share from funds provided in the Navigation line item

prior to allocating the remainder of funds in the Navigation line item.

MISSISSIPPI RIVER AND TRIBUTARIES

Appropriations, 2018	\$425,000,000
Budget estimate, 2019	244,735,000
Committee recommendation	350,000,000

The Committee recommends \$350,000,000 for Mississippi River and Tributaries, an increase of \$105,265,000 above the budget request. Funds recommended in this account are for planning, construction, and operation and maintenance activities associated with water resource projects located in the lower Mississippi River Valley from Cape Girardeau, Missouri to the Gulf of Mexico.

The table below displays the budget request and Committee's recommendation:

MISSISSIPPI RIVER AND TRIBUTARIES

[In thousands of dollars]

Item	Budget estimate		Committee recommendation
	MR&T	HMTF	
CONSTRUCTION			
CHANNEL IMPROVEMENT, AR, IL, KY, LA, MS, MO & TN	75,847	.....	75,847
MISSISSIPPI RIVER LEVEES, AR, IL, KY, LA, MS, MO & TN	32,885	.....	32,885
ATCHAFALAYA BASIN FLOODWAY SYSTEM, LA	200	.....	200
SUBTOTAL, CONSTRUCTION	108,932	.....	108,932
OPERATION AND MAINTENANCE			
CHANNEL IMPROVEMENT, AR, IL, KY, LA, MS, MO & TN	54,680	.....	54,680
MISSISSIPPI RIVER LEVEES, AR, IL, KY, LA, MS, MO & TN	8,984	.....	8,984
HELENA HARBOR, PHILLIPS COUNTY, AR .....	.....	715	715
INSPECTION OF COMPLETED WORKS, AR	364	.....	364
LOWER ARKANSAS RIVER, NORTH BANK, AR	304	.....	304
LOWER ARKANSAS RIVER, SOUTH BANK, AR	187	.....	187
ST FRANCIS BASIN, AR & MO	5,900	.....	5,900
TENSAS BASIN, BOEUF AND TENSAS RIVERS, AR & LA	2,123	.....	2,123
WHITE RIVER BACKWATER, AR	1,000	.....	1,000
INSPECTION OF COMPLETED WORKS, IL	38	.....	38
INSPECTION OF COMPLETED WORKS, KY	95	.....	95
ATCHAFALAYA BASIN, LA	8,865	.....	8,865
ATCHAFALAYA BASIN FLOODWAY SYSTEM, LA	1,755	.....	1,755
BATON ROUGE HARBOR, DEVIL SWAMP, LA .....	.....	555	555
BAYOU COCODRIE AND TRIBUTARIES, LA	48	.....	48
BONNET CARRE, LA	3,821	.....	3,821
INSPECTION OF COMPLETED WORKS, LA	807	.....	807
LOWER RED RIVER, SOUTH BANK LEVEES, LA	498	.....	498
MISSISSIPPI DELTA REGION, LA	490	.....	490
OLD RIVER, LA	9,246	.....	9,246
TENSAS BASIN, RED RIVER BACKWATER, LA	2,750	.....	2,750
GREENVILLE HARBOR, MS .....	.....	930	930
INSPECTION OF COMPLETED WORKS, MS	135	.....	135
VICKSBURG HARBOR, MS .....	.....	940	940
YAZOO BASIN, ARKABUTLA LAKE, MS	5,509	.....	5,509
YAZOO BASIN, BIG SUNFLOWER RIVER, MS	168	.....	168
YAZOO BASIN, ENID LAKE, MS	5,296	.....	5,296
YAZOO BASIN, GREENWOOD, MS	799	.....	799
YAZOO BASIN, GRENADA LAKE, MS	5,334	.....	5,334
YAZOO BASIN, MAIN STEM, MS	1,201	.....	1,201
YAZOO BASIN, SARDIS LAKE, MS	6,231	.....	6,231
YAZOO BASIN, TRIBUTARIES, MS	901	.....	901
YAZOO BASIN, WILL M WHITTINGTON AUX CHAN, MS	357	.....	357

MISSISSIPPI RIVER AND TRIBUTARIES—Continued

[In thousands of dollars]

Item	Budget estimate		Committee recommendation
	MR&T	HMTF	
YAZOO BASIN, YAZOO BACKWATER AREA, MS	538	.....	538
YAZOO BASIN, YAZOO CITY, MS	737	.....	737
INSPECTION OF COMPLETED WORKS, MO	208	.....	208
WAPPAPPELLO LAKE, MO	4,878	.....	4,878
INSPECTION OF COMPLETED WORKS, TN	47	.....	47
MEMPHIS HARBOR, MCKELLAR LAKE, TN .....	.....	2,125	2,125
SUBTOTAL, OPERATION AND MAINTENANCE	134,294	5,265	139,559
REMAINING ITEMS			
ADDITIONAL FUNDING FOR ONGOING WORK DREDGING .....	.....	.....	5,000
FLOOD CONTROL .....	.....	.....	55,000
OTHER AUTHORIZED PURPOSES .....	.....	.....	40,000
COLLECTION AND STUDY OF BASIC DATA	600	.....	600
MAPPING	819	.....	819
MISSISSIPPI RIVER COMMISSION	90	.....	90
SUBTOTAL, REMAINING ITEMS	1,509	.....	101,509
TOTAL, MISSISSIPPI RIVER AND TRIBUTARIES	244,735	5,265	350,000

Lower Mississippi River Main Stem.—The budget request proposes to consolidate several activities across multiple States into one line item. The Committee does not support this change and instead recommends continuing to fund these activities as separate line items.

MAT Sinking Unit.—The MAT Sinking Unit [MSU] has been a key component in maintaining the Mississippi River channel for 70 years. The Committee understands that without a timely replacement, the current Mississippi River channel alignment is at risk of migrating, threatening levees, endangering the public, and interrupting river commerce. Because this vital equipment can be utilized nationwide to protect riverbank erosion and sloughing, it is unclear why the Corps proposes to fund its replacement out of the Mississippi Rivers and Tributaries account rather than the Plant Replacement and Improvement Program [PRIP]. Therefore, the Corps shall brief the Committees on Appropriations of both Houses of Congress on why the replacement must be funded in the MR&T account instead of PRIP.

Additional Funding for Ongoing Work.—When allocating the additional funding recommended in this account, the Corps shall consider giving priority to completing or accelerating ongoing work that will enhance the nation's economic development, job growth, and international competitiveness, or to studies or projects located in areas that have suffered recent natural disasters. While this funding is shown under remaining items, the Corps shall use these funds in investigations, construction, and operation and maintenance, as applicable.

When allocating the additional funding recommended in this account the Corps shall allocate not less than \$30,000,000 for additional flood control construction projects outside of the Lower Mississippi River Main Stem. Of the additional funds recommended in this account for other authorized project purposes, the Corps shall

allocate not less than \$2,000,000 for operation and maintenance of facilities that are educational or to continue land management of mitigation features. Of the additional funds recommended in this account, the Corps shall allocate not less than \$5,000,000 for dredging of ports and harbors.

OPERATION AND MAINTENANCE

Appropriations, 2018	\$3,630,000,000
Budget estimate, 2019	2,076,733,000
Committee recommendation	3,740,000,000

The Committee recommends \$3,740,000,000 for Operation and Maintenance, an increase of \$1,663,267,000 above the budget request.

INTRODUCTION

Funding in this account is used to fund operations, maintenance, and related activities at water resource projects that the Corps operates and maintains. These activities include dredging, repair, and operation of structures and other facilities, as authorized in the various river and harbor, flood control, and water resources development acts. Related activities include aquatic plant control, monitoring of completed projects where appropriate, removal of sunken vessels, and the collection of domestic waterborne commerce statistics.

COMMITTEE RECOMMENDATION

The table below displays the budget request and Committee's recommendation for Operation and Maintenance.

CORPS OF ENGINEERS—OPERATION AND MAINTENANCE

[In thousands of dollars]

Item	Budget estimate		Committee recommendation
	O&M	HMTF	
ALABAMA			
ALABAMA RIVER LAKES, AL	17,121	.....	17,121
BLACK WARRIOR AND TOMBIGBEE RIVERS, AL	23,336	.....	23,436
GULF INTRACOASTAL WATERWAY, AL	7,515	.....	7,765
INSPECTION OF COMPLETED WORKS, AL	198	.....	198
MOBILE HARBOR, AL .....	.....	22,240	22,240
PROJECT CONDITION SURVEYS, AL .....	.....	110	110
SCHEDULING RESERVOIR OPERATIONS, AL	85	.....	85
TENNESSEE—TOMBIGBEE WATERWAY WILDLIFE MITIGATION, AL & MS ...	1,800	.....	1,800
TENNESSEE—TOMBIGBEE WATERWAY, AL & MS	27,996	.....	27,996
WALTER F GEORGE LOCK AND DAM, AL & GA	8,926	.....	8,926
WATER/ENVIRONMENTAL CERTIFICATION, AL .....	.....	70	70
ALASKA			
ANCHORAGE HARBOR, AK .....	.....	9,265	9,265
CHENA RIVER LAKES, AK	6,292	.....	6,292
DILLINGHAM HARBOR, AK .....	.....	970	970
HOMER HARBOR, AK .....	.....	770	770
INSPECTION OF COMPLETED WORKS, AK	200	.....	200
NINILCHIK HARBOR, AK .....	.....	600	600
NOME HARBOR, AK .....	.....	2,055	2,055
PROJECT CONDITION SURVEYS, AK .....	.....	750	750

CORPS OF ENGINEERS—OPERATION AND MAINTENANCE—Continued

[In thousands of dollars]

Item	Budget estimate		Committee recommendation
	O&M	HMTF	
ARIZONA			
ALAMO LAKE, AZ	3,342	.....	3,342
INSPECTION OF COMPLETED WORKS, AZ	534	.....	534
PAINTED ROCK DAM, AZ	3,086	.....	3,086
SCHEDULING RESERVOIR OPERATIONS, AZ	107	.....	107
WHITLOW RANCH DAM, AZ	935	.....	935
ARKANSAS			
BEAVER LAKE, AR	8,791	.....	8,791
BLAKELY MT DAM, LAKE OUACHITA, AR	9,131	.....	9,131
BLUE MOUNTAIN LAKE, AR	1,870	.....	1,870
BULL SHOALS LAKE, AR	7,761	.....	7,761
DEGRAY LAKE, AR	7,438	.....	7,438
DEQUEEN LAKE, AR	1,433	.....	1,433
DIERKS LAKE, AR	1,506	.....	1,506
GILLHAM LAKE, AR	1,305	.....	1,305
GREERS FERRY LAKE, AR	7,840	.....	7,840
HELENA HARBOR, AR .....	.....	15	15
INSPECTION OF COMPLETED WORKS, AR	646	.....	646
MCCLELLAN—KERR ARKANSAS RIVER NAVIGATION SYSTEM, AR	50,995	.....	50,995
MILLWOOD LAKE, AR	4,335	.....	4,335
NARROWS DAM, LAKE GREESON, AR	5,751	.....	5,751
NIMROD LAKE, AR	2,340	.....	2,340
NORFORK LAKE, AR	6,134	.....	6,134
OSCEOLA HARBOR, AR .....	.....	15	15
OUACHITA AND BLACK RIVERS, AR & LA	7,979	.....	7,979
WHITE RIVER, AR	25	.....	25
YELLOW BEND PORT, AR .....	.....	100	100
CALIFORNIA			
BLACK BUTTE LAKE, CA	2,620	.....	2,620
BUCHANAN DAM, HV EASTMAN LAKE, CA	2,104	.....	2,104
CHANNEL ISLANDS HARBOR, CA .....	.....	6,290	6,290
COYOTE VALLEY DAM, LAKE MENDOCINO, CA	3,540	.....	3,540
CRESCENT CITY HARBOR, CA .....	.....	200	200
DRY CREEK (WARM SPRINGS) LAKE AND CHANNEL, CA	7,494	.....	7,494
FARMINGTON DAM, CA	478	.....	478
HIDDEN DAM, HENSLEY LAKE, CA	2,182	.....	2,182
HUMBOLDT HARBOR AND BAY, CA .....	.....	4,510	4,510
INSPECTION OF COMPLETED ENVIRONMENTAL PROJECTS, CA	10	.....	10
INSPECTION OF COMPLETED WORKS, CA	3,450	.....	3,450
ISABELLA LAKE, CA	1,389	.....	1,389
LOS ANGELES COUNTY DRAINAGE AREA, CA	22,633	.....	22,633
MERCED COUNTY STREAMS, CA	458	.....	458
MOJAVE RIVER DAM, CA	2,092	.....	2,092
MORRO BAY HARBOR, CA .....	.....	2,400	2,400
NEW HOGAN LAKE, CA	2,878	.....	2,878
NEW MELONES LAKE, DOWNSTREAM CHANNEL, CA	1,652	.....	1,652
OAKLAND HARBOR (50 FOOT PROJECT), CA .....	.....	19,076	19,076
OCEANSIDE HARBOR, CA .....	.....	2,470	2,470
PINE FLAT LAKE, CA	4,437	.....	4,437
PROJECT CONDITION SURVEYS, CA .....	.....	1,350	1,350
REDWOOD CITY HARBOR, CA .....	.....	5,950	5,950
RICHMOND HARBOR, CA .....	.....	10,145	10,145
SACRAMENTO RIVER (30 FOOT PROJECT), CA .....	.....	2,300	2,300
SACRAMENTO RIVER AND TRIBUTARIES (DEBRIS CONTROL), CA	1,095	.....	1,095
SACRAMENTO RIVER AND TRIBUTARIES (DEBRIS CONTROL), CA (NAV) ..	.....	798	798
SACRAMENTO RIVER SHALLOW DRAFT CHANNEL, CA .....	.....	210	210
SAN DIEGO HARBOR, CA .....	.....	4,400	4,400
SAN FRANCISCO BAY DELTA MODEL STRUCTURE, CA	1,191	.....	1,191
SAN FRANCISCO HARBOR AND BAY, CA (DRIFT REMOVAL) .....	.....	3,101	3,101

CORPS OF ENGINEERS—OPERATION AND MAINTENANCE—Continued

[In thousands of dollars]

Item	Budget estimate		Committee recommendation
	O&M	HMTF	
SAN FRANCISCO HARBOR, CA		4,335	4,335
SAN JOAQUIN RIVER, PORT OF STOCKTON, CA		5,000	5,000
SAN PABLO BAY AND MARE ISLAND STRAIT, CA		3,049	3,049
SANTA ANA RIVER BASIN, CA	12,537		12,537
SANTA BARBARA HARBOR, CA		3,360	3,360
SANTA CRUZ HARBOR, CA		15	15
SCHEDULING RESERVOIR OPERATIONS, CA	1,344		1,344
SUCCESS LAKE, CA	3,543		3,543
SUISUN BAY CHANNEL, CA		3,664	3,664
TERMINUS DAM, LAKE KAWEAH, CA (DAM SAFETY)	2,785		2,785
VENTURA HARBOR, CA		5,370	5,370
YUBA RIVER, CA	180		180
YUBA RIVER, CA (NAV)		1,435	1,435
COLORADO			
BEAR CREEK LAKE, CO	587		587
CHATFIELD LAKE, CO	1,889		1,889
CHERRY CREEK LAKE, CO	6,479		6,479
INSPECTION OF COMPLETED ENVIRONMENTAL PROJECTS, CO	17		17
INSPECTION OF COMPLETED WORKS, CO	347		347
JOHN MARTIN RESERVOIR, CO	4,071		4,071
SCHEDULING RESERVOIR OPERATIONS, CO	560		560
TRINIDAD LAKE, CO	1,775		1,775
CONNECTICUT			
BLACK ROCK LAKE, CT	671		671
COLEBROOK RIVER LAKE, CT	2,583		2,583
HANCOCK BROOK LAKE, CT	821		821
HOP BROOK LAKE, CT	1,285		1,285
INSPECTION OF COMPLETED WORKS, CT	474		474
MANSFIELD HOLLOW LAKE, CT	784		784
NORTHFIELD BROOK LAKE, CT	391		391
PROJECT CONDITION SURVEYS, CT		900	900
STAMFORD HURRICANE BARRIER, CT	572		572
THOMASTON DAM, CT	1,022		1,022
WEST THOMPSON LAKE, CT	893		893
DELAWARE			
INDIAN RIVER INLET & BAY, DE		7	7
INSPECTION OF COMPLETED WORKS, DE	70		70
INTRACOASTAL WATERWAY, DELAWARE RIVER TO CHESAPEAKE BAY, DE & MD		12,450	12,450
INTRACOASTAL WATERWAY, REHOBOTH BAY DELAWARE BAY		30	30
PROJECT CONDITION SURVEYS, DE		200	200
WILMINGTON HARBOR, DE		5,491	5,491
DISTRICT OF COLUMBIA			
INSPECTION OF COMPLETED WORKS, DC	80		80
POTOMAC AND ANACOSTIA RIVERS, DC (DRIFT REMOVAL)		930	930
PROJECT CONDITION SURVEYS, DC		30	30
FLORIDA			
CANAVERAL HARBOR, FL		4,149	4,149
CENTRAL AND SOUTHERN FLORIDA, FL	14,429		14,429
CENTRAL AND SOUTHERN FLORIDA, FL (NAV)		1,033	1,033
INSPECTION OF COMPLETED WORKS, FL	814		814
INTRACOASTAL WATERWAY, JACKSONVILLE TO MIAMI, FL	2,980		2,980
JACKSONVILLE HARBOR, FL		6,560	6,560
JIM WOODRUFF LOCK AND DAM, LAKE SEMINOLE, FL, AL & GA	7,560		7,560
MANATEE HARBOR, FL		3,845	3,845
MIAMI HARBOR, FL		6,070	6,070

CORPS OF ENGINEERS—OPERATION AND MAINTENANCE—Continued

[In thousands of dollars]

Item	Budget estimate		Committee recommendation
	O&M	HMTF	
OKEECHOBEE WATERWAY, FL	1,229		1,229
OKEECHOBEE WATERWAY, FL (NAV)		1,091	1,091
PALM BEACH HARBOR, FL		2,785	2,785
PANAMA CITY HARBOR, FL		55	55
PENSACOLA HARBOR, FL		1,390	1,390
PORT EVERGLADES HARBOR, FL		5,850	5,850
PROJECT CONDITION SURVEYS, FL		1,275	1,275
REMOVAL OF AQUATIC GROWTH, FL		3,290	3,290
SCHEDULING RESERVOIR OPERATIONS, FL	132		132
TAMPA HARBOR, FL		980	980
WATER / ENVIRONMENTAL CERTIFICATION, FL		180	180
GEORGIA			
ALLATOONA LAKE, GA	9,257		9,257
APALACHICOLA, CHATTAHOOCHEE AND FLINT RIVERS, GA, AL & FL	1,332		1,332
ATLANTIC INTRACOASTAL WATERWAY, GA	3,000		3,000
BRUNSWICK HARBOR, GA		5,258	5,258
BUFORD DAM AND LAKE SIDNEY LANIER, GA	11,395		11,395
CARTERS DAM AND LAKE, GA	7,591		7,591
HARTWELL LAKE, GA & SC	11,119		11,119
HARTWELL LAKE, GA & SC (NAV)		40	40
INSPECTION OF COMPLETED WORKS, GA	196		196
J STROM THURMOND LAKE, GA & SC	11,069		11,069
J STROM THURMOND LAKE, GA & SC (NAV)		59	59
PROJECT CONDITION SURVEYS, GA		100	100
RICHARD B RUSSELL DAM AND LAKE, GA & SC	9,681		9,681
SAVANNAH HARBOR, GA		34,312	34,312
SAVANNAH RIVER BELOW AUGUSTA, GA		201	201
WEST POINT DAM AND LAKE, GA & AL	7,828		7,828
HAWAII			
BARBERS POINT HARBOR, HI	295		295
HONOLULU HARBOR, HI		7,300	7,300
INSPECTION OF COMPLETED WORKS, HI	278		278
PROJECT CONDITION SURVEYS, HI		663	663
IDAHO			
ALBENI FALLS DAM, ID	1,182		1,182
DWORSHAK DAM AND RESERVOIR, ID	4,902		4,902
INSPECTION OF COMPLETED WORKS, ID	377		377
LUCKY PEAK LAKE, ID	10,292		10,292
SCHEDULING RESERVOIR OPERATIONS, ID	716		716
ILLINOIS			
CALUMET HARBOR AND RIVER, IL & IN		4,616	4,616
CARLYLE LAKE, IL	5,719		5,719
CHICAGO HARBOR, IL		3,583	3,583
CHICAGO RIVER, IL	286		286
CHICAGO SANITARY AND SHIP CANAL DISPERSAL BARRIER, IL	18,920		18,920
FARM CREEK RESERVOIRS, IL	413		413
ILLINOIS WATERWAY (MVR PORTION), IL & IN	43,727		43,727
ILLINOIS WATERWAY (MVS PORTION), IL & IN	2,060		2,060
INSPECTION OF COMPLETED ENVIRONMENTAL PROJECTS, IL	50		50
INSPECTION OF COMPLETED WORKS, IL	1,973		1,973
KASKASKIA RIVER NAVIGATION, IL	2,222		2,222
LAKE MICHIGAN DIVERSION, IL		851	851
LAKE SHELBYVILLE, IL	6,272		6,272
MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS (MVR PORTION), IL	70,824		70,824
MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS (MVS PORTION), IL	39,140		39,140

CORPS OF ENGINEERS—OPERATION AND MAINTENANCE—Continued

[In thousands of dollars]

Item	Budget estimate		Committee recommendation
	O&M	HMTF	
PROJECT CONDITION SURVEYS, IL		106	106
REND LAKE, IL	5,542		5,542
SURVEILLANCE OF NORTHERN BOUNDARY WATERS, IL		680	680
WAUKEGAN HARBOR, IL		1,526	1,526
INDIANA			
BROOKVILLE LAKE, IN	1,813		1,813
BURNS WATERWAY HARBOR, IN		4,619	4,619
CAGLES MILL LAKE, IN	1,195		1,195
CECIL M HARDEN LAKE, IN	1,243		1,243
INDIANA HARBOR, IN		10,998	10,998
INSPECTION OF COMPLETED WORKS, IN	1,051		1,051
J EDWARD ROUSH LAKE, IN	1,375		1,375
MISSISSINEWA LAKE, IN	1,274		1,274
MONROE LAKE, IN	1,374		1,374
PATOKA LAKE, IN	1,498		1,498
PROJECT CONDITION SURVEYS, IN		190	190
SALAMONIE LAKE, IN	1,313		1,313
SURVEILLANCE OF NORTHERN BOUNDARY WATERS, IN		55	55
IOWA			
CORALVILLE LAKE, IA	5,599		5,599
INSPECTION OF COMPLETED ENVIRONMENTAL PROJECTS, IA	6		6
INSPECTION OF COMPLETED WORKS, IA	1,282		1,282
MISSOURI RIVER FISH AND WILDLIFE RECOVERY, IA, KS, MO, MT, NE, ND & SD	4,829		4,829
MISSOURI RIVER—SIOUX CITY TO THE MOUTH, IA, KS, MO & NE	13,200		13,200
RATHBUN LAKE, IA	2,974		2,974
RED ROCK DAM AND LAKE RED ROCK, IA	5,954		5,954
SAYLORVILLE LAKE, IA	7,934		7,934
KANSAS			
CLINTON LAKE, KS	2,354		2,354
COUNCIL GROVE LAKE, KS	1,378		1,378
EL DORADO LAKE, KS	738		738
ELK CITY LAKE, KS	1,031		1,031
FALL RIVER LAKE, KS	1,145		1,145
HILLSDALE LAKE, KS	967		967
INSPECTION OF COMPLETED ENVIRONMENTAL PROJECTS, KS	4		4
INSPECTION OF COMPLETED WORKS, KS	1,250		1,250
JOHN REDMOND DAM AND RESERVOIR, KS	1,727		1,727
KANOPOLIS LAKE, KS	4,134		4,134
MARION LAKE, KS	1,833		1,833
MELVERN LAKE, KS	3,146		3,146
MILFORD LAKE, KS	2,153		2,153
PEARSON—SKUBITZ BIG HILL LAKE, KS	1,397		1,397
PERRY LAKE, KS	2,495		2,495
POMONA LAKE, KS	2,063		2,063
SCHEDULING RESERVOIR OPERATIONS, KS	472		472
TORONTO LAKE, KS	733		733
TUTTLE CREEK LAKE, KS	2,399		2,399
WILSON LAKE, KS	1,844		1,844
KENTUCKY			
BARKLEY DAM AND LAKE BARKLEY, KY & TN	17,631		17,631
BARREN RIVER LAKE, KY	3,622		3,622
BIG SANDY HARBOR, KY		1,960	1,960
BUCKHORN LAKE, KY	2,079		2,079
CARR CREEK LAKE, KY	1,869		1,869
CAVE RUN LAKE, KY	1,155		1,155
DEWEY LAKE, KY	3,780		3,780

CORPS OF ENGINEERS—OPERATION AND MAINTENANCE—Continued

[In thousands of dollars]

Item	Budget estimate		Committee recommendation
	O&M	HMTF	
ELVIS STAHR (HICKMAN) HARBOR, KY		915	915
FALLS OF THE OHIO NATIONAL WILDLIFE, KY & IN	34		34
FISHTRAP LAKE, KY	1,858		1,858
GRAYSON LAKE, KY	1,211		1,211
GREEN AND BARREN RIVERS, KY	2,735		2,735
GREEN RIVER LAKE, KY	4,849		4,849
INSPECTION OF COMPLETED WORKS, KY	1,015		1,015
KENTUCKY RIVER, KY	22		22
LAUREL RIVER LAKE, KY	2,343		2,343
MARTINS FORK LAKE, KY	1,697		1,697
MIDDLESBORO CUMBERLAND RIVER BASIN, KY	266		266
NOLIN LAKE, KY	2,853		2,853
OHIO RIVER LOCKS AND DAMS, KY, IL, IN & OH	68,524		68,524
OHIO RIVER OPEN CHANNEL WORK, KY, IL, IN, OH, PA & WV	7,639		7,639
PAINTSVILLE LAKE, KY	1,282		1,282
ROUGH RIVER LAKE, KY	3,461		3,461
TAYLORSVILLE LAKE, KY	1,148		1,148
WOLF CREEK DAM, LAKE CUMBERLAND, KY	10,313		10,313
YATESVILLE LAKE, KY	1,889		1,889
LOUISIANA			
ATCHAFALAYA RIVER AND BAYOUS CHENE, BOEUF & BLACK, LA		12,675	12,675
BARATARIA BAY WATERWAY, LA		100	100
BAYOU BODCAU RESERVOIR, LA	1,289		1,289
BAYOU LAFOURCHE AND LAFOURCHE JUMP WATERWAY, LA		100	100
BAYOU PIERRE, LA	33		33
BAYOU SEGNETTE WATERWAY, LA		10	10
BAYOU TECHE, LA		50	50
CADDO LAKE, LA	208		208
CALCASIEU RIVER AND PASS, LA		18,639	18,639
FRESHWATER BAYOU, LA		759	759
GULF INTRACOASTAL WATERWAY, LA	30,185		30,185
HOUMA NAVIGATION CANAL, LA		100	100
INSPECTION OF COMPLETED WORKS, LA	1,068		1,068
J BENNETT JOHNSTON WATERWAY, LA	11,881		11,881
LAKE PROVIDENCE HARBOR, LA		1,315	1,315
MERMENTAU RIVER, LA		1,540	1,540
MISSISSIPPI RIVER OUTLETS AT VENICE, LA		200	200
MISSISSIPPI RIVER, BATON ROUGE TO THE GULF OF MEXICO, LA		89,169	89,169
PROJECT CONDITION SURVEYS, LA		11	11
REMOVAL OF AQUATIC GROWTH, LA		250	250
WALLACE LAKE, LA	245		245
WATERWAY FROM EMPIRE TO THE GULF, LA		14	14
MAINE			
DISPOSAL AREA MONITORING, ME		1,050	1,050
INSPECTION OF COMPLETED WORKS, ME	100		100
PROJECT CONDITION SURVEYS, ME		1,000	1,000
SURVEILLANCE OF NORTHERN BOUNDARY WATERS, ME		30	30
MARYLAND			
BACK CREEK, MD		13	13
BALTIMORE HARBOR AND CHANNELS (50 FOOT), MD		23,645	23,645
BALTIMORE HARBOR, MD (DRIFT REMOVAL)		415	415
CLAIBORNE HARBOR, MD		5	5
CUMBERLAND, MD AND RIDGELEY, WV	201		201
FISHING CREEK, MD		10	10
HERRING CREEK, TALL TIMBERS, MD		10	10
INSPECTION OF COMPLETED WORKS, MD	126		126
JENNINGS RANDOLPH LAKE, MD & WV	6,285		6,285
KNAPPS NARROWS, MD		5	5

CORPS OF ENGINEERS—OPERATION AND MAINTENANCE—Continued

[In thousands of dollars]

Item	Budget estimate		Committee recommendation
	O&M	HMTF	
LOWER THOROFARE, DEAL ISLAND, MD		5	5
MIDDLE RIVER & DARK HEAD CREEK, MD		3	3
NEAVITT HARBOR, MD		3	3
OCEAN CITY HARBOR AND INLET AND SINEPUXENT BAY, MD		5	5
PROJECT CONDITION SURVEYS, MD		485	485
ROCK HALL HARBOR, MD		5	5
SCHEDULING RESERVOIR OPERATIONS, MD	173		173
WICOMICO RIVER, MD		4,000	4,000
MASSACHUSETTS			
BARRE FALLS DAM, MA	888		888
BIRCH HILL DAM, MA	886		886
BOSTON HARBOR, MA		7,150	7,150
BUFFUMVILLE LAKE, MA	731		731
CAPE COD CANAL, MA	2,535		2,535
CAPE COD CANAL, MA (NAV)		5,207	5,207
CHARLES RIVER NATURAL VALLEY STORAGE AREA, MA	391		391
CONANT BROOK LAKE, MA	334		334
EAST BRIMFIELD LAKE, MA	684		684
HODGES VILLAGE DAM, MA	725		725
INSPECTION OF COMPLETED WORKS, MA	348		348
KNIGHTVILLE DAM, MA	1,252		1,252
LITTLEVILLE LAKE, MA	721		721
NEW BEDFORD FAIRHAVEN AND ACUSHNET HURRICANE BARRIER, MA	505		505
PROJECT CONDITION SURVEYS, MA		950	950
TULLY LAKE, MA	914		914
WEST HILL DAM, MA	1,034		1,034
WESTVILLE LAKE, MA	1,050		1,050
MICHIGAN			
CHANNELS IN LAKE ST CLAIR, MI		190	190
DETROIT RIVER, MI	72		72
DETROIT RIVER, MI (NAV)		6,810	6,810
GRAND HAVEN HARBOR, MI	18		18
GRAND HAVEN HARBOR, MI (NAV)		1,750	1,750
HOLLAND HARBOR, MI		600	600
INSPECTION OF COMPLETED WORKS, MI	260		260
KEWEENAW WATERWAY, MI	27		27
LUDINGTON HARBOR, MI		500	500
PROJECT CONDITION SURVEYS, MI		833	833
ROGUE RIVER, MI		1,200	1,200
SAGINAW RIVER, MI		2,425	2,425
SEBEWAING RIVER, MI	531		531
ST CLAIR RIVER, MI		1,510	1,510
ST JOSEPH HARBOR, MI		1,500	1,500
ST MARYS RIVER, MI	3,153		3,153
ST MARYS RIVER, MI (NAV)		25,179	25,179
SURVEILLANCE OF NORTHERN BOUNDARY WATERS, MI		3,138	3,138
MINNESOTA			
BIGSTONE LAKE—WHETSTONE RIVER, MN & SD	462		462
DULUTH—SUPERIOR HARBOR, MN & WI	750		750
DULUTH—SUPERIOR HARBOR, MN & WI (NAV)		6,790	6,790
INSPECTION OF COMPLETED WORKS, MN	240		240
LAC QUI PARLE LAKES, MINNESOTA RIVER, MN	1,349		1,349
MINNESOTA RIVER, MN		260	260
MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND			
MINNEAPOLIS (MVP PORTION), MN	71,737		71,737
ORWELL LAKE, MN	508		508
PROJECT CONDITION SURVEYS, MN		103	103

CORPS OF ENGINEERS—OPERATION AND MAINTENANCE—Continued

[In thousands of dollars]

Item	Budget estimate		Committee recommendation
	O&M	HMTF	
RED LAKE RESERVOIR, MN	143	.....	143
RESERVOIRS AT HEADWATERS OF MISSISSIPPI RIVER, MN	5,244	.....	5,244
SURVEILLANCE OF NORTHERN BOUNDARY WATERS, MN .....	.....	246	246
MISSISSIPPI			
BILOXI HARBOR, MS .....	.....	1,748	1,748
EAST FORK, TOMBIGBEE RIVER, MS	290	.....	290
GULFPORT HARBOR, MS .....	.....	3,215	3,215
INSPECTION OF COMPLETED WORKS, MS	116	.....	116
MOUTH OF YAZOO RIVER, MS .....	.....	30	30
OKATIBBEE LAKE, MS	1,740	.....	1,740
PASCAGOULA HARBOR, MS .....	.....	6,151	6,151
PEARL RIVER, MS & LA	89	.....	89
PROJECT CONDITION SURVEYS, MS .....	.....	131	131
ROSEDALE HARBOR, MS .....	.....	935	935
WATER/ENVIRONMENTAL CERTIFICATION, MS .....	.....	40	40
YAZOO RIVER, MS .....	.....	30	30
MISSOURI			
CARUTHERSVILLE HARBOR, MO .....	.....	615	615
CLARENCE CANNON DAM AND MARK TWAIN LAKE, MO	6,955	.....	6,955
CLEARWATER LAKE, MO	3,740	.....	3,740
HARRY S TRUMAN DAM AND RESERVOIR, MO	11,638	.....	11,638
INSPECTION OF COMPLETED ENVIRONMENTAL PROJECTS, MO	2	.....	2
INSPECTION OF COMPLETED WORKS, MO	1,512	.....	1,512
LITTLE BLUE RIVER LAKES, MO	1,347	.....	1,347
LONG BRANCH LAKE, MO	3,282	.....	3,282
MISSISSIPPI RIVER BETWEEN THE OHIO AND MISSOURI RIVERS (REG WORKS), MO & IL	30,821	.....	30,821
POMME DE TERRE LAKE, MO	2,767	.....	2,767
SCHEDULING RESERVOIR OPERATIONS, MO	172	.....	172
SMITHVILLE LAKE, MO	1,606	.....	1,606
SOUTHEAST MISSOURI PORT, MISSISSIPPI RIVER, MO .....	.....	409	409
STOCKTON LAKE, MO	5,691	.....	5,691
TABLE ROCK LAKE, MO & AR	10,331	.....	10,331
MONTANA			
FT PECK DAM AND LAKE, MT	5,534	.....	5,534
INSPECTION OF COMPLETED WORKS, MT	154	.....	154
LIBBY DAM, MT	2,636	.....	2,636
SCHEDULING RESERVOIR OPERATIONS, MT	125	.....	125
NEBRASKA			
GAVINS POINT DAM, LEWIS AND CLARK LAKE, NE & SD	10,087	.....	10,087
HARLAN COUNTY LAKE, NE	2,337	.....	2,337
INSPECTION OF COMPLETED ENVIRONMENTAL PROJECTS, NE	3	.....	3
INSPECTION OF COMPLETED WORKS, NE	466	.....	466
MISSOURI RIVER—KENSLEERS BEND, NE TO SIOUX CITY, IA	46	.....	46
PAPILLION CREEK, NE	858	.....	858
SALT CREEKS AND TRIBUTARIES, NE	3,347	.....	3,347
NEVADA			
INSPECTION OF COMPLETED WORKS, NV	77	.....	77
MARTIS CREEK LAKE, NV & CA	1,278	.....	1,278
PINE AND MATHEWS CANYONS LAKES, NV	816	.....	816
NEW HAMPSHIRE			
BLACKWATER DAM, NH	823	.....	823
EDWARD MACDOWELL LAKE, NH	732	.....	732
FRANKLIN FALLS DAM, NH	1,017	.....	1,017
HOPKINTON—EVERETT LAKES, NH	1,857	.....	1,857

CORPS OF ENGINEERS—OPERATION AND MAINTENANCE—Continued

[In thousands of dollars]

Item	Budget estimate		Committee recommendation
	O&M	HMTF	
INSPECTION OF COMPLETED WORKS, NH	90	.....	90
OTTER BROOK LAKE, NH	1,395	.....	1,395
PROJECT CONDITION SURVEYS, NH .....	.....	300	300
SURRY MOUNTAIN LAKE, NH	801	.....	801
NEW JERSEY			
BARNEGAT INLET, NJ .....	.....	8	8
CHEESEQUAKE CREEK, NJ .....	.....	50	50
COLD SPRING INLET, NJ .....	.....	3	3
DELAWARE RIVER AT CAMDEN, NJ .....	.....	15	15
DELAWARE RIVER, PHILADELPHIA TO THE SEA, NJ, PA & DE .....	.....	27,785	27,785
INSPECTION OF COMPLETED ENVIRONMENTAL PROJECTS, NJ	45	.....	45
INSPECTION OF COMPLETED WORKS, NJ	487	.....	487
MANASQUAN RIVER, NJ .....	.....	2	2
NEW JERSEY INTRACOASTAL WATERWAY, NJ .....	.....	50	50
NEWARK BAY, HACKENSACK AND PASSAIC RIVERS, NJ .....	.....	8,000	8,000
PASSAIC RIVER FLOOD WARNING SYSTEMS, NJ	667	.....	667
PROJECT CONDITION SURVEYS, NJ .....	.....	2,223	2,223
RARITAN RIVER TO ARTHUR KILL CUT-OFF, NJ .....	.....	20	20
RARITAN RIVER, NJ .....	.....	50	50
SANDY HOOK BAY AT LEONARD, NJ .....	.....	10	10
SHOAL HARBOR AND COMPTON CREEK, NJ .....	.....	10	10
SHREWSBURY RIVER, MAIN CHANNEL, NJ .....	.....	25	25
NEW MEXICO			
ABIQUIU DAM, NM	3,715	.....	3,715
COCHITI LAKE, NM	3,585	.....	3,585
CONCHAS LAKE, NM	2,726	.....	2,726
GALISTEO DAM, NM	935	.....	935
INSPECTION OF COMPLETED ENVIRONMENTAL PROJECTS, NM	27	.....	27
INSPECTION OF COMPLETED WORKS, NM	561	.....	561
JEMEZ CANYON DAM, NM	849	.....	849
MIDDLE RIO GRANDE ENDANGERED SPECIES COLLABORATIVE PROGRAM, NM	2,117	.....	2,117
SANTA ROSA DAM AND LAKE, NM	1,385	.....	1,385
SCHEDULING RESERVOIR OPERATIONS, NM	199	.....	199
TWO RIVERS DAM, NM	1,056	.....	1,056
UPPER RIO GRANDE WATER OPERATIONS MODEL STUDY, NM	746	.....	746
NEW YORK			
ALMOND LAKE, NY	741	.....	741
ARKPORT DAM, NY	330	.....	330
BAY RIDGE AND RED HOOK CHANNELS, NY .....	.....	25	25
BLACK ROCK CHANNEL AND TONAWANDA HARBOR, NY	5	.....	5
BLACK ROCK CHANNEL AND TONAWANDA HARBOR, NY (NAV) .....	.....	6,229	6,229
BRONX RIVER, NY .....	.....	30	30
BROWNS CREEK, NY .....	.....	30	30
BUFFALO HARBOR, NY .....	.....	2,754	3,055
BUTTERMILK CHANNEL, NY .....	.....	400	400
EAST RIVER, NY .....	.....	10	10
EAST SIDNEY LAKE, NY	766	.....	766
EASTCHESTER CREEK, NY .....	.....	5	5
FIRE ISLAND INLET TO JONES INLET, NY .....	.....	50	50
FLUSHING BAY AND CREEK, NY .....	.....	30	30
GLEN COVE CREEK, NY .....	.....	15	15
GREAT KILLS HARBOR, NY .....	.....	20	20
GREAT SOUTH BAY, NY .....	.....	25	25
HUDSON RIVER CHANNEL, NY .....	.....	100	100
HUDSON RIVER, NY (MAINT) .....	.....	9,650	9,650
HUDSON RIVER, NY (O & C) .....	.....	2,704	2,704
INSPECTION OF COMPLETED WORKS, NY	1,391	.....	1,391

CORPS OF ENGINEERS—OPERATION AND MAINTENANCE—Continued

[In thousands of dollars]

Item	Budget estimate		Committee recommendation
	O&M	HMTF	
JONES INLET, NY		50	50
LONG ISLAND INTRACOASTAL WATERWAY, NY		50	50
MATTITUCK HARBOR, NY		15	15
MORICHES INLET, NY		50	50
MOUNT MORRIS DAM, NY	3,785		3,785
NEW YORK AND NEW JERSEY CHANNELS, NY & NJ		9,000	9,000
NEW YORK AND NEW JERSEY HARBOR, NY & NJ		16,000	16,000
NEW YORK HARBOR, NY		8,548	8,548
NEW YORK HARBOR, NY & NJ (DRIFT REMOVAL)		10,373	10,373
NEW YORK HARBOR, NY (PREVENTION OF OBSTRUCTIVE DEPOSITS)		1,416	1,416
PORTCHESTER HARBOR, NY		50	50
PROJECT CONDITION SURVEYS, NY		2,522	2,522
ROCHESTER HARBOR, NY		1,200	1,200
SHINNECOCK INLET, NY		50	50
SOUTHERN NEW YORK FLOOD CONTROL PROJECTS, NY	854		854
SURVEILLANCE OF NORTHERN BOUNDARY WATERS, NY		610	610
WESTCHESTER CREEK, NY		5	5
WHITNEY POINT LAKE, NY	1,386		1,386
NORTH CAROLINA			
ATLANTIC INTRACOASTAL WATERWAY, NC	5,590		5,590
B EVERETT JORDAN DAM AND LAKE, NC	4,780		4,780
CAPE FEAR RIVER ABOVE WILMINGTON, NC	84		84
CAPE FEAR RIVER ABOVE WILMINGTON, NC (NAV)		317	317
FALLS LAKE, NC	3,275		3,275
INSPECTION OF COMPLETED WORKS, NC	190		190
MANTEO (SHALLOWBAG) BAY, NC		1,550	1,550
MASONBORO INLET AND CONNECTING CHANNELS, NC	50		50
MOREHEAD CITY HARBOR, NC		5,570	5,570
NEW RIVER INLET, NC	3,555		3,555
PROJECT CONDITION SURVEYS, NC		700	700
ROLLINSON CHANNEL, NC		790	790
SILVER LAKE HARBOR, NC		1,085	1,085
W KERR SCOTT DAM AND RESERVOIR, NC	3,417		3,417
WILMINGTON HARBOR, NC		14,715	14,715
NORTH DAKOTA			
BOWMAN HALEY, ND	328		328
GARRISON DAM, LAKE SAKAKAWEA, ND	15,769		15,769
HOMME LAKE, ND	337		337
INSPECTION OF COMPLETED WORKS, ND	530		530
LAKE ASHTABULA AND BALDHILL DAM, ND	1,999		1,999
PIPESTEM LAKE, ND	503		503
SCHEDULING RESERVOIR OPERATIONS, ND	123		123
SOURIS RIVER, ND	2,029		2,029
SURVEILLANCE OF NORTHERN BOUNDARY WATERS, ND		85	85
OHIO			
ALUM CREEK LAKE, OH	2,236		2,236
ASHTABULA HARBOR, OH		2,359	2,359
BERLIN LAKE, OH	3,098		3,098
CAESAR CREEK LAKE, OH	2,145		2,145
CLARENCE J BROWN DAM, OH	1,268		1,268
CLEVELAND HARBOR, OH		6,789	7,139
CONNEAUT HARBOR, OH		1,130	1,130
DEER CREEK LAKE, OH	1,664		1,664
DELAWARE LAKE, OH	2,393		2,393
DILLON LAKE, OH	1,495		1,495
FAIRPORT HARBOR, OH		1,158	1,158
INSPECTION OF COMPLETED WORKS, OH	736		736
MASSILLON LOCAL PROTECTION PROJECT, OH	101		101

CORPS OF ENGINEERS—OPERATION AND MAINTENANCE—Continued

[In thousands of dollars]

Item	Budget estimate		Committee recommendation
	O&M	HMTF	
MICHAEL J KIRWAN DAM AND RESERVOIR, OH	1,466	.....	1,466
MOSQUITO CREEK LAKE, OH	1,857	.....	1,857
MUSKINGUM RIVER LAKES, OH	17,127	.....	17,127
NORTH BRANCH KOKOSING RIVER LAKE, OH	556	.....	556
OHIO—MISSISSIPPI FLOOD CONTROL, OH	1,699	.....	1,699
PAINT CREEK LAKE, OH	1,523	.....	1,523
PROJECT CONDITION SURVEYS, OH .....	.....	306	306
ROSEVILLE LOCAL PROTECTION PROJECT, OH	37	.....	37
SANDUSKY HARBOR, OH .....	.....	1,313	1,313
SURVEILLANCE OF NORTHERN BOUNDARY WATERS, OH .....	.....	255	255
TOLEDO HARBOR, OH .....	.....	4,427	4,427
TOM JENKINS DAM, OH	825	.....	825
WEST FORK OF MILL CREEK LAKE, OH	2,412	.....	2,412
WILLIAM H HARSHA LAKE, OH	2,665	.....	2,665
OKLAHOMA			
ARCADIA LAKE, OK	615	.....	615
BIRCH LAKE, OK	778	.....	778
BROKEN BOW LAKE, OK	2,074	.....	2,074
CANTON LAKE, OK	2,119	.....	2,119
COPAN LAKE, OK	1,171	.....	1,171
EUFULA LAKE, OK	6,828	.....	6,828
FORT GIBSON LAKE, OK	4,998	.....	4,998
FORT SUPPLY LAKE, OK	917	.....	917
GREAT SALT PLAINS LAKE, OK	298	.....	298
HEYBURN LAKE, OK	861	.....	861
HUGO LAKE, OK	2,524	.....	2,524
HULAH LAKE, OK	735	.....	735
INSPECTION OF COMPLETED WORKS, OK	650	.....	650
KAW LAKE, OK	2,215	.....	2,215
KEYSTONE LAKE, OK	4,539	.....	4,539
MCCLELLAN—KERR ARKANSAS RIVER NAVIGATION SYSTEM, OK	20,810	.....	20,810
OLOGAH LAKE, OK	2,320	.....	2,320
OPTIMA LAKE, OK	63	.....	63
PENSACOLA RESERVOIR, LAKE OF THE CHEROKEES, OK	164	.....	164
PINE CREEK LAKE, OK	1,671	.....	1,671
SARDIS LAKE, OK	1,285	.....	1,285
SCHEDULING RESERVOIR OPERATIONS, OK	1,360	.....	1,360
SKIATOOK LAKE, OK	1,697	.....	1,697
TENKILLER FERRY LAKE, OK	4,318	.....	4,318
WAURIKA LAKE, OK	1,859	.....	1,859
WISTER LAKE, OK	758	.....	758
OREGON			
APPLEGATE LAKE, OR	1,042	.....	1,042
BLUE RIVER LAKE, OR	1,014	.....	1,014
BONNEVILLE LOCK AND DAM, OR & WA	2,084	.....	2,084
BONNEVILLE LOCK AND DAM, OR & WA (NAV) .....	.....	5,915	5,915
CHETCO RIVER, OR .....	.....	785	785
COLUMBIA RIVER AT THE MOUTH, OR & WA .....	.....	23,535	23,535
COOS BAY, OR .....	.....	6,958	6,958
COQUILLE RIVER, OR .....	.....	26	26
COTTAGE GROVE LAKE, OR	1,261	.....	1,261
COUGAR LAKE, OR	2,360	.....	2,360
DEPOE BAY, OR .....	.....	10	10
DETROIT LAKE, OR	5,894	.....	5,894
DORENA LAKE, OR	1,281	.....	1,281
ELK CREEK LAKE, OR	174	.....	174
FALL CREEK LAKE, OR	1,475	.....	1,475
FERN RIDGE LAKE, OR	2,013	.....	2,013
GREEN PETER—FOSTER LAKES, OR	2,147	.....	2,147

CORPS OF ENGINEERS—OPERATION AND MAINTENANCE—Continued

[In thousands of dollars]

Item	Budget estimate		Committee recommendation
	O&M	HMTF	
HILLS CREEK LAKE, OR	1,483	.....	1,483
INSPECTION OF COMPLETED ENVIRONMENTAL PROJECTS, OR	60	.....	60
INSPECTION OF COMPLETED WORKS, OR	628	.....	628
JOHN DAY LOCK AND DAM, OR & WA	5,688	.....	5,688
LOOKOUT POINT LAKE, OR	2,052	.....	2,052
LOST CREEK LAKE, OR	3,621	.....	3,621
MCNARY LOCK AND DAM, OR & WA	9,623	.....	9,623
NEHALEM BAY, OR .....	.....	5	5
PORT ORFORD, OR .....	.....	5	5
PROJECT CONDITION SURVEYS, OR .....	.....	400	400
ROGUE RIVER AT GOLD BEACH, OR .....	.....	5	5
SCHEDULING RESERVOIR OPERATIONS, OR	99	.....	99
SURVEILLANCE OF NORTHERN BOUNDARY WATERS, OR .....	.....	.....	10,265
SIUSLAW RIVER, OR .....	.....	10	10
SKIPANON CHANNEL, OR .....	.....	5	5
TILLAMOOK BAY & BAR, OR .....	.....	5	5
UMPQUA RIVER, OR .....	.....	939	939
WILLAMETTE RIVER AT WILLAMETTE FALLS, OR	161	.....	161
WILLAMETTE RIVER BANK PROTECTION, OR	170	.....	170
WILLOW CREEK LAKE, OR	748	.....	748
YAUQUINA BAY AND HARBOR, OR .....	.....	3,080	3,080
PENNSYLVANIA			
ALLEGHENY RIVER, PA	7,863	.....	7,863
ALVIN R BUSH DAM, PA	874	.....	874
AYLESWORTH CREEK LAKE, PA	416	.....	416
BELTZVILLE LAKE, PA	1,640	.....	1,640
BLUE MARSH LAKE, PA	3,682	.....	3,682
CONEMAUGH RIVER LAKE, PA	1,703	.....	1,703
COWANESQUE LAKE, PA	2,664	.....	2,664
CROOKED CREEK LAKE, PA	2,955	.....	2,955
CURWENSVILLE LAKE, PA	1,060	.....	1,060
DELAWARE RIVER, PHILADELPHIA, PA TO TRENTON, NJ .....	.....	3,850	3,850
EAST BRANCH CLARION RIVER LAKE, PA	5,891	.....	5,891
FOSTER JOSEPH SAYERS DAM, PA	2,165	.....	2,165
FRANCIS E WALTER DAM, PA	2,720	.....	2,720
GENERAL EDGAR JADWIN DAM AND RESERVOIR, PA	337	.....	337
INSPECTION OF COMPLETED ENVIRONMENTAL PROJECTS, PA	60	.....	60
INSPECTION OF COMPLETED WORKS, PA	1,110	.....	1,110
JOHNSTOWN, PA	1,581	.....	1,581
KINZUA DAM AND ALLEGHENY RESERVOIR, PA	1,550	.....	1,550
LOYALHANNA LAKE, PA	1,529	.....	1,529
MAHONING CREEK LAKE, PA	1,457	.....	1,457
MONONGAHELA RIVER, PA	15,183	.....	15,183
OHIO RIVER LOCKS AND DAMS, PA, OH & WV	45,472	.....	45,472
OHIO RIVER OPEN CHANNEL WORK, PA, OH & WV	1,765	.....	1,765
PROJECT CONDITION SURVEYS, PA .....	.....	170	170
PROMPTON LAKE, PA	850	.....	850
PUNXSUTAWNEY, PA	719	.....	719
RAYSTOWN LAKE, PA	5,281	.....	5,281
SCHEDULING RESERVOIR OPERATIONS, PA	76	.....	76
SCHUYLKILL RIVER, PA .....	.....	100	100
SHENANGO RIVER LAKE, PA	3,080	.....	3,080
STILLWATER LAKE, PA	872	.....	872
SURVEILLANCE OF NORTHERN BOUNDARY WATERS, PA .....	.....	105	105
TIOGA—HAMMOND LAKES, PA	3,480	.....	3,480
TIONESTA LAKE, PA	2,699	.....	2,699
UNION CITY LAKE, PA	611	.....	611
WOODCOCK CREEK LAKE, PA	1,156	.....	1,156
YORK INDIAN ROCK DAM, PA	1,396	.....	1,396
YOUGHIOGHENY RIVER LAKE, PA & MD	2,827	.....	2,827

CORPS OF ENGINEERS—OPERATION AND MAINTENANCE—Continued

[In thousands of dollars]

Item	Budget estimate		Committee recommendation
	O&M	HMTF	
PUERTO RICO			
INSPECTION OF COMPLETED WORKS, PR	134		134
PROJECT CONDITION SURVEYS, PR		100	100
SAN JUAN HARBOR, PR		630	630
RHODE ISLAND			
BLOCK ISLAND HARBOR OF REFUGE, RI		2,550	2,550
FOX POINT BARRIER, NARRAGANSETT BAY, RI	2,335		2,335
GREAT SALT POND, BLOCK ISLAND, RI		350	350
INSPECTION OF COMPLETED WORKS, RI	134		134
PROJECT CONDITION SURVEYS, RI		300	300
WOONSOCKET, RI	1,424		1,424
SOUTH CAROLINA			
ATLANTIC INTRACOASTAL WATERWAY, SC	3,487		3,487
CHARLESTON HARBOR, SC		20,564	20,564
COOPER RIVER, CHARLESTON HARBOR, SC		3,867	3,867
INSPECTION OF COMPLETED WORKS, SC	75		75
PROJECT CONDITION SURVEYS, SC		875	875
SOUTH DAKOTA			
BIG BEND DAM, LAKE SHARPE, SD	9,900		9,900
COLD BROOK LAKE, SD	345		345
COTTONWOOD SPRINGS LAKE, SD	260		260
FORT RANDALL DAM, LAKE FRANCIS CASE, SD	12,178		12,178
INSPECTION OF COMPLETED WORKS, SD	356		356
LAKE TRAVERSE, SD & MN	827		827
OAHE DAM, LAKE OAHE, SD & ND	12,865		12,865
SCHEDULING RESERVOIR OPERATIONS, SD	144		144
TENNESSEE			
CENTER HILL LAKE, TN	7,719		7,719
CHEATHAM LOCK AND DAM, TN	8,384		8,384
CHICKAMAUGA LOCK, TENNESSEE RIVER, TN	3,253		3,253
CORDELL HULL DAM AND RESERVOIR, TN	8,571		8,571
DALE HOLLOW LAKE, TN	7,828		7,828
INSPECTION OF COMPLETED WORKS, TN	328		328
J PERCY PRIEST DAM AND RESERVOIR, TN	5,623		5,623
OLD HICKORY LOCK AND DAM, TN	11,491		11,491
TENNESSEE RIVER, TN	25,952		25,952
WOLF RIVER HARBOR, TN		920	920
TEXAS			
AQUILLA LAKE, TX	1,140		1,140
ARKANSAS—RED RIVER BASINS CHLORIDE CONTROL—AREA VIII, TX ..	1,799		1,799
BARDWELL LAKE, TX	2,045		2,045
BELTON LAKE, TX	4,752		4,752
BENBROOK LAKE, TX	4,159		4,159
BRAZOS ISLAND HARBOR, TX		85	85
BUFFALO BAYOU AND TRIBUTARIES, TX	3,343		3,343
CANYON LAKE, TX	5,070		5,070
CHANNEL TO HARLINGEN, TX		650	650
CHANNEL TO PORT BOLIVAR, TX		100	100
CORPUS CHRISTI SHIP CHANNEL, TX		5,050	5,300
DENISON DAM, LAKE TEXOMA, TX	7,980		7,980
ESTELLINE SPRINGS EXPERIMENTAL PROJECT, TX	39		39
FERRELLS BRIDGE DAM, LAKE O' THE PINES, TX	4,159		4,159
FREEPORT HARBOR, TX		4,700	4,700
GALVESTON HARBOR AND CHANNEL, TX		6,630	6,630
GIWW, CHANNEL TO VICTORIA, TX		30	30
GIWW, CHANNEL TO CHOCOLATE BAYOU, TX		30	30

CORPS OF ENGINEERS—OPERATION AND MAINTENANCE—Continued

[In thousands of dollars]

Item	Budget estimate		Committee recommendation
	O&M	HMTF	
GRANGER DAM AND LAKE, TX	6,772	.....	6,772
GRAPEVINE LAKE, TX	5,185	.....	5,185
GULF INTRACOASTAL WATERWAY, TX	25,500	.....	25,500
HORDS CREEK LAKE, TX	1,619	.....	1,619
HOUSTON SHIP CHANNEL, TX .....	.....	23,300	23,300
INSPECTION OF COMPLETED WORKS, TX	1,657	.....	1,657
JIM CHAPMAN LAKE, TX	1,895	.....	1,895
JOE POOL LAKE, TX	2,645	.....	2,645
LAKE KEMP, TX	280	.....	280
LAVON LAKE, TX	3,932	.....	3,932
LEWISVILLE DAM, TX	7,557	.....	7,557
MATAGORDA SHIP CHANNEL, TX .....	.....	6,450	6,450
NAVARRO MILLS LAKE, TX	2,042	.....	2,042
NORTH SAN GABRIEL DAM AND LAKE GEORGETOWN, TX	4,231	.....	4,231
O C FISHER DAM AND LAKE, TX	2,851	.....	2,851
PAT MAYSE LAKE, TX	1,397	.....	1,397
PROCTOR LAKE, TX	2,666	.....	2,666
PROJECT CONDITION SURVEYS, TX .....	.....	325	325
RAY ROBERTS LAKE, TX	2,172	.....	2,172
SABINE—NECHES WATERWAY, TX .....	.....	11,250	11,250
SAM RAYBURN DAM AND RESERVOIR, TX	8,963	.....	8,963
SCHEDULING RESERVOIR OPERATIONS, TX	295	.....	295
SOMERVILLE LAKE, TX	4,904	.....	4,904
STILLHOUSE HOLLOW DAM, TX	6,621	.....	6,621
TEXAS CITY SHIP CHANNEL, TX .....	.....	50	50
TOWN BLUFF DAM, B A STEINHAGEN LAKE, TX	7,582	.....	7,582
WACO LAKE, TX	5,669	.....	5,669
WALLISVILLE LAKE, TX	2,232	.....	2,232
WHITNEY LAKE, TX	10,253	.....	10,253
WRIGHT PATMAN DAM AND LAKE, TX	5,418	.....	5,418
UTAH			
INSPECTION OF COMPLETED WORKS, UT	24	.....	24
SCHEDULING RESERVOIR OPERATIONS, UT	477	.....	477
VERMONT			
BALL MOUNTAIN, VT	1,434	.....	1,434
INSPECTION OF COMPLETED WORKS, VT	174	.....	174
NORTH HARTLAND LAKE, VT	1,171	.....	1,171
NORTH SPRINGFIELD LAKE, VT	739	.....	739
TOWNSHEND LAKE, VT	1,577	.....	1,577
UNION VILLAGE DAM, VT	860	.....	860
VIRGIN ISLANDS			
INSPECTION OF COMPLETED WORKS, VI	49	.....	49
PROJECT CONDITION SURVEYS, VI .....	.....	50	50
VIRGINIA			
ATLANTIC INTRACOASTAL WATERWAY—ACC, VA	2,644	.....	2,644
ATLANTIC INTRACOASTAL WATERWAY—DSC, VA	1,438	.....	1,438
GATHRIGHT DAM AND LAKE MOOMAW, VA	2,709	.....	2,709
HAMPTON ROADS, NORFOLK & NEWPORT NEWS HARBOR, VA (DRIFT RE- MOVAL) .....	.....	1,500	1,500
HAMPTON ROADS, VA (PREVENTION OF OBSTRUCTIVE DEPOSITS) .....	.....	38	38
INSPECTION OF COMPLETED WORKS, VA	432	.....	432
JAMES RIVER CHANNEL, VA .....	.....	350	350
JOHN H KERR LAKE, VA & NC	13,820	.....	13,820
JOHN W FLANNAGAN DAM AND RESERVOIR, VA	2,888	.....	2,888
NORFOLK HARBOR, VA .....	.....	21,625	21,925
NORTH FORK OF POUND RIVER LAKE, VA	848	.....	848
PHILPOTT LAKE, VA	5,520	.....	5,520

CORPS OF ENGINEERS—OPERATION AND MAINTENANCE—Continued

[In thousands of dollars]

Item	Budget estimate		Committee recommendation
	O&M	HMTF	
PROJECT CONDITION SURVEYS, VA		1,215	1,215
WASHINGTON			
BELLINGHAM HARBOR, WA		2	2
CHIEF JOSEPH DAM, WA	600		600
COLUMBIA AND LOWER WILLAMETTE RIVERS BELOW VANCOUVER, WA & PORTLAND, OR		47,220	47,220
COLUMBIA RIVER AT BAKER BAY, WA & OR		5	5
COLUMBIA RIVER BETWEEN CHINOOK AND SAND ISLAND, WA		1	1
COLUMBIA RIVER BETWEEN VANCOUVER, WA AND THE DALLES, OR		881	881
COLUMBIA RIVER FISH MITIGATION, WA, OR & ID	3,476		3,476
EVERETT HARBOR AND SNOHOMISH RIVER, WA		1,980	1,980
FRIDAY HARBOR, WA		2	2
GRAYS HARBOR, WA		11,237	11,237
HOWARD HANSON DAM, WA	12,680		12,680
ICE HARBOR LOCK AND DAM, WA	5,075		5,075
INSPECTION OF COMPLETED ENVIRONMENTAL PROJECTS, WA	70		70
INSPECTION OF COMPLETED WORKS, WA	922		922
LAKE CROCKETT (KEYSTONE HARBOR), WA		16	16
LAKE WASHINGTON SHIP CANAL, WA	1,079		1,079
LAKE WASHINGTON SHIP CANAL, WA (NAV)		6,987	6,987
LITTLE GOOSE LOCK AND DAM, WA	3,506		3,506
LOWER GRANITE LOCK AND DAM, WA	4,347		4,347
LOWER MONUMENTAL LOCK AND DAM, WA	3,430		3,430
MILL CREEK LAKE, WA	5,486		5,486
MOUNT SAINT HELENS SEDIMENT CONTROL, WA	135		135
MUD MOUNTAIN DAM, WA	6,174		6,174
NEAH BAY, WA		17	17
OLYMPIA HARBOR, WA		2	2
PORT TOWNSEND, WA		14	14
PROJECT CONDITION SURVEYS, WA		1,046	1,046
PUGET SOUND AND TRIBUTARY WATERS, WA		1,485	1,485
QUILLAYUTE RIVER, WA		1,673	1,673
SCHEDULING RESERVOIR OPERATIONS, WA	463		463
SEATTLE HARBOR, WA		1,816	1,816
STILLAGUAMISH RIVER, WA	2,917		2,917
SURVEILLANCE OF NORTHERN BOUNDARY WATERS, WA		80	80
SWINOMISH CHANNEL, WA		2	2
TACOMA HARBOR, WA		15	15
TACOMA, PUYALLUP RIVER, WA	178		178
THE DALLES LOCK AND DAM, WA & OR	3,274		3,274
WILLAPA RIVER AND HARBOR, WA		44	44
WEST VIRGINIA			
BEECH FORK LAKE, WV	1,842		1,842
BLUESTONE LAKE, WV	4,863		4,863
BURNSVILLE LAKE, WV	3,240		3,240
EAST LYNN LAKE, WV	2,183		2,183
ELKINS, WV	118		118
INSPECTION OF COMPLETED WORKS, WV	474		474
KANAWHA RIVER LOCKS AND DAMS, WV	9,978		9,978
OHIO RIVER LOCKS AND DAMS, WV, KY & OH	29,834		29,834
OHIO RIVER OPEN CHANNEL WORK, WV, KY & OH	2,684		2,684
R D BAILEY LAKE, WV	1,811		1,811
STONEWALL JACKSON LAKE, WV	1,504		1,504
SUMMERSVILLE LAKE, WV	2,579		2,579
SUTTON LAKE, WV	2,522		2,522
TYGART LAKE, WV	1,693		1,693
WISCONSIN			
EAU GALLE RIVER LAKE, WI	829		829

CORPS OF ENGINEERS—OPERATION AND MAINTENANCE—Continued

[In thousands of dollars]

Item	Budget estimate		Committee recommendation
	O&M	HMTF	
FOX RIVER, WI	4,267		4,267
GREEN BAY HARBOR, WI		3,920	3,920
INSPECTION OF COMPLETED WORKS, WI	41		41
KEWAUNEE HARBOR, WI	18		18
MILWAUKEE HARBOR, WI		2,570	2,570
PROJECT CONDITION SURVEYS, WI		325	325
STURGEON BAY HARBOR AND LAKE MICHIGAN SHIP CANAL, WI	6		6
SURVEILLANCE OF NORTHERN BOUNDARY WATERS, WI		200	200
WYOMING			
INSPECTION OF COMPLETED ENVIRONMENTAL PROJECTS, WY	15		15
INSPECTION OF COMPLETED WORKS, WY	123		123
JACKSON HOLE LEVEES, WY	588		588
SCHEDULING RESERVOIR OPERATIONS, WY	107		107
SUBTOTAL, PROJECTS LISTED UNDER STATES	1,943,355	892,425	2,847,596
REMAINING ITEMS			
ADDITIONAL FUNDING FOR ONGOING WORK NAVIGATION MAINTENANCE ..			25,000
DEEP-DRAFT HARBOR AND CHANNEL			473,952
DONOR AND ENERGY TRANSFER PORTS			50,000
INLAND WATERWAYS			50,000
SMALL, REMOTE, OR SUBSISTENCE NAVIGATION			50,000
OTHER AUTHORIZED PURPOSES			45,000
AQUATIC NUISANCE CONTROL RESEARCH	675		675
ASSET MANAGEMENT/FACILITIES AND EQUIP MAINT (FEM)	3,650		4,650
BUDGET/MANAGEMENT SUPPORT FOR O&M BUSINESS PROGRAMS STEW-			
ARDSHIP SUPPORT PROGRAM	900		900
PERFORMANCE-BASED BUDGETING SUPPORT PROGRAM	2,000		2,000
RECREATION MANAGEMENT SUPPORT PROGRAM	1,550		1,550
OPTIMIZATION TOOLS FOR NAVIGATION	322		322
CIVIL WORKS WATER MANAGEMENT SYSTEM (CWWMS)	10,000		10,000
COASTAL INLET RESEARCH PROGRAM	2,700		7,975
COASTAL OCEAN DATA SYSTEM (CODS)	2,500		6,500
CULTURAL RESOURCES (NAGPRA/CURATION)	1,000		1,000
CYBERSECURITY	4,000		4,000
DREDGE MCFARLAND READY RESERVE		11,690	11,690
DREDGE WHEELER READY RESERVE		15,000	15,000
DREDGING DATA AND LOCK PERFORMANCE MONITORING SYSTEM	1,120		1,120
DREDGING OPERATIONS AND ENVIRONMENTAL RESEARCH (DOER)	6,450		6,450
DREDGING OPERATIONS TECHNICAL SUPPORT PROGRAM (DOTS)	2,820		2,820
EARTHQUAKE HAZARDS REDUCTION PROGRAM	300		300
FACILITY PROTECTION	4,500		4,500
FISH & WILDLIFE OPERATING FISH HATCHERY REIMBURSEMENT	5,400		5,400
HARBOR MAINTENANCE FEE DATA COLLECTION		795	795
INLAND WATERWAY NAVIGATION CHARTS	4,500		4,500
INSPECTION OF COMPLETED FEDERAL FLOOD CONTROL PROJECTS	20,000		20,000
MONITORING OF COMPLETED NAVIGATION PROJECTS	3,900		10,500
NATIONAL COASTAL MAPPING PROGRAM	6,300		13,000
NATIONAL DAM SAFETY PROGRAM (PORTFOLIO RISK ASSESSMENT)	10,000		15,000
NATIONAL EMERGENCY PREPAREDNESS PROGRAM (NEPP)	5,500		5,500
NATIONAL (LEVEE) FLOOD INVENTORY	5,000		5,000
NATIONAL (MULTIPLE PROJECT) NATURAL RESOURCES MANAGEMENT			
ACTIVITIES	3,700		5,200
NATIONAL PORTFOLIO ASSESSMENT FOR REALLOCATIONS	500		500
REGIONAL SEDIMENT MANAGEMENT PROGRAM	3,500		3,500
RESPONSE TO CLIMATE CHANGE AT CORPS PROJECTS			1,500
REVIEW OF NON-FEDERAL ALTERATIONS OF CIVIL WORKS			
PROJECTS (SECTION 408)	8,500		8,500
SUSTAINABLE RIVERS PROGRAM (SRP)	400		400

CORPS OF ENGINEERS—OPERATION AND MAINTENANCE—Continued

[In thousands of dollars]

Item	Budget estimate		Committee recommendation
	O&M	HMTF	
VETERAN'S CURATION PROGRAM AND COLLECTIONS MANAGEMENT	6,500	.....	6,500
WATERBORNE COMMERCE STATISTICS	4,670	.....	4,670
WATER OPERATIONS TECHNICAL SUPPORT (WOTS)	500	.....	6,500
SUBTOTAL, REMAINING ITEMS	133,357	27,485	892,369
ACCOUNTING ADJUSTMENT	21	8	35
TOTAL, OPERATION AND MAINTENANCE	2,076,733	919,918	3,740,000

Coastal Inlet Research Program.—The Committee understands that communities, infrastructure, commerce, and resources that are tied to the coastal nearshore region are all vulnerable to damage from extreme coastal events and long-term coastal change. The Committee recommends additional funding to establish a multi-university-led effort to identify engineering frameworks to address coastal resilience needs, to develop adaptive pathways that lead to coastal resilience, measure the coastal forces that lead to infrastructure damage and erosion during extreme storm events, and to improve coupling of terrestrial and coastal models. Funding in addition to the budget request is also recommended for the Corps to continue work with the National Oceanic and Atmospheric Administration's National Water Center on protecting the Nation's water resources.

Debris Removal.—Funding is recommended for debris removal activities pursuant to 33 U.S.C. 603a, as amended by the WIIN Act, with priority given to urban waterways.

Donor and Energy Transfer Ports.—The additional funding recommended in this account for donor and energy transfer ports shall be allocated in accordance with 33 U.S.C. 2238c. The Committee notes the Corps issued implementation guidance for section 1110 of the WIIN Act but has not completed the necessary work to execute all authorized uses for this funding. The Committee directs the Corps to fully execute subsection (c) of 33 U.S.C. 2238c within 90 days of enactment of this act.

Emerging Harbors.—The Committee understands that Hampton Harbor in New Hampshire qualifies as an emerging harbor. The Corps is directed to brief the Committees on Appropriation of both Houses of Congress within 30 days of enactment of this act on how the Corps prioritizes additional HMTF dollars for emerging harbors that experience unexpected levels of deterioration or are at severe risk of closing outside of their scheduled dredging cycles.

Enhanced Options for Sand Acquisition for Beach Renourishment Projects.—The Committee urges the Corps to provide States with guidance and recommendations to implement cost effective measures and planning for sand management.

Isle of Shoals North and Cape Arundel Dredged Material Placement Site.— The Cape Arundel Disposal Site in the State of Maine selected by the Department of the Army as an alternative dredged material disposal site under section 103(b) of the Marine Protection Research and Sanctuaries Act of 1972, shall remain open until

April 15, 2024, until the remaining disposal capacity of the site has been utilized, or until final designation of an Ocean Dredged Material Disposal Site for southern Maine under section 102(c) of the Marine Protection Research and Sanctuaries Act of 1972, whichever first occurs, provided that the site conditions remain suitable for such purpose and that the site may not be used for disposal of more than 80,000 cubic yards from any single dredging project.

John W. Flannagan Dam and Reservoir.—The Committee supports efforts to optimize regional economic benefits and enhanced downstream recreation opportunities along the Russell Fork River. The Committee understands the Corps has recently completed a Section 216 Initial Appraisal for the John W. Flannagan Dam and Reservoir and found that a feasibility-level study is warranted to accommodate additional whitewater releases. The Committee urges the Corps to implement the recommendations identified in the Initial Appraisal and within the additional funds provided in this account, prioritize an optimization analysis to formulate and evaluate Federal interest in changing project operations at the John W. Flannagan Dam and Reservoir as it relates to winter drawdown to increase regional economic benefits and extend whitewater recreation opportunities.

Kennebec River Long-Term Maintenance Dredging.—In fiscal year 2018, Congress directed the Assistant Secretary of the Army (Civil Works), in consultation with the Navy, to submit a report to the Committees on Appropriations of both Houses of Congress, proposing a long-term plan for regular maintenance of the Kennebec River. The Committee urges the Secretary to prioritize the completion of this report. Within 90 days enactment of this act, the Secretary shall brief the Committees on Appropriations of both Houses of Congress on the status of ongoing discussions with the Navy and the identification of a long-term plan.

Monitoring of Completed Navigation Projects—Fisheries.—The Committee is concerned that a reduction in or elimination of navigational lock operations on the Nation's inland waterways is having a negative impact on river ecosystems, particularly the ability of a number of endangered, threatened and game fish species to migrate through waterways, particularly during critical spawning periods. The Committee is aware of preliminary research that indicates reduced lock operations on certain Corps designated low-use waterways is directly impacting migration and that there are effective means to mitigate the impacts. The Committee believes maximizing the ability of fish to use these locks to move past the dams has the potential to restore natural and historic long-distance river migrations that may well be critical to species survival. In fiscal year 2018, the Committee recommended funding to continue preliminary research on the impact of reduced lock operations on riverine fish.

The Committee understands the research underway is proving valuable and, within available funds for ongoing work, directs the Corps to continue this research at no less than the 2017 level. The goal of the continued funding is to support the ongoing research and, where appropriate, expand the work to look at ecosystem level impacts and additional waterways, lock structures, lock operation

methods, and fish species that will more fully inform the Corps' operations.

Monitoring of Completed Navigation Projects-Non-Destructive Testing.—The Committee supports the Corps efforts to significantly improve safety, efficiency, reliability, and cost of maintaining critical and aging infrastructure, particularly post-tensioned anchorages at locks and dams along the navigable waterways and flood-control facilities in the United States. The Committee is also aware that innovative and technically advanced non-destructive testing [NDT] methods of inspection have been developed collaboratively by the Corps that will assist in performing this vital mission more safely and more accurately at significantly less cost than current methods. Of the funding provided in the Monitoring Completed Navigation Projects, \$600,000 shall be used to continue the validation and deployment of NDT tools, modeling, and management practices for trunnion rods on dams of interest in navigable waterways.

Monitoring of Completed Navigation Projects-Structural Health Monitoring.—Of the funding provided, \$4,000,000 shall be to support the structural health monitoring program to facilitate research to maximize operations, enhance efficiency, and protect asset life through catastrophic failure mitigation.

National Dam Safety Program.—In cooperation with the Federal Energy Regulatory Commission and the Bureau of Reclamation, the Corps is directed to conduct a comprehensive Independent External Peer Review [IEPR] of risk-informed dam safety practices in these three Federal agencies with the intent to inform improvements broadly in national dam safety practices. The Corps is directed to contract with an independent peer review organization in accordance with its current review policy and the National Academy of Science IEPR process. The IEPR shall also consider how dam safety practices are affected by human factors, as well as how risk informed analysis in other industries may be applicable to dam safety practices.

San Rafael Channel.—The Committee is aware that the last full dredging of the San Rafael Channel was in 2002. This lack of dredging is becoming a public safety issue as the San Rafael Police and Fire Department, who have taken over emergency services and search and rescue operations, are based in the Channel and need access and capacity for bay patrols, rescues, and other public safety activity. Given public safety concerns, the Committee urges the Corps to prioritize dredging of the San Rafael Channel.

Soil Moisture and Snowpack Monitoring Program.—Following the 2011 Missouri River Flood, the Government Accountability Office released a report concluding that increased soil moisture and snowpack monitoring could have mitigated the impact of the flood on communities along the Missouri River. Accordingly, WRRDA section 4003 authorized a soil moisture and snowpack monitoring program to be administered by the Corps in coordination with the National Oceanic Atmospheric Administration, the Natural Resources Conservation Service, the U.S. Geological Survey, and the Bureau of Reclamation. Section 1179 of the WIIN Act identified the Corps as the lead agency for carrying out and coordinating this monitoring program. Activities necessary to carry out soil moisture

and snowpack monitoring are eligible for funds provided in this account. The Corps is also encouraged to provide sufficient funding in future budget submissions for this program.

Upper Missouri River Basin.—The Committee recognizes the importance of recreation on Corps-owned sites across the upper Missouri River Basin and encourages the Corps to prioritize much needed repairs and other maintenance at these sites.

Water Operations Technical Support.—Funding in addition to the budget request is included for research into atmospheric rivers first funded in fiscal year 2015.

WIFIA Planning and Development.—The Water Infrastructure Finance and Innovation Act [WIFIA] is another alternative financing tool that has received strong support from many Members of Congress. The Environmental Protection Agency's WIFIA program was initiated in fiscal year 2015, but to date, the Corps has not requested funding nor provided requested information on how a corresponding program for the Civil Works program would be implemented. Therefore, the Corps again is directed to provide to the Committees on Appropriations of both Houses of Congress a detailed plan for how WIFIA would be implemented, including an estimated schedule for when funding could be used to provide loans. The Committee recommends an additional \$1,000,000 in this account to continue that effort.

WRRDA Section 4001.—The Committee urges the Secretary to follow through on previous direction provided by Congress to financially support the Susquehanna, Delaware, and Potomac River Basin Commissions. Congress has made clear its intent and expects the Corps to budget accordingly. The Corps is directed to brief the Committees on Appropriations of both Houses of Congress within 30 days of enactment of this act on the Federal role in the River Basin Commissions.

WRRDA Section 6002.—The Committee supports the Corps' performing a review of its inventory, in accordance with WRRDA section 6002, not later than 1 year after the date of enactment of this act.

Additional Funding for Ongoing Work.—The Committee cannot support a level of funding that does not fund operation and maintenance of our Nation's aging infrastructure sufficiently to ensure continued competitiveness in a global marketplace. Federal navigation channels maintained at only a fraction of authorized dimensions and navigation locks and hydropower facilities well beyond their design life result in economic inefficiencies and risk infrastructure failure, which can cause substantial economic losses. The Committee recommendation includes additional funds for projects and activities to enhance the Nation's economic growth and international competitiveness.

The Committee is concerned that the Administration's criteria for navigation maintenance disadvantage small, remote, or subsistence harbors and waterways from competing for scarce navigation maintenance funds. Accordingly, the Committee directs the Corps to revise the criteria used for determining which navigation maintenance projects are funded to develop a reasonable and equitable allocation under the Operation and Maintenance account. The

Committee supports including criteria to evaluate economic impact that these projects provide to local and regional economies.

Any costs to cover administrative fees or any other efforts necessary to resolve encroachments that were the result of past land surveying errors made by the Corps shall be eligible for additional funding provided in this account.

When allocating the additional funding recommended in this account, the Corps shall consider giving priority to the following:

- Ability to complete ongoing work maintaining authorized depths and widths of harbors and shipping channels (including small, remote, or subsistence harbors), including where contaminated sediments are present.
- Ability to address critical maintenance backlog;
- Presence of the U.S. Coast Guard;
- Extent to which the work will enhance national, regional, or local economic development;
- Extent to which the work will promote job growth or international competitiveness;
- Number of jobs created directly by the funded activity;
- Ability to obligate the funds allocated within the calendar year;
- Ability to complete the project, separable element, project phase, or useful increment of work within the funds allocated;
- For harbor maintenance activities,
 - Total tonnage handled;
 - Total exports;
 - Total imports;
 - Dollar value of cargo handled;
 - Energy infrastructure and national security needs served;
 - Designation as strategic seaports;
 - Lack of alternative means of freight movement; and
 - Savings over alternative means of freight movement.

REGULATORY PROGRAM

Appropriations, 2018	\$200,000,000
Budget estimate, 2019	200,000,000
Committee recommendation	200,000,000

The Committee recommends \$200,000,000 for the Regulatory Program, the same as the budget request.

Salton Sea.—The Committee is concerned with the worsening air quality and habitat impacts related to Salton Sea and encourages the Corps to prioritize permitting for the Salton Sea Management Plan.

FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM

Appropriations, 2018	\$139,000,000
Budget estimate, 2019	120,000,000
Committee recommendation	120,000,000

The Committee recommends \$120,000,000 for the Formerly Utilized Sites Remedial Action Program, the same as the budget request.

FLOOD CONTROL AND COASTAL EMERGENCIES

Appropriations, 2018	\$35,000,000
Budget estimate, 2019	27,000,000
Committee recommendation	35,000,000

The Committee recommends \$35,000,000 for Flood Control and Coastal Emergencies, an increase of \$8,000,000 above the budget request.

EXPENSES

Appropriations, 2018	\$185,000,000
Budget estimate, 2019	\$187,000,000
Committee recommendation	193,000,000

The Committee recommends \$193,000,000 for Expenses, an increase of \$6,000,000 above the budget request. This appropriation finances the expenses for the Office of the Chief of Engineers, the Division Offices, and certain research and statistical functions of the Corps. No funding is recommended for creation of an Office of Congressional Affairs.

Additional funding recommended in the Expenses account is for activities that were previously funded under Remaining Items and later migrated to the Expenses account. These include: up to \$2,000,000 annually for the executive direction and management of the Dam Safety Program, which will allow for more appropriated Construction funds to be used on dam safety activities; not less than \$2,000,000 annually to efficiently fund the Guidance Update Management Program [GUMP], providing vital up-to-date policy and technical guidance ensuring the excellence and quality of Corps Civil Works program; and not less than \$2,000,000 annually for developing a Civil Works Data Modernization Program that focuses on improving and modernizing data management systems, data system integration methods, and making data publically available.

Deauthorizations.—Within 90 days of enactment of this act, the Corps shall provide to the Committees on Appropriations of both Houses of Congress a list of all projects that have been deauthorized or will be deauthorized in the next two fiscal years as a result of section 1302 of the WIIN Act.

Inventory of Corps Projects.—Within 120 days after enactment this act, the Corps shall submit to the Committee on Appropriations of both houses of Congress an inventory of all authorized Corps studies and projects in each state. For each study and project identified, the Corps shall include by State, the specific authorization, respective mission area, remaining Federal cost to complete, and the current status.

OFFICE OF THE ASSISTANT SECRETARY OF THE ARMY (CIVIL WORKS)

Appropriations, 2018	\$5,000,000
Budget estimate, 2019	5,000,000
Committee recommendation	5,000,000

The Committee recommends \$5,000,000 for the Office of the Assistant Secretary of the Army (Civil Works), the same as the budget request.

The Committee counts on a timely and accessible executive branch in the course of fulfilling its constitutional role in the appropriations process. The requesting and receiving of basic, factual information is vital to maintain a transparent and open governing process. The Committee recognizes that some discussions internal to the executive branch are pre-decisional in nature and, therefore, not subject to disclosure. However, the access to facts, figures, and statistics that inform these decisions are not subject to the same sensitivity and are critical to the appropriations process. The administration needs to do more to ensure timely and complete responses to these inquiries.

GENERAL PROVISIONS—CORPS OF ENGINEERS—CIVIL

Section 101. The bill includes a provision related to reprogramming.

Section 102. The bill includes a provision related to transfers to the Fish and Wildlife Service.

Section 103. The bill includes a provision related to open Lake disposal of dredged material.

Section 104. The bill includes a provision related to the acquisition of buoy chain.

Section 105. The bill includes a provision related to permitting for the discharge of dredged or fill material.

TITLE II

DEPARTMENT OF THE INTERIOR

CENTRAL UTAH PROJECT COMPLETION ACCOUNT

Appropriations, 2018	\$10,500,000
Budget estimate, 2019	7,983,000
Committee recommendation	15,000,000

The Committee recommends \$15,000,000 for the Central Utah Project Completion Account, which includes \$898,000 for transfer to the Utah Reclamation Mitigation and Conservation Account for use by the Utah Reclamation Mitigation and Conservation Commission, \$1,398,675 for necessary expenses of the Secretary of the Interior, and up to \$1,500,000 for the Commission’s administrative expenses. This allows the Department of the Interior to develop water supply facilities that will continue to sustain economic growth and an enhanced quality of life in the western States, the fastest growing region in the United States. The Committee remains committed to complete the Central Utah Project, which would enable the project to initiate repayment to the Federal Government.

BUREAU OF RECLAMATION

OVERVIEW OF RECOMMENDATION

The Committee recommends \$1,478,000,000 for the Bureau of Reclamation [Reclamation], an increase of \$490,983,000 above the budget request. The Committee recommendation sets priorities by supporting our Nation’s water infrastructure.

INTRODUCTION

In addition to the traditional missions of bringing water and power to the West, Reclamation continues to develop programs, initiatives, and activities that will help meet new water needs and balance the multitude of competing uses of water in the West. Reclamation is the largest wholesaler of water in the country, operating 338 reservoirs with a total storage capacity of 140 million acre-feet. Reclamation projects deliver 10 trillion gallons of water to more than 31 million people each year, and provide 1 out of 5 western farmers with irrigation water for 10 million acres of farmland that produce 60 percent of the Nation's vegetables and 25 percent of its fruits and nuts. Reclamation manages, with partners, 289 recreation sites that have 90 million visits annually.

FISCAL YEAR 2019 WORK PLAN

The Committee recommends funding above the budget request for Water and Related Resources. Reclamation is directed to submit a work plan, not later than 60 days after the date of enactment of this act, to the Committees on Appropriations of both Houses of Congress proposing its allocation of these additional funds. The work plan shall be consistent with the following general guidance.

- None of the funds may be used for any item for which the Committee has specifically denied funding.
- The additional funds are provided for ongoing studies or projects that were either not included in the budget request or for which the budget request was inadequate.
- Funding associated with a category may be allocated to eligible studies or projects within that category.
- Reclamation may not withhold funding from a study or project because it is inconsistent with administration policy. The Committee notes that these funds are in excess of the administration's budget request, and that administration budget metrics should not disqualify a study or project from being funded.

REPROGRAMMING

The Committee is retaining the reprogramming legislation provided in the Energy and Water Development and Related Agencies Appropriations Act, 2018.

DROUGHT RESILIENCY

Congress has invested approximately \$500 million over the past 4 years in drought and water supply-related activities. The Committee remains intently focused on the need for substantially increased investment in improving drought resiliency as well as in finding opportunities for agencies to combine water supply benefits with other mission priorities. In Energy and Water Development and Related Agencies Appropriations Act, 2017, the Committee began the transition from mitigating an ongoing drought in the West to preparing for the next one. The Committee continues that approach in this year's bill by recommending another \$196 million for the drought resiliency programs authorized in the WIIN Act.

The Committee directs Reclamation to continue working with the U.S. Fish and Wildlife Service, the National Marine Fisheries Serv-

ice, and relevant State agencies to undertake comprehensive, around the clock, real-time monitoring of water supply conditions and their impact on endangered species during critical periods in the winter and spring.

The Committee believes that the only answer to these chronic droughts is a combination of additional storage, substantial investments in desalination and recycling, improved conveyance, and increased efficiencies in the uses of water both for agriculture and potable purposes. As the West has consistently been the fastest growing part of the country, it is incumbent on Reclamation to lead the way in increasing the water that is available from year to year and to incentivize more efficient use of the water that is available.

UNMANNED AERIAL SYSTEMS

The Committee is concerned by a U.S. Immigration and Customs Enforcement bulletin published in 2017 that confidently assesses that a Chinese unmanned aerial systems [UAS] manufacturer was using its products to provide critical infrastructure data to the Chinese government. Reclamation shall immediately determine whether UAS that were the subject of the August 2017 bulletin are currently in use and report back to the Committee within 180 days. Due to the critical infrastructure funded in this bill that has an extensive national security component, any vulnerability to foreign surveillance is a serious concern to this Committee and Reclamation shall prioritize purchases of American-made UAS in the future.

CONGRESSIONALLY DIRECTED SPENDING

The Committee did not accept or include congressionally directed spending, as defined in section 5(a) of rule XLIV of the Standing Rules of the Senate. However, the Committee has recommended additional programmatic funds above the budget request for the Water and Related Resources account. In some cases, these additional funds have been included within defined categories, as in prior years, and are described in more detail in their respective sections below.

WATER AND RELATED RESOURCES

Appropriations, 2018	\$1,332,124,000
Budget estimate, 2019	891,017,000
Committee recommendation	1,382,000,000

The Committee recommends \$1,382,000,000 for Water and Related Resources, an increase of \$490,983,000 above the budget request.

INTRODUCTION

The Water and Related Resources account supports the development, management, and restoration of water and related natural resources in the 17 western States. The account includes funds for operating and maintaining existing facilities to obtain the greatest overall level of benefits, to protect public safety, and to conduct studies on ways to improve the use of water and related natural

resources. Work will be done in partnership and cooperation with non-federal entities and other Federal agencies.

The Committee recommends increased funding in the Water and Related Resources account on a number of line items to better allow Reclamation to address the immediate impacts of the drought.

BUREAU OF RECLAMATION—WATER AND RELATED RESOURCES

[In thousands of dollars]

Project title	Budget estimate		Committee recommendation	
	Resources management	Facilities OM&R	Resources management	Facilities OM&R
ARIZONA				
AK CHIN INDIAN WATER RIGHTS SETTLEMENT ACT PROJECT		16,200		16,200
COLORADO RIVER BASIN—CENTRAL ARIZONA PROJECT	6,272	648	6,272	648
COLORADO RIVER FRONT WORK AND LEVEE SYSTEM ..	2,303		2,303	
SALT RIVER PROJECT	649	250	649	250
SAN CARLOS APACHE TRIBE WATER SETTLEMENT ACT PROJECT	1,550		1,550	
YUMA AREA PROJECTS	1,183	22,626	1,183	22,626
CALIFORNIA				
CACHUMA PROJECT	778	790	778	790
CENTRAL VALLEY PROJECTS:				
AMERICAN RIVER DIVISION, FOLSOM DAM UNIT/ MORMON ISLAND				
	1,377	8,838	1,377	8,838
AUBURN—FOLSOM SOUTH UNIT				
	35	2,184	35	2,184
DELTA DIVISION				
	4,812	6,772	4,812	6,772
EAST SIDE DIVISION				
	1,290	2,772	1,290	2,772
FRIANT DIVISION				
	1,393	3,324	1,393	3,324
SAN JOAQUIN RIVER RESTORATION SETTLEMENT MISCELLANEOUS PROJECT PROGRAMS				
	35,000		35,000	
REPLACEMENTS, ADDITIONS, AND EXTRAOR- DINARY MAINT. PROGRAM				
	8,771	400	8,771	400
SACRAMENTO RIVER DIVISION				
	1,675	495	1,675	495
SAN FELIPE DIVISION				
	185	98	185	98
SAN JOAQUIN DIVISION				
	474	9,460	474	9,460
SHASTA DIVISION				
	12,291	4,777	12,291	4,777
TRINITY RIVER DIVISION				
	3,989	10,793	3,989	10,793
WATER AND POWER OPERATIONS				
	3,219	5,681	3,219	5,681
WEST SAN JOAQUIN DIVISION, SAN LUIS UNIT				
ORLAND PROJECT		873		873
SALTON SEA RESEARCH PROJECT	300		300	
SOLANO PROJECT	1,162	2,534	1,162	2,534
VENTURA RIVER PROJECT	400	36	400	36
COLORADO				
ANIMAS—LA PLATA PROJECT	612	2,185	612	2,185
ARMEL UNIT, P—SMBP	10	393	10	393
COLLBRAN PROJECT	185	2,416	185	2,416
COLORADO—BIG THOMPSON PROJECT	198	13,727	198	13,727
FRUITGROWERS DAM PROJECT	50	139	50	139
FRYINGPAN—ARKANSAS PROJECT	152	12,424	152	12,424
FRYINGPAN—ARKANSAS PROJECT—ARKANSAS VALLEY CONDUIT				
GRAND VALLEY UNIT, CRBSCP, TITLE II	506	2,326	506	2,326
LEADVILLE/ARKANSAS RIVER RECOVERY PROJECT		2,586		2,586
MANCOS PROJECT	78	420	78	420
NARROWS UNIT, P—SMBP		38		38
PARADOX VALLEY UNIT, CRBSCP, TITLE II	1,502	2,811	1,502	2,811
PINE RIVER PROJECT	79	388	79	388

BUREAU OF RECLAMATION—WATER AND RELATED RESOURCES—Continued

[In thousands of dollars]

Project title	Budget estimate		Committee recommendation	
	Resources management	Facilities OM&R	Resources management	Facilities OM&R
SAN LUIS VALLEY PROJECT, CLOSED BASIN	118	2,832	118	2,832
SAN LUIS VALLEY PROJECT, CONEJOS DIVISION	16	34	16	34
UNCOMPAHGRE PROJECT	767	174	767	174
UPPER COLORADO RIVER OPERATIONS PROGRAM	870	.....	870	.....
IDAHO				
BOISE AREA PROJECTS	3,014	2,571	3,014	2,571
COLUMBIA AND SNAKE RIVER SALMON RECOVERY PROJECT	19,000	.....	19,000	.....
LEWISTON ORCHARDS PROJECTS	1,383	27	1,383	27
MINIDOKA AREA PROJECTS	2,188	3,475	2,188	3,475
PRESTON BENCH PROJECT	14	33	14	33
KANSAS				
ALMENA UNIT, P-SMBP	44	481	44	481
BOSTWICK UNIT, P-SMBP	331	935	331	935
CEDAR BLUFF UNIT, P-SMBP	39	535	39	535
GLEN ELDER UNIT, P-SMBP	71	3,402	71	3,402
KANSAS RIVER UNIT, P-SMBP .....	.....	102	.....	102
KIRWIN UNIT, P-SMBP	17	446	17	446
WEBSTER UNIT, P-SMBP	16	481	16	481
WICHITA PROJECT—CHENEY DIVISION	88	403	88	403
MONTANA				
CANYON FERRY UNIT, P-SMBP	238	5,009	238	5,009
EAST BENCH UNIT, P-SMBP	59	666	59	666
FORT PECK RESERVATION / DRY PRAIRIE RURAL WATER SYSTEM	4,731	.....	4,731	.....
HELENA VALLEY UNIT, P-SMBP	5	166	5	166
HUNGRY HORSE PROJECT .....	.....	434	.....	434
HUNTLEY PROJECT	7	46	7	46
LOWER MARIAS UNIT, P-SMBP	91	1,508	91	1,508
LOWER YELLOWSTONE PROJECT	716	30	716	30
MILK RIVER PROJECT	447	1,467	447	1,467
MISSOURI BASIN O&M, P-SMBP	1,047	117	1,047	117
ROCKY BOYS/NORTH CENTRAL MT RURAL WATER SYSTEM	3,984	.....	3,984	.....
SUN RIVER PROJECT	52	268	52	268
YELLOWTAIL UNIT, P-SMBP	22	8,939	22	8,939
NEBRASKA				
AINSWORTH UNIT, P-SMBP	69	131	69	131
FRENCHMAN—CAMBRIDGE UNIT, P-SMBP	372	1,964	372	1,964
MIRAGE FLATS PROJECT	13	98	13	98
NORTH LOUP UNIT, P-SMBP	93	140	93	140
NEVADA				
LAHONTAN BASIN PROJECT	4,992	4,859	4,992	4,859
LAKE TAHOE REGIONAL DEVELOPMENT PROGRAM	115	.....	115	.....
LAKE MEAD /LAS VEGAS WASH PROGRAM	700	.....	700	.....
NEW MEXICO				
CARLSBAD PROJECT	2,551	1,300	2,551	1,300
EASTERN NEW MEXICO RURAL WATER SUPPLY .....	.....	.....	.....	.....
MIDDLE RIO GRANDE PROJECT	12,634	10,885	12,634	10,885
RIO GRANDE PROJECT	1,860	5,074	1,860	5,074
RIO GRANDE PEUBLOS PROJECT	1,000	.....	1,000	.....
TUCUMCARI PROJECT	15	16	15	16
NORTH DAKOTA				
DICKINSON UNIT, P-SMBP .....	.....	449	.....	449

BUREAU OF RECLAMATION—WATER AND RELATED RESOURCES—Continued
 [In thousands of dollars]

Project title	Budget estimate		Committee recommendation	
	Resources management	Facilities OM&R	Resources management	Facilities OM&R
GARRISON DIVERSION UNIT, P-SMBP	9,221	12,284	9,221	12,284
HEART BUTTE UNIT, P-SMBP	82	1,326	82	1,326
OKLAHOMA				
ARBUCKLE PROJECT	66	183	66	183
MCGEE CREEK PROJECT	124	835	124	835
MOUNTAIN PARK PROJECT	34	673	34	673
NORMAN PROJECT	72	310	72	310
WASHITA BASIN PROJECT	240	1,093	240	1,093
W.C. AUSTIN PROJECT	57	555	57	555
OREGON				
CROOKED RIVER PROJECT	268	457	268	457
DESCHUTES PROJECT	386	189	386	189
EASTERN OREGON PROJECTS	471	216	471	216
KLAMATH PROJECT	13,755	3,745	13,755	3,745
ROGUE RIVER BASIN PROJECT, TALENT DIVISION	1,774	615	1,774	615
TUALATIN PROJECT	177	216	177	216
UMATILLA PROJECT	572	2,549	572	2,549
SOUTH DAKOTA				
ANGOSTURA UNIT, P-SMBP	130	688	130	688
BELLE FOURCHE UNIT, P-SMBP	385	836	385	836
KEYHOLE UNIT, P-SMBP	198	720	198	720
LEWIS AND CLARK RURAL WATER SYSTEM	100	.....	100	.....
MID-DAKOTA RURAL WATER PROJECT .....	.....	15	.....	15
MNI WICONI PROJECT .....	.....	13,475	.....	13,475
OAHE UNIT, P-SMBP	37	73	37	73
RAPID VALLEY PROJECT .....	.....	79	.....	79
RAPID VALLEY UNIT, P-SMBP .....	.....	208	.....	208
SHADEHILL UNIT, P-SMBP	153	466	153	466
TEXAS				
BALMORHEA PROJECT	37	13	37	13
CANADIAN RIVER PROJECT	57	88	57	88
LOWER RIO GRANDE WATER RESOURCES CONSERVATION PROGRAM	50	.....	50	.....
NUECES RIVER PROJECT	107	869	107	869
SAN ANGELO PROJECT	37	594	37	594
UTAH				
HYRUM PROJECT	90	197	90	197
MOON LAKE PROJECT	19	105	19	105
NEWTON PROJECT	50	104	50	104
OGDEN RIVER PROJECT	286	224	286	224
PROVO RIVER PROJECT	1,191	512	1,191	512
SANPETE PROJECT	59	13	59	13
SCOFIELD PROJECT	253	99	253	99
STRAWBERRY VALLEY PROJECT	751	46	751	46
WEBER BASIN PROJECT	1,082	959	1,082	959
WEBER RIVER PROJECT	100	198	100	198
WASHINGTON				
COLUMBIA BASIN PROJECT	4,436	8,473	4,436	8,473
WASHINGTON AREA PROJECTS	329	138	329	138
YAKIMA PROJECT	744	6,083	744	6,083
YAKIMA RIVER BASIN WATER ENHANCEMENT PROJECT	13,200	.....	13,200	.....
WYOMING				
BOYSEN UNIT, P-SMBP	191	1,893	191	1,893

BUREAU OF RECLAMATION—WATER AND RELATED RESOURCES—Continued

[In thousands of dollars]

Project title	Budget estimate		Committee recommendation	
	Resources management	Facilities OM&R	Resources management	Facilities OM&R
BUFFALO BILL DAM, DAM MODIFICATION, P-SMBP	33	2,764	33	2,764
KENDRICK PROJECT	68	4,047	68	4,047
NORTH PLATTE PROJECT	78	1,209	78	1,209
NORTH PLATTE AREA, P-SMBP	72	5,437	72	5,437
OWL CREEK UNIT, P-SMBP	6	99	6	99
RIVERTON UNIT, P-SMBP	8	580	8	580
SHOSHONE PROJECT	34	761	34	761
SUBTOTAL, ITEMS UNDER STATES	207,939	293,656	207,939	293,656
REMAINING ITEMS				
ADDITIONAL FUNDING FOR ONGOING WORK RURAL WATER			86,500	
FISH PASSAGE AND FISH SCREENS			10,000	
WATER CONSERVATION AND DELIVERY			241,844	
ENVIRONMENTAL RESTORATION AND COMPLIANCE			40,000	
FACILITIES OPERATION, MAINTENANCE, AND REHABILITATION				4,000
COLORADO RIVER BASIN SALINITY CONTROL PROJECT, TITLE I	1,934	13,519	1,934	13,519
COLORADO RIVER BASIN SALINITY CONTROL PROJECT, TITLE II	6,000		6,000	
COLORADO RIVER STORAGE PROJECT (CRSP), SECTION 5	3,513	6,397	3,513	6,397
COLORADO RIVER STORAGE PROJECT (CRSP), SECTION 8	3,347		3,347	
COLORADO RIVER WATER QUALITY IMPROVEMENT PROJECT	940		940	
DAM SAFETY PROGRAM DEPARTMENT OF THE INTERIOR DAM SAFETY PROGRAM		1,300		1,300
INITIATE SAFETY OF DAMS CORRECTIVE ACTION		66,500		66,500
SAFETY EVALUATION OF EXISTING DAMS		20,284		20,284
EMERGENCY PLANNING & DISASTER RESPONSE PROGRAM		1,300		1,300
ENDANGERED SPECIES RECOVERY IMPLEMENTATION PROGRAM	19,152		19,152	
ENVIRONMENTAL PROGRAM ADMINISTRATION	1,844		1,844	
EXAMINATION OF EXISTING STRUCTURES		9,123		9,123
GENERAL PLANNING ACTIVITIES	2,000		2,000	
INDIAN WATER RIGHTS SETTLEMENTS AAMODT LITIGATION SETTLEMENT	8,301		8,301	
BLACKFEET IWRS	10,000		10,000	
CROW TRIBE RIGHTS	12,772		12,772	
NAVAJO-GALLUP	68,932	671	68,932	671
LAND RESOURCES MANAGEMENT PROGRAM	10,684		10,684	
LOWER COLORADO RIVER OPERATIONS PROGRAM	31,176		31,176	
MISCELLANEOUS FLOOD CONTROL OPERATIONS		980		980
NATIVE AMERICAN AFFAIRS PROGRAM	10,571		12,425	
NEGOTIATION & ADMINISTRATION OF WATER MARKETING	2,462		2,462	
OPERATION & PROGRAM MANAGEMENT	1,204	2,437	1,204	2,437
POWER PROGRAM SERVICES	2,193	307	2,193	307
PUBLIC ACCESS AND SAFETY PROGRAM	600	206	600	206
RECLAMATION LAW ADMINISTRATION	2,148		2,148	
RECREATION & FISH & WILDLIFE PROGRAM ADMINISTRATION	6,497		6,497	
RESEARCH AND DEVELOPMENT:				
DESALINATION AND WATER PURIFICATION PROGRAM	1,753	1,150	18,653	1,150

BUREAU OF RECLAMATION—WATER AND RELATED RESOURCES—Continued

[In thousands of dollars]

Project title	Budget estimate		Committee recommendation	
	Resources management	Facilities OM&R	Resources management	Facilities OM&R
SCIENCE AND TECHNOLOGY PROGRAM	11,014	.....	16,765	.....
SITE SECURITY ACTIVITIES .....	.....	26,220	.....	26,220
UNITED STATES/MEXICO BORDER ISSUES—TECHNICAL SUPPORT	90	.....	90	.....
WATERSMART PROGRAM WATERSMART GRANTS	10,000	.....	34,000	.....
WATER CONSERVATION FIELD SERVICES PROGRAM	1,750	.....	4,179	.....
COOPERATIVE WATERSHED MANAGEMENT	250	.....	2,250	.....
BASIN STUDIES	2,000	.....	5,200	.....
DROUGHT RESPONSE & COMPREHENSIVE DROUGHT PLANS	2,901	.....	4,000	.....
TITLE XVI WATER RECLAMATION & REUSE PROGRAM	3,000	.....	54,406	.....
SUBTOTAL, REMAINING ITEMS	239,028	150,394	726,011	154,394
UNDERFINANCING .....	.....	.....	.....	.....
TOTAL	446,967	444,050	933,950	448,050

Anadromous Fish Screen Program.—The Committee is concerned that insufficient resources are being devoted to completing work on the last two remaining priority unscreened diversions on the Sacramento River, both of which have been specifically identified as priorities in the California Natural Resources Agency Sacramento Valley Salmon Resiliency Strategy. The Committee strongly urges Reclamation to allocate sufficient resources from within available funds to complete the screening of these high priority diversions.

Arkansas Valley Conduit.—The Committee understands Reclamation has proactively worked over the past year to identify cost savings by using existing locally owned facilities. Despite receiving appropriations since 2009 and the project being in its final phase, the fiscal year 2019 budget request includes no funding for this Conduit, jeopardizing the clean drinking water supply to rural Southeastern Colorado. The Committee further understands that the project could incur a delay cost of 3 percent, costing taxpayers more than \$1,000,000 to achieve the same results. The Committee urges Reclamation to prioritize additional funding to build and maintain critical infrastructure in rural communities across the Nation.

Aquifer Recharge.—The Committee is aware that many States have implemented new methods of recharging aquifers for increased water storage and drought mitigation. The Committee directs Reclamation to work closely with project beneficiaries to identify and resolve any barriers to aquifer recharge projects when appropriate, while utilizing full authority to prioritize funds for ongoing projects through completion.

CALFED Water Storage Feasibility Studies.—In testimony before the Subcommittee, the Commissioner of Reclamation asserted that the agency would complete feasibility studies for the Sites and Temperance Flat reservoirs by the end of August 2018 and would complete the feasibility study for the Los Vaqueros reservoir by No-

ember 2018. The Committee notes that these studies have taken more than 15 years and expects Reclamation to take such steps as are necessary to ensure that each of these studies is completed as soon as possible.

Columbia Basin Project.—The Committee understands the Odessa Subarea of the Columbia Basin Project is facing significant challenges as groundwater from the aquifer has been declining. This rapid decline has put agriculture production and commercial, municipal, and industrial water uses at risk. The Committee commends Reclamation's work with the State of Washington and impacted irrigation districts to prevent further depletion of the aquifer and deliver surface water to agricultural lands within the Columbia Basin Project through a pressurized delivery system. In May 2018, Reclamation issued a Supplemental Information Report for the Odessa Groundwater Replacement Program that allows Reclamation to request funding to support the project, which to date has been supported through State, local, and private investments. The Committee encourages Reclamation to request funding in future budgets to support projects associated with the Odessa Groundwater Replacement Program.

Groundwater Recharge.—Using the funds recommended under the heading "Water Conservation and Delivery", Reclamation shall make funding available for water conservation programs, conjunctive use projects, and other projects to maximize groundwater storage and beneficial use.

Projects Serving Military Installations.—The Committee is concerned that Reclamation's criteria for allocating funding have not adequately accounted for projects that would directly benefit military base operations and national security facilities. The Committee directs Reclamation to brief the Committees on Appropriations of both Houses of Congress within 30 days of delivering the report to Congress, which was required in the fiscal year 2018 appropriations bill, on the recommendations contained within that report.

Rural Water Projects.—Voluntary funding in excess of legally required cost shares for rural water projects is acceptable but shall not be used by Reclamation as a criterion for allocating additional funding recommended by the Committee or for budgeting in future years.

Salton Sea.—The Committee encourages Reclamation to establish an interagency Salton Sea working group to coordinate Corps permitting, Environmental Protection Agency financing opportunities, and Department of Agriculture restoration work as well as expedite implementation of objectives set forth in the August 2016 Memorandum of Understanding.

Scoggins Dam, Tualatin Project, Oregon.—The Committee supports the budget request for preconstruction activities at Scoggins Dam under the Safety of Dams program. Consistent with the Tualatin Project Water Supply Feasibility Study authorized in Public Law 108–137 and statutory authority granted by Public Law 114–113 allowing for additional benefits to be conducted concurrently with dam safety improvements, the Committee directs Reclamation to evaluate alternatives, including new or supplementary works, provided that safety remains the paramount consideration,

to address dam safety modifications and increased storage capacity. Considering the high risk associated with Scoggins Dam, the Committee urges Reclamation to work with local stakeholders and repayment contractors to prioritize this joint project including feasibility and environmental review of the preferred alternative in fiscal year 2019. The Committee understands that a replacement structure downstream could significantly reduce project costs for both the Federal Government and local stakeholders. Reclamation may accept contributed funds from non-federal contractors to expedite completion of any level of review.

Research and Development: Desalination and Water Purification Program.—Of the funding recommended for this program, \$12,000,000 shall be for desalination projects as authorized in section 4009(a) of the WIIN Act.

Research and Development, Science and Technology Program.—The Committee is aware that the Reclamation Science and Technology Office has been investing in efforts under the Open Water Data Initiative to integrate currently fragmented water supply data from several Federal agencies into a connected, national water data framework. Furthermore, the Committee understands that the Science and Technology Office has a future goal to develop web-based decision support tools. The Committee urges Reclamation to expedite the development and testing of a web-based Water Supply Decision Support System that will help Federal, State, municipal, Tribal, and private water managers and users make better water-use decisions to support water conservation and drought resilience in the western States. Such a system will allow a diverse group of water managers and users to better leverage the Federal Government's investment in producing water supply data on river levels, snow pack, weather, and climate.

St. Mary's Diversion Dam and Conveyance Works.—The Committee encourages Reclamation to use additional funding for the Milk River Project to move forward with its design work for the St. Mary Canal Diversion Dam, including completion of designs, specifications, and cost estimates. The committee also encourages Reclamation to consider the replacement of the St. Mary Canal Diversion Dam as an extraordinary maintenance measure, and allow local stakeholders additional flexibility in paying for a dam replacement, instead of one lump sum payment.

WaterSMART Program.—The Committee encourages Reclamation to prioritize eligible Water Conservation projects that will provide water supplies to meet the needs of threatened and endangered species.

WaterSMART Program: Title XVI Water Reclamation & Reuse Program.—Of the funding recommended for this program, \$20,000,000 shall be for water recycling and reuse projects as authorized in section 4009(c) of the WIIN Act.

Yakima River Basin Integrated Water Resource Management Plan.—The Committee supports the Yakima River Basin Integrated Water Resource Management Plan [Plan]. This innovative water management plan represents years of collaboration in the Yakima River Basin among stakeholders including Reclamation, the State of Washington, the Yakama Nation, irrigators and farmers, conservation organizations, recreationists, and local govern-

ments to address water supply needs for agriculture, fish and wild-life, and municipal use. The Committee encourages Reclamation to request funding in future budgets to implement additional authorized elements of the Plan.

Additional Funding for Water and Related Resources Work.—The Committee recommendation includes an additional \$490,983,000 above the budget request for Water and Related Resources studies, projects, and activities. Priority in allocating these funds shall be given to advance and complete ongoing work; including preconstruction activities and where environmental compliance has been completed; improve water supply reliability; improve water deliveries; enhance national, regional, or local economic development; promote job growth; advance Tribal and nontribal water settlement studies and activities; or address critical backlog maintenance and rehabilitation activities. Reclamation is encouraged to allocate additional funding for aquifer recharging efforts to address the ongoing backlog of related projects. Of the funds recommended under the heading “Water Conservation and Delivery”, \$30,000,000 is allocated to fund Colorado River water conservation, including the Lower Colorado River Operations Program and the Upper Colorado River Operations Program. Of the additional funding recommended under the heading “Water Conservation and Delivery”, \$134,000,000 shall be for water storage projects as authorized in section 4007 of Public Law 114–322. Of the additional funding recommended under the heading “Environmental Restoration or Compliance”, not less than \$30,000,000 shall be for activities authorized under sections 4001 and 4010 of Public Law 114–322 or as set forth in Federal-State plans for restoring threatened and endangered fish species affected by the operation of Reclamation’s water projects. Reclamation is reminded that activities authorized under Indian Water Rights Settlements are eligible to compete for the additional funding under “Water Conservation and Delivery”.

Buried Metallic Water Pipe.—Reclamation shall continue following its temporary design guidance.

CENTRAL VALLEY PROJECT RESTORATION FUND

GROSS APPROPRIATION

Appropriations, 2018	\$41,376,000
Budget estimate, 2019	62,008,000
Committee recommendation	62,008,000

OFFSETTING COLLECTIONS

Appropriations, 2018	\$41,376,000
Budget estimate, 2019	62,008,000
Committee recommendation	62,008,000

NET APPROPRIATION

Appropriations, 2018	
Budget estimate, 2019	
Committee recommendation	

The Committee recommends \$62,008,000 for the Central Valley Project Restoration Fund, the same as the budget request. This appropriation is fully offset by collections, resulting in a net appropriation of \$0.

The Central Valley Project Restoration Fund was authorized in the Central Valley Project Improvement Act, title 34 of Public Law 102–575. This fund uses revenues from payments by project beneficiaries and donations for habitat restoration, improvement and acquisition, and other fish and wildlife restoration activities in the Central Valley project area of California. Payments from project beneficiaries include several required by the act (Friant Division surcharges, higher charges on water transferred to non-Central Valley Project users, and tiered water prices) and, to the extent required in appropriations acts, additional annual mitigation and restoration payments.

CALIFORNIA BAY-DELTA RESTORATION

Appropriations, 2018	\$37,000,000
Budget estimate, 2019	35,000,000
Committee recommendation	35,000,000

The Committee recommends \$35,000,000 for California Bay-Delta Restoration, the same as the budget request.

This account funds activities that are consistent with the CALFED Bay-Delta Program, a collaborative effort involving 18 State and Federal agencies and representatives of California’s urban, agricultural, and environmental communities. The goals of the program are to improve fish and wildlife habitat, water supply reliability, and water quality in the San Francisco Bay-San Joaquin River Delta, the principle hub of California’s water distribution system.

POLICY AND ADMINISTRATION

Appropriations, 2018	\$59,000,000
Budget estimate, 2019	61,000,000
Committee recommendation	61,000,000

The Committee recommends \$61,000,000 for Policy and Administration, the same as the budget request.

This account funds the executive direction and management of all Reclamation activities, as performed by the Commissioner’s offices in Washington, DC; Denver, Colorado; and five regional offices. The Denver office and regional offices charge individual projects or activities for direct beneficial services and related administrative and technical costs. These charges are covered under other appropriations.

Reclamation Project Reimbursability Decisions.— In September 2017, the Department of the Interior’s Office of Inspector General released a report calling into question Reclamation’s method of financial participation in the State of California’s Bay-Delta Conservation Plan. The Committee is concerned that Reclamation was not satisfactorily transparent in its use of funds for activities that were not included in the budget request. Reclamation is directed to submit an annual report 60 days after the end of each fiscal year detailing the use of financial assistance agreements to redirect appropriated funds from their intended purpose outlined in the previous year’s budget request. Reclamation is directed to review and report to the Committees on Appropriations of both Houses of Congress within 90 days after enactment of this act, on the advisability of developing additional financial controls and requiring more ex-

tensive written justifications for determinations of what costs are reimbursable for complex projects involving major Federal expenditures and multiple funding sources.

GENERAL PROVISIONS—DEPARTMENT OF THE INTERIOR

Section 201. The bill includes a provision regarding reprogramming.

Section 202. The bill includes a provision regarding the San Luis Unit and Kesterson Reservoir.

TITLE III

DEPARTMENT OF ENERGY

OVERVIEW OF RECOMMENDATION

The Committee recommends \$34,990,015,000 for the Department of Energy, an increase of \$9,512,377,000 above the budget request.

The Committee recommendation sets priorities by supporting the Office of Science and ARPA-E, leading the world in scientific computing, addressing the Federal Government's responsibility for environmental cleanup and disposal of used nuclear fuel, keeping large construction projects on time and on budget, effectively maintaining our nuclear weapons stockpile, and supporting our nuclear Navy.

INTRODUCTION

The mission of the Department of Energy [Department] is to ensure America's security and prosperity by addressing its energy, environmental, and nuclear challenges through transformative science and technology solutions. To accomplish this mission, the Secretary of Energy [Secretary] relies on a world-class network of national laboratories, private industry, universities, States, and Federal agencies, which allows our brightest minds to solve our Nation's most important challenges.

The Committee's recommendation for the Department includes funding in both defense and non-defense budget categories. Defense funding is recommended for atomic energy defense activities, including the National Nuclear Security Administration, which manages our Nation's stockpile of nuclear weapons, prevents proliferation of dangerous nuclear materials, and supports the Navy's nuclear fleet; defense environmental cleanup to remediate the former nuclear weapons complex; and safeguards and security for Idaho National Laboratory. Non-defense funding is recommended for the Department's energy research and development programs (including nuclear, fossil, and renewable energy, energy efficiency, grid modernization and resiliency, and the Office of Science), power marketing administrations, the Federal Energy Regulatory Commission, and administrative expenses.

REPROGRAMMING GUIDELINES

The Committee's recommendation includes control points to ensure the Secretary spends taxpayer funds in accordance with congressional direction. The Committee's recommendation also in-

cludes reprogramming guidelines to allow the Secretary to request permission from the Committee for certain expenditures, as defined below, which would not otherwise be permissible. The Secretary's execution of appropriated funds shall be fully consistent with the direction provided under this heading and in section 301 of the bill, unless the Committee includes separate guidelines for specific actions in the bill or report.

Prior to obligating any funds for an action defined below as a reprogramming, the Secretary shall notify and obtain approval of the Committees on Appropriations of both Houses of Congress. The Secretary shall submit a detailed reprogramming request in accordance with section 301 of the bill, which shall, at a minimum, justify the deviation from prior congressional direction and describe the proposed funding adjustments with specificity. The Secretary shall not, pending approval from the Committee, obligate any funds for the action described in the reprogramming proposal.

The Secretary is also directed to inform the Committees on Appropriations of both Houses of Congress promptly and fully when a change in program execution and funding is required during the fiscal year.

Definition.—A reprogramming includes:

- the reallocation of funds from one activity to another within an appropriation;
- any significant departure from a program, project, activity, or organization described in the agency's budget justification as presented to and approved by Congress;
- for construction projects, the reallocation of funds from one construction project identified in the agency's budget justification to another project or a significant change in the scope of an approved project;
- adoption of any reorganization proposal which includes moving prior appropriations between appropriations accounts; and
- any reallocation of new or prior year budget authority, or prior year deobligations.

DIRECTION ON RESEARCH AND DEVELOPMENT ACTIVITIES

The budget request proposes a shift away from later-stage research and development activities to refocus the Department on an early-stage research and development mission. The Committee believes that such an approach will not successfully integrate the results of early-stage research and development into the U.S. energy system and thus will not adequately deliver innovative energy technologies, practices, and information to American consumers and companies. The Committee directs the Department to implement mid- and late-stage research and development activities as directed in this report in a timely manner.

CROSSCUTTING INITIATIVES

The recommendation supports several crosscutting initiatives funded in prior years that reach outside of individual program offices to draw on the diverse disciplines within the agency as a whole. These initiatives, which address the Energy-Water Nexus; grid modernization; subsurface science, technology and engineering

research, development, and deployment; cybersecurity; advanced materials, and the Beyond Batteries Initiative have allowed for a more comprehensive review of complex issues.

Grid Modernization.—The Department is directed to continue the ongoing work between the national laboratories, industry, and universities to improve grid reliability and resiliency through the strategic goals of the Grid Modernization Initiative and encourages the Department to include all applied energy programs to ensure broad energy system resilience and modernization. Further, the Committee supports the Grid Modernization Laboratory Consortium and supports continued implementation of the Grid Multi-Year Program Plan. The Committee directs the Department to emphasize national grid resilience modeling and improved grid cyber resilience to address emerging national resilience challenges of the grid and related energy systems, planned investments in energy storage to improve grid flexibility and resilience, and advanced sensors and control paradigms that promise to improve energy system resilience of the future smart grid. The Committee recognizes that the inaugural projects funded for a 3-year duration will be concluding in fiscal year 2019 and therefore the Department is directed to continue support for the Grid Modernization Initiative and the Grid Modernization Laboratory Consortium and provide a plan to Congress to extend the multi-year program plan to include priorities for field validation of the most successful research outcomes with industry and State stakeholders to accelerate adoption of the key Department results.

Beyond Batteries Initiative.—The Committee is supportive of the Department's approach to consider energy storage holistically, and focus on advances in controllable loads, hybrid systems, and new approaches to energy storage. The Committee agrees that advances in this wide range of energy storage technologies will allow for loads to be combined with generation from all sources to optimize use of existing assets to provide grid services, and increase grid reliability. The Department shall continue to use all of its capabilities to accelerate the development of storage technologies, including the basic research capabilities of the Office of Science, the technology expertise of the Office of Energy Efficiency and Renewable Energy, the grid-level knowledge of the Office of Cybersecurity, Energy Security and Emergency Response, and the rapid technology development capabilities of ARPA-E. The Committee directs the Department to coordinate efforts among various existing Department programs to maximize efficiency of funds and expand vital research.

The Department is encouraged to prioritize achieving a long-term goal of deploying technologies at \$100/kWh or less cost installed while being able to cycle twice per day, discharging for at least 4 hours, with a lifetime of roughly 20 years or at least 8,000 cycles.

Subsurface Crosscut.—The Committee supports the ongoing Subsurface Technology and Engineering Research [SubTER] Initiative, focused on revolutionizing sustainable subsurface energy production and storage through transformational improvements in the ability to access, characterize, predict, and adaptively manipulate subsurface fracture and flow processes. SubTER aims to double reservoir recovery, decrease the environmental footprint, and enhance energy security and public safety. The Committee supports the

SubTER program's approach to increasing domestic supply of oil, gas, and geothermal energy resources by manipulating the permeability of subsurface rock formations to injection fluids. To validate methods which enhance oil and gas recovery from fracking wells, the Committee encourages the Department to conduct pilot field tests of promising technologies with university and industry partners to reduce permeability and control the flow of fluids in the subsurface with targets of blocking highly permeable pathways that reduce sweep efficiency in porous rock and plugging fractures in shales.

Energy-Water Nexus.—The Committee recognizes water and energy are critical resources that are reciprocally linked. The Energy-Water Nexus crosscut consists of a collaboration of agencies, national laboratories, State and local governments, utilities, industry, and the science community working collectively to address energy and water resource challenges, specifically as they relate to energy security and energy sector water needs.

Advanced Materials.—The Committee supports the Department's attention to advanced materials research and development, focusing on lightweight materials and composites, and corrosion and materials under extremes. The Committee understands in previous years, other program offices independently had standalone existing materials programs, and continues to support formal coordination across offices through the Materials Working Group. Continued coordination supports the Department's ability to impact the materials development cycle from scientific discovery to technological innovation and deployment.

Cybersecurity Crosscut.—Cybersecurity activities within the Department cover a broad scope ranging from the protection of Department assets against cybersecurity threats to improving cybersecurity in the electric power and oil and natural gas sectors to other areas in the national security portfolio. As cybersecurity threats become more complex, and the Department increases its focus on cybersecurity research and development, it is vital that there be clear crosscutting objectives and coordination across the Department. The Committee directs the Department to develop a plan that integrates all of the Department's cybersecurity research, development, and deployment investments, and brief the Committees on Appropriations of both Houses of Congress within 90 days after enactment of this act.

Arctic Energy Office.—The Committee supports the promotion of research, development, and deployment of electric power technology that is cost-effective and well-suited to meet the needs of rural and remote regions of the United States, especially where permafrost is present or located nearby. In addition, the Committee further supports research, development and deployment in such regions of enhanced oil recovery technology, including heavy oil recovery, re-injection of carbon, and extended reach drilling technologies; gas-to-liquids technology and liquefied natural gas, including associated transportation systems; small hydroelectric facilities, river turbines, and tidal power; natural gas hydrates, coal bed methane, and shallow bed natural gas; and alternative energy, including wind, geothermal, and fuel cells. The Department is encouraged to support a renewed focus on the Arctic region, and as a cross-cut-

ting activity, use the Arctic Energy Office as a centralized area to support the use of energy resources, but also innovative activities, including microgrids and integrated energy systems.

Regional Initiatives.—The Committee continues to urge the Department to utilize investments through existing regional capabilities that include industry, universities, and State and regional economic development assets. The Committee further encourages the national laboratories to expand their geographic outreach through people and access to specialized equipment and user facilities in order to contribute to the success of these regional initiatives.

COMMONLY RECYCLED PAPER

The Secretary shall not expend funds for projects that knowingly use as a feedstock commonly recycled paper that is segregated from municipal solid waste or collected as part of a collection system that commingles commonly recycled paper with other solid waste at any point from the time of collection through materials recovery.

ENERGY PROGRAMS

ENERGY EFFICIENCY AND RENEWABLE ENERGY

Appropriations, 2018	\$2,321,778,000
Budget estimate, 2019	695,610,000
Committee recommendation	2,322,000,000

The Committee recommends \$2,322,000,000 for Energy Efficiency and Renewable Energy [EERE], an increase of \$1,626,390,000 above the budget request. Within available funds, the Committee recommends \$162,500,000 for program direction.

Congressional Direction.—The Committee directs the Department to maintain a diverse portfolio of early-, mid-, and late-stage research, development, and market transformation activities. Regular consultation with industry is encouraged to avoid duplication of private-sector efforts. The Committee further directs the Department to fully execute the funds appropriated in this act, as directed in this report, in a timely manner and to keep Congress apprised of progress in implementing funded programs, projects, and activities. Further, the Committee directs the Department to give priority to stewarding the assets and optimizing the operations of EERE-designated user facilities across the Department of Energy complex. In future budget requests, the Committee directs EERE to demonstrate a commitment to operations and maintenance of facilities that support the Department's critical missions.

Workforce Development.—The development of a skilled workforce is critical to the successful deployment and long-term sustainability of energy efficient and renewable energy technologies. The Committee encourages funding within EERE programs to be allocated to training and workforce development programs that assist and support workers in trades and activities required for the continued growth of the U.S. energy efficiency and clean energy sectors. Furthermore, the Committee encourages the Department to work with 2-year, public community, and technical colleges for job training programs that lead to an industry-recognized credential in the energy workforce.

Electrification Futures Study.—The Committee encourages continued coordination between the EERE and the Office of Cybersecurity, Energy Security, and Emergency Response to evaluate the impacts of mass electrification on the utility business model and the electricity distribution system of the U.S. through the Electrification Futures Study.

Cybersecurity.—The Committee believes cybersecurity vulnerabilities must be addressed as renewable energy technologies enter into the marketplace. The Committee also believes there is a gap with respect to distributed generators and behind-the-substation generators, storage, smart buildings technologies and electric vehicles where the potential for cyberattacks will continue to grow and threaten the modern grid. Within funds recommended for EERE, not less than \$20,000,000 is recommended to establish a program that will bring cybersecurity into early-stage technology R&D so that it is built into new technology for this effort. Within 180 days after enactment of this act, the Department shall submit to the Committees on Appropriations of both Houses of Congress a multi-year program plan for this effort to encompass all EERE programs.

Energy Star.—The Department is encouraged to support the Environmental Protection Agency's efforts to reexamine Energy Star guidelines and standard operating procedures to ensure transparency, predictability, and consistency for all stakeholders.

VEHICLE TECHNOLOGIES

The Committee recommends \$337,500,000 for Vehicle Technologies, including \$7,000,000 for operations and maintenance of the National Transportation Research Center.

Within this amount, the Committee recommends not less than \$163,200,000 for Battery and Electrification Technologies to lower the cost of batteries across light-, medium- and heavy-duty vehicles through battery processing science, advanced battery chemistries, materials research, and modeling and simulation of battery performance. The Committee recommends not less than \$38,100,000 for electric drive research and development including high power density electric drive systems, wireless charging and power electronic for extreme fast charging. The Committee also supports research and development to lower the cost of batteries for electric vehicles through cobalt-free materials and roll-to-roll manufacturing. Funding in this area shall also support research and development to improve electric motor technology through advanced material processing and the use of high-performance computing for multi-physics discovery to understand these new processes.

The Committee further recommends \$25,000,000 for Energy Efficient Mobility Systems, including the Systems and Modeling for Accelerated Research in Transportation [SMART] Mobility, Big Data Solutions for Mobility [Big Data], and Advanced Computing for Energy [ACE] initiatives, including HPC4Mobility and HPC-enabled analytics. These investments are critical to expanding U.S. energy security, economic vitality, and quality of life. Therefore, the Committee supports continued funding for research that allows the U.S. to continue its leadership in advancing state-of-the-art transportation infrastructure.

The Committee recommends \$43,000,000 for Advanced Engine and Fuel Technologies for research focused on advanced fuel formulations that optimize engine performance. Within this amount, \$24,500,000 is recommended for the Co-Optimization of Engine and Fuels Multi-Laboratory Consortium.

The Committee recommends \$60,000,000 for Materials Technology. Within this amount, \$25,000,000 is recommended for early-stage research on multi-material joining and propulsion materials at the national laboratories, and carbon fiber-reinforced composites at the Carbon Fiber Technology Facility.

Within available funds, the Committee recommends \$10,000,000 for continued funding of section 131 of the 2007 Energy Independence and Security Act for transportation electrification.

The Committee recommends \$25,000,000 to continue the five awards under the SuperTruck II program and encourages the Department to provide additional early-stage research funding for heavy-duty vehicle technologies as part of the program.

Within available funds, the Committee recommends \$46,300,000 for Outreach, Deployment, and Analysis. Within this amount, \$37,800,000 is recommended for deployment through the Clean Cities Program. The Department is encouraged to ensure balance in the award of funds to achieve varied aims in fostering broader adoption of clean vehicles and installation of supporting infrastructure. The Committee further encourages the Department to prioritize projects in States where the transportation sector is responsible for a higher percentage of the State's total energy consumption and is the largest source of greenhouse gases.

The Committee supports Advanced Vehicle Competitions, a collegiate engineering competition that provides hands-on, real-world experience to demonstrate a variety of advanced technologies and designs, and supports development of a workforce trained in advanced vehicles. The Committee recommends \$2,500,000 following the successful EcoCAR 3 competition to support a new 4-year collegiate engineering competition, EcoCAR 4.

The Committee recommends \$10,000,000 to continue improving the energy efficiency of commercial off-road vehicles, including up to \$5,000,000 for fluid power systems.

The Committee is concerned with the Department's lack of requested funding for natural gas vehicle research and development. With an abundant source of low-cost domestic natural gas, this resource as a transportation fuel is becoming the alternative fuel of choice for high fuel use fleets and off-road vehicles. Further research is needed on natural gas storage, natural gas engines, and fueling infrastructure optimization. Within available funding, the Committee recommends \$15,000,000 to address technical barriers to the increased use of natural gas vehicles, including the development of novel compression and liquefaction technologies, advanced materials, and improvements in processes for conditioning, storing and dispensing natural gas. The Committee directs the Department to undertake a comprehensive study, with stakeholder input, on natural gas vehicle deployment in on- and off-road transportation, identifying barriers to increased deployment of natural gas vehicles.

BIOENERGY TECHNOLOGIES

The Committee recommends \$215,000,000 for Bioenergy Technologies.

Within available funds, the Committee recommends not less than \$30,000,000 for Advanced Algal Systems to sustain the investment in development of algal biofuels.

The Committee further recommends \$30,000,000 for Feedstock Supply and Logistics, \$50,000,000 for Demonstration and Market Transformation, and \$10,000,000 for Analysis and Sustainability.

The Committee further recommends \$95,000,000 for Conversion Technologies. Within this amount, \$20,000,000 is recommended to continue activities of the Agile Biology Foundry intended to achieve substantial improvements in conversion efficiencies and the scale-up of biological processes with lower development costs and lead times.

Within available funds, the Committee recommends \$5,000,000 within Conversion Technologies to continue the research biopower program, which makes full and innovative use of biomass, municipally-derived biosolids, municipal solid waste, and livestock waste.

Within available funds the Committee recommends \$5,000,000 to support the development and testing of new domestic manufactured low-emission, high-efficiency, residential wood heaters that supply easily accessed and affordable renewable energy and have the potential to reduce the national costs associated with thermal energy.

The Committee recognizes that biomethane or anaerobic digesters can provide important solutions to meet renewable energy goals, as well as address environmental and economic challenges and divert organic waste from landfills. The Committee encourages the Department to fund research, development, and demonstration activities to help lower upfront development costs and promote smaller-scale, community digesters. Within available funds for Conversion Technologies, the Committee recommends \$5,000,000 to improve the efficiency of community and smaller digesters that accept both farm and food wastes.

Within available funding, the Committee recommends not less than \$10,000,000 to establish a multi-university partnership to conduct research and enhance educational programs that improve alternative energy production derived from urban and suburban wastes. The Committee further directs the Department to collaborate with institutions in Canada and Mexico to leverage capacity and capitalize on North American resources.

Within available funds, the Committee supports research to develop the foundation for scalable technologies to use carbon dioxide produced in biorefineries to produce higher value fuels, chemicals or materials.

HYDROGEN AND FUEL CELL TECHNOLOGIES

The Committee recommends \$115,000,000 for Hydrogen and Fuel Cell Technologies.

Within the amounts recommended, the Committee recommends \$39,000,000 for Hydrogen Fuel Research and Development for efforts to reduce the cost and improve the performance of hydrogen

generation and storage systems, hydrogen measurement devices for fueling stations, hydrogen compressor components, and hydrogen station dispensing components. The Department shall continue to research novel onboard hydrogen tank systems, as well as trailer delivery systems to reduce cost of delivered hydrogen. Further, the Department is directed to support research and development activities that reduce the use of platinum group metals, provide improvements in electrodes and membranes and balance-of-plant components and systems. The Committee recommends \$1,000,000 for Systems Analysis, including research on in-situ metrology for process control systems for manufacturing of key hydrogen system components.

Within the amounts recommended, \$19,000,000 is recommended for Hydrogen Infrastructure Research and Development. Further, the Department is directed to continue the H2@Scale Initiative, which couples current research efforts within the program with new opportunities for using hydrogen to provide grid resiliency and advance a wide range of industrial processes for the production of fuels, chemicals, and materials.

The Committee recommends \$19,000,000 for Technology Acceleration activities, including \$3,000,000 for manufacturing research and development, and \$7,000,000 for industry-led efforts to demonstrate a hydrogen-focused integrated renewable energy production, storage, and transportation fuel distribution/retailing system. Regular consultation with industry is encouraged to avoid duplication of private-sector activities.

The Committee further recommends \$7,000,000 for Safety, Codes, and Standards to maintain a robust program and engage regulatory and code officials to support their technical needs relative to infrastructure and vehicle safety.

The Committee encourages the Secretary to work with the Secretary of Transportation and industry on coordinating efforts to deploy hydrogen fueling infrastructure.

SOLAR ENERGY

The Committee recommends \$239,500,000 for Solar Energy.

Within available funds, the Committee recommends \$55,000,000 for Concentrating Solar Power research, development, and demonstration to reduce overall system costs, better integrate subsystem components, develop higher-temperature receivers, and improve the design of solar collection and thermal energy storage. Within this amount, \$5,000,000 is recommended for competitively selected projects focused on advanced thermal desalination technologies.

The Committee recommends \$70,000,000 for Photovoltaic Research and Development to develop new or improved high-performance cell materials and architectures and achieve greater than 40-percent cell efficiencies. The Department is encouraged to cooperate with industry and academia in its research and development efforts.

The Committee recommends \$35,000,000 for Balance of System Soft Cost Reduction to reduce non-hardware costs through new techno-economic tools and methodologies for distributed energy resources; an assessment of the potential for block-chain technologies

to improve management of distributed solar; and standardization of planning, permitting, and installation tools and methodologies. Within this amount, the Committee recommends not less than \$1,000,000 for the joint Solar Ready Vets program within the Department of Defense as a way to train America's veterans to fill the growing need for solar industry workers.

Within the amounts recommended for Balance of System Soft Cost Reduction, \$5,000,000 is recommended to re-invigorate the National Community Solar Partnership program to provide technical assistance to low- and moderate-income individuals, businesses, non-profit organizations, and State, local, and tribal governments to increase use of community solar installations.

Further, the Committee recommends \$49,500,000 for Systems Integration to address the technical barriers to increased solar penetration on the grid, including grid reliability, dispatchability, power electronics, and communications. The Committee encourages research and development efforts to target grid storage improvements, demand-response and load-shaping technologies, and modeling and planning tools for distributed energy resources.

The Committee recommends \$30,000,000 for Manufacturing Competitiveness to develop advanced low-cost manufacturing process technologies, including thickness reduction and faster processing with fewer steps. Within this area, the Committee also supports early-stage research on photovoltaics based on earth abundant materials focusing on scalable production methods, material stability, and ultrahigh efficiency tandem photovoltaic cell manufacturing approaches. To directly address fundamental barriers that could limit new technology's adoption, the Committee believes the fastest approach for rapid commercialization of new photovoltaic technologies would be to bring national laboratory capabilities and academia, in partnership with early-stage companies to develop a new photovoltaic U.S. manufacturing base. The Department is directed to create a 5-year domestic manufacturing capability consortium focused on inherently scalable production methods such as solution processing, roll-to-roll manufacturing, the science of inherent material stability, and ultrahigh efficiency through tandem manufacturing. Within available funds, the Committee recommends not less than \$10,000,000 for the first year of the consortium.

WIND ENERGY

The Committee recommends \$80,000,000 for Wind Energy.

The Committee supports research using high-performance computing, modeling and simulation, including the Atmosphere to Electrons initiative, and reliability and grid integration efforts. Further, the Department is directed to give priority to stewarding the assets and optimizing the operations of the Department-owned wind research and development facilities. Within available funds, the Committee recommends not less than \$30,000,000 for the National Wind Technology Center, which shall include the development of a large-scale research platform to support next-generation wind energy science and manufacturing and systems integration of multiple energy generation, consumption, and storage technologies with the grid.

The Committee encourages the Department to prioritize distributed wind technologies that reduce costs and improve performance, and to collaborate with industry to invest in the development and demonstration of technologies and practices that advance distributed wind. Within available funds, the Committee recommends \$10,000,000 for distributed wind.

The Committee directs the Department to support the advancement of innovative technologies for offshore wind development, including freshwater, deepwater, shallow water, and transitional depth installations. In addition, the Department is directed to support the innovative offshore wind demonstration projects for which funding has been allocated in previous fiscal years, and further supports efforts to optimize their development, design, construction methods, testing plans, and economic value proposition. The Committee recommends not less than \$6,000,000 in new project development for the offshore wind demonstration projects to be allocated equitably between the approved projects, and to provide not less than 18 months of additional development to ensure success. The Committee further directs the Department to support the deployment and testing of scale floating wind turbines designed to reduce energy costs. Within available funds, the Committee recommends not less than \$30,000,000 for the Department to prioritize early-stage research on materials and manufacturing methods and advanced components that will enable accessing high-quality wind resources, on development that will enable these technologies to compete in the marketplace without the need for subsidies, and on activities that will accelerate fundamental offshore-specific research and development such as those that target technology and deployment challenges unique to U.S. waters. Further, the Committee recommends not less than \$10,000,000 for existing national-level offshore wind test facilities.

The Committee supports the Department's research on the effects of offshore wind, especially the impact of marine sound and other stressors on marine mammals, and encourages the Department to work with nonprofit research institutions, like aquariums, to continue this work.

WATER POWER

The Committee recommends \$105,000,000 for Water Power.

Hydropower Technologies.—Within available funds, the Committee recommends \$35,000,000 for conventional hydropower and pumped storage activities, including up to \$6,600,000 for the purposes of section 242 of the Energy Policy Act of 2005. Within available funds, the Department is directed to continue research, development, and deployment efforts on pumped hydropower storage technologies and use cases.

Marine and Hydrokinetic Technology Research, Development, and Deployment.—The Committee recommends \$70,000,000 for marine and hydrokinetic technology research, development, and deployment activities, including research into mitigation of marine ecosystem impacts of these technologies.

Within the funding available for marine and hydrokinetic technology, \$30,000,000 is recommended for a balanced portfolio of competitive solicitations to support industry-led and university re-

search, development, and deployment of marine and hydrokinetic technologies; and support wave, ocean current, tidal and in-river energy conversion components and systems across the high- and low-technology readiness spectrum to increase energy capture, reliability, survivability, and integration into local or regional grids for lower costs and to assess and monitor environmental effects. Within this amount, not less than \$8,000,000 is recommended to support collaborations between universities, Marine Renewable Energy Centers, and national laboratories. Further, not less than \$5,000,000 is recommended to prioritize infrastructure needs at marine and hydrokinetic technology testing sites operated by Marine Renewable Energy Centers. The Department is directed to support ongoing design of the previously awarded open-water wave energy test facility within available funds. The Department is also directed to continue its coordination with the U.S. Navy on marine energy technology demonstration.

The Committee encourages close coordination between the Department and the Federal Energy Regulatory Commission, the Bureau of Ocean Energy Management, the National Oceanic and Atmospheric Administration, other relevant agencies and industry to reduce the amount of time to permit marine energy test and validation projects.

GEOTHERMAL TECHNOLOGIES

The Committee recommends \$85,000,000 for Geothermal Technologies.

Within available funds, \$53,000,000 is recommended for Enhanced Geothermal Systems. To facilitate necessary technology development and expand understanding of subsurface dynamics, the Committee recommends \$30,000,000 for the continuation of activities of the Frontier Observatory for Research in Geothermal Energy [FORGE], with activities to include ongoing novel subsurface characterization, full-scale well drilling, and technology research and development to accelerate the commercial pathway to large-scale enhanced geothermal systems power generation.

Further, the Committee recommends \$15,000,000 for Hydrothermal, \$10,000,000 for Low-Temperature and Co-produced Resources, and \$7,000,000 for Systems Analysis.

The Committee recognizes that enhanced geothermal systems are versatile, inherently modular, and scalable from residential utilization to district heating opportunities and large power parks that can provide baseload capacity. The Committee encourages the Department to support enhanced geothermal system applications for industrial and residential uses.

The Committee directs the Department to continue its efforts to identify prospective geothermal resources in areas with no obvious surface expressions.

ADVANCED MANUFACTURING

The Committee recommends \$311,000,000 for Advanced Manufacturing.

The Committee recommends \$80,000,000 for Advanced Manufacturing Research and Development Projects.

The Committee recommends \$171,000,000 for Advanced Manufacturing Research and Development Facilities. The Committee recommends \$25,000,000 for the Manufacturing Demonstration Facility and the Carbon Fiber Technology Facility for early-stage research in additive manufacturing, carbon fiber and composites development, and manufacturing of multi-material systems to reduce the energy intensity and life-cycle energy consumption of domestic manufactured products, thereby increasing the competitiveness of U.S. manufacturing industries. Within funding for the Manufacturing Demonstration Facility, \$5,000,000 is recommended for the development of additive systems and automation technologies that have the potential to deposit multiple materials allowing for hybrid material solutions that enhance performance in extreme environments and enable precise property profiles.

The Committee recognizes the important role large-area additive manufacturing can play in helping to advance the deployment of building, transportation, and clean energy technologies. The Committee directs the Department to further foster the partnership between the National Laboratories, universities, and industry to use bio-based thermoplastics composites, such as micro- and nano-cellulosic materials, and large-area 3-D printing to overcome challenges to the cost and deployment of building, transportation, and energy technologies.

In addition, the Committee recommends \$20,000,000 to support the development of additive manufacturing involving nanocellulosic feedstock materials made from forest products to overcome challenges to the cost and deployment of building, transportation, and energy technologies, and encourages the Department to leverage expertise and capabilities for large-scale additive manufacturing through partnerships between universities and the Manufacturing Demonstration Facility.

To ensure grid reliability and resiliency, energy storage at scale must be achieved. Validation of materials for production of energy storage is both slow and expensive, currently taking an average of 18 years from concept to commercialization. For technologies such as batteries, materials innovation is traditionally separate from scale-up and device integration, and this disconnect slows progress. Therefore, within the amounts recommended, the Committee recommends \$20,000,000 for a manufacturing demonstration facility specifically focused on accelerating the processes needed for clean energy materials to go from discovery to scale-up, which will drive manufacturing innovation, lower the cost of battery energy storage, and spur job creation by bringing down the timeline for validation from an average of 18 years to an average of 5 years.

The Committee recommends \$25,000,000 for the third year of research and development efforts to lower the cost and energy intensity of technologies to provide clean, safe water through the Energy-Water Desalination Hub. The Committee is concerned that after 2 years of funding for this hub in fiscal years 2017 and 2018, the Department still has not completed the cooperative agreement solicitation and award process to begin work in this important research area. Therefore, upon enactment of this act, the Committee directs the Department to brief the Committees on Appropriations of both Houses of Congress on schedule and milestones for solic-

iting and evaluating proposals from qualified consortia and awarding a 5-year cooperative agreement.

The Committee recommends \$56,000,000 to support four Clean Energy Manufacturing Institutes [CEMIs], including \$14,000,000 each for the Smart Manufacturing Innovation Institute, the Reducing Embodied-energy and Decreasing Emissions [REMADE] Institute, and the Rapid Advancement in Process Intensification Deployment [RAPID] Institute, and a CEMI selection to be announced. The Committee notes the PowerAmerica Next Generation Power Electronics Manufacturing Innovation Institute and the Advanced Composites Manufacturing Innovation Institute have both received \$70,000,000 over the past 5 years to stand up a sustainable effort, and encourages the Department to work with one or more national laboratories and universities to build a sustainable plan for these institutes. The Committee is pleased with the ongoing work of the innovative advanced manufacturing opportunities through the CEMIs, and directs the Department to issue a solicitation and make an award for the sixth CEMI not later than October 1, 2018.

The Committee recommends \$25,000,000 to continue Critical Materials Hub. The Committee notes many municipal recycling facilities where collected recyclables are separated, now use technologies which are aging and inefficient. The Committee directs the Department to conduct a study to determine if the eddy current technology, which is now in use by most facilities, might be upgraded to increase the supply of recycled aluminum and to make recommendations as to how this might be accomplished and report to the Committees on Appropriations of both Houses of Congress within 180 days after enactment of this act.

The Committee recommends \$40,000,000 for the Industrial Technical Assistance program. Within this amount, the Committee recommends \$12,000,000 to provide ongoing support for the Combined Heat and Power [CHP] Technical Assistance Partnerships [TAPs] and related CHP Technical Partnership activities at the Department, including \$5,000,000 for the TAPs and \$7,000,000 for related CHP activities. The Committee also encourages the Department to prioritize research, development, and demonstration of district energy systems, and work to accelerate greater deployment of district energy systems in communities, campuses, industries, and cities nationwide by supporting adaptive regional and local technology, and market opportunities.

The Committee encourages the Department to continue its efforts of extending the Industrial Assessment Centers to underserved areas and furthering the geographic reach of the program to regions that are less likely to be adequately serviced because of their distance from the current Centers. Therefore, the Committee recommends \$10,000,000 to expand the technical assistance provided by the Industrial Assessment Centers and fund no fewer than two but no more than four additional centers. The Committee recognizes the great potential for energy savings in municipal, industrial, and agricultural wastewater treatment systems and encourages the Department to expand on the technical assistance provided by the Industrial Assessment Centers to address these needs. Within the funds recommended for the Industrial Assessment Cen-

ters, the Committee recommends \$3,000,000 for wastewater treatment technical assistance.

Within available funds, the Committee recommends \$10,000,000 for district heating. The Committee further directs the Department to collaborate with industry on the potential energy efficiency and energy security gains to be realized with district energy systems.

The Committee supports research and development on improving foundational materials and processes applicable to aluminum and other primary metal industries.

The Committee supports the issuance of a competitive solicitation for university/industry-led teams to improve the efficiency of drying processes, which consume approximately 10 percent of the energy used in the manufacturing sector.

The Committee directs the Department to develop a national smart manufacturing plan that will identify areas where the Department can facilitate more rapid development, deployment and adoption of smart manufacturing technologies. The Department shall submit a plan to the Committees on Appropriations of both Houses of Congress not later than 180 days after the enactment of this act.

BUILDING TECHNOLOGIES

The Committee recommends \$225,000,000 for Building Technologies.

Within available funds, the Committee recommends \$39,000,000 for the Commercial Building Integration program for a program of core research and development of more cost-effective integration techniques and technologies that could help the transition toward deep retrofits. In addition, the Committee encourages the Department to increase engagement with private sector stakeholders to develop market-transforming policies and investments in commercial building retrofits.

Within available funds, the Committee recommends \$28,000,000 for the Residential Building Integration program. The Committee encourages funding to be concentrated on industry teams to facilitate research, demonstrate and test new systems, and facilitate widespread deployment through direct engagement with builders, the construction trades, equipment manufacturers, smart grid technology and systems suppliers, integrators, and State and local governments.

The Committee recommends \$108,000,000 for the Emerging Technologies subprogram. Within available funds, the Committee recommends not less than \$30,000,000 for building-grid integration research and development consistent with a transactive energy system, including development of advanced transactive control methodologies, field validation and testing in existing buildings, continuation of the Building-to-Grid Integration Demonstration, and coordination with the Office of Cybersecurity, Energy Security, and Emergency Response transactive energy systems activities. Within this amount, \$5,000,000 is recommended to continue promoting regional demonstrations of new, utility-led, residential Connected Communities advancing smart grid systems. Further, within available funds for Emerging Technologies, the Committee recommends not less than \$18,000,000 for HVAC & Refrigeration R&D,

\$14,000,000 for Building Envelope and \$5,300,000 for Building Energy Modeling.

Within available funds for Emerging Technologies, the Committee recommends \$25,000,000 for research, development, demonstration, and commercial application activities related to advanced solid-state lighting technology development. If the Secretary finds solid-state lighting technology eligible for the Twenty-First Century Lamp prize, specified under section 655 of the Energy Independence and Security Act of 2007, \$5,000,000 shall be made available to fund the prize or additional projects for solid-state lighting research and development.

Within available funds, the Committee recommends \$10,000,000 for research and development for energy efficiency efforts related to the direct use of natural gas in residential applications, including gas heat pump heating and water heating, onsite combined heat and power, natural gas appliance venting, green pilots, and micro-meters.

Within available funds, the Committee recommends \$5,000,000 for novel earlier stage research, development, and demonstration of technologies to advance energy efficient, high-rise Cross-Laminated Timber [CLT] building systems. The Committee directs the Department to support university research, in partnership with national labs, for developing, building, and evaluating CLT wall systems for embodied energy content, operating energy efficiency, wall moisture profiles, structural connector durability, and health monitoring sensors.

The Committee recommends \$50,000,000 for Equipment and Buildings Standards. The Department has missed two deadlines for reports to Congress mandated by section 305 of the Energy Independence and Security Act [EISA] of 2007. These reports are invaluable sources of information for the Committee and other stakeholders about the status of energy conservation standards and the Department's plans to comply with its statutory obligations. The Department shall submit to the Committees on Appropriations of both Houses of Congress a status report within 30 days after enactment of this act. The Committee recommends \$7,000,000 for the Building Energy Codes Program to provide assistance to States and to organizations that develop model codes and standards to improve building resilience as well as efficiency.

Energy efficiency is a critical component of infrastructure development strategies. The Committee recognizes the importance of the Transformation in Cities initiative for local government planning and directs the Department to continue to support the goals of the initiative.

The Committee is concerned with the Department's recently announced plans to cancel the 2019 Solar Decathlon, pending a re-evaluation of the program. The Committee recommends not less than \$5,000,000 for the Solar Decathlon. The annual competition has engaged thousands of university students to apply energy research and development to the practical concerns of housing by balancing design excellence and smart energy production and innovation, energy efficiency, and market potential. While the Committee understands that commercialization of technology is important, this should not become the sole or even the primary focus of the com-

petition. Therefore, not later than 30 days after the enactment of this act, the Department shall brief the Committees on Appropriations of both Houses of Congress on its plans for preserving the Solar Decathlon in its current form, any adjustments to the competition, and plans by the Department to accelerate adoption of suitable energy and water efficient technologies in the marketplace.

FEDERAL ENERGY MANAGEMENT PROGRAM

The Committee recommends \$31,000,000 for the Federal Energy Management Program.

The Committee encourages the continued use of the Assisting Federal Facilities with Energy Conservation Technologies grant program to leverage more private sector investment in aging Federal facilities and infrastructure.

WEATHERIZATION AND INTERGOVERNMENTAL PROGRAM

The Committee recommends \$306,000,000 for the Weatherization and Intergovernmental Program.

Within this amount, \$251,000,000 is recommended for the Weatherization Assistance Program [WAP], including \$248,000,000 for Weatherization Assistance Grants and \$3,000,000 for Training and Technical Assistance; and \$55,000,000 is recommended for State Energy Program grants.

The Committee recognizes the importance of providing Federal funds under the Weatherization and Intergovernmental Program to States and tribes in a timely manner to avoid any undue delay of services to eligible low-income households, and to encourage local high-impact energy efficiency and renewable energy initiatives and energy emergency preparedness. Therefore, the full amount of the funds recommended for WAP and the State Energy Program shall be obligated to States, tribes, and other direct grantees not later than 60 days after enactment of this act.

Within available funds, \$500,000 is recommended for current WAP grant recipients via the Weatherization Innovation Pilot Program to develop and implement strategies to treat harmful substances, including vermiculite.

The Committee supports WAP's continued participation in the interagency working group on Healthy Homes and Energy with the Department of Housing and Urban Development. The Department is encouraged to further coordinate with the Office of Lead Hazard Control and Healthy Homes on energy-related housing projects. The Committee directs the Department to begin tracking the occurrence of window replacements, which supports the reduction of lead-based paint hazards in homes.

STRATEGIC PROGRAMS

The Committee recommends \$12,500,000 for Strategic Programs.

Within available funds, \$2,500,000 is recommended for the Energy Transition Initiative [ETI] to support ongoing initiatives to address high energy costs, reliability, and inadequate infrastructure challenges faced by island and remote communities. The Committee supports ETI's efforts to develop a cross-sector initiative of organizations pursuing energy transition efforts that will address

energy challenges, build capacity, accelerate the sharing of best practices and innovations between similarly-situated regions, and leverage specialized expertise into commercial opportunity. The Committee further directs the Department to support initiatives for building of cost-effective, resilient energy infrastructure on island and remote communities, including in Alaska, the Caribbean, Hawaii, New England, and elsewhere.

CYBERSECURITY, ENERGY SECURITY, AND EMERGENCY RESPONSE

Appropriations, 2018 .....	.....
Budget estimate, 2019	\$95,800,000
Committee recommendation	260,000,000

The Committee recommends \$260,000,000 for Cybersecurity, Energy Security, and Emergency Response, an increase of \$164,200,000 above the budget request. Within available funds, the Committee recommends \$28,500,000 for program direction.

Early-Stage Research, Electricity Sector.—The Committee rejects the budget’s sole focus on early-stage research. Most utilities have limited research and development budgets, primarily due to regulatory constraints designed to keep electricity costs low for consumers. Additionally, utilities are unlikely to implement new concepts because most utilities would need to use their own systems for testing and evaluation, which could impact consumers. State public utility commissions also have limited budgets that do not support research and development. The States rely heavily on the Department’s technical assistance on assessments of data and tools to help them evaluate grid modernization alternatives. The Department plays a vital role, not only in early-stage research, but also in deployment, field testing, and evaluation.

CYBERSECURITY FOR ENERGY DELIVERY SYSTEMS

The Committee recommends \$80,829,000 for Cybersecurity for Energy Delivery Systems.

The Committee recommends \$10,000,000 for the DarkNet project to explore opportunities for getting the Nation’s critical infrastructure off the Internet and shielding the Nation’s electricity infrastructure from disruptive cyber penetration.

The Committee supports extension of cyber risk information sharing tools to close remaining vulnerabilities in the distribution and transmission system. The Committee encourages the Department to continue existing work within ongoing programs and to invest in research addressing power system vulnerabilities in supply chain and life cycle management for critical power system components and advanced adaptive defensive methods for grid control systems.

TRANSMISSION RELIABILITY

The Committee recommends \$39,000,000 for Transmission Reliability.

The Committee supports continued investment in advanced grid modeling algorithms and tool development to ensure resilient grid controls and protection systems that meet the challenges of the emerging smart grid.

RESILIENT DISTRIBUTION SYSTEMS

The Committee recommends \$38,671,000 for Resilient Distribution Systems.

Within available funding, \$5,000,000 is recommended to develop high fidelity sensors and use data analytics to improve operations in steady-state and under extreme conditions, and to continue early-stage research to develop low-cost, printable sensors that can predict the health of critical equipment in the electric delivery system.

The Committee supports the promotion of regional demonstrations of new, utility-led, residential Connected Communities advancing smart grid systems. The Department shall focus on identifying and addressing technical and regulatory barriers impeding grid integration of distributed energy systems to reduce energy costs and improve the resiliency and reliability of the electric grid. The Committee supports advanced control concepts and open test beds for new distribution control tools for enhanced distribution system resilience.

ENERGY STORAGE

The Committee recommends \$41,000,000 for Energy Storage.

Within available funds, the Committee continues to support development of an operational energy storage test facility capable of performance-driven data in a utility environment.

The Committee supports the Beyond Batteries initiative and cost-shared demonstrations of energy storage technologies with the private sector needed to achieve the Department's technology goal. Low-cost, grid-scale energy storage is crucial to a 21st century electricity grid, and the Department's storage research, development and deployment efforts shall support nationwide efforts to improve grid resiliency, reliability, and security, empower consumers, and increase integration of a broad range of generation sources.

The Committee encourages the Department to further the development and demonstration of non-battery advanced storage components, including compressed air energy storage development and demonstration to enable efficiency improvements for utility-scale, bulk energy storage solutions.

The Committee notes that innovation and advancement in distributed energy resources is helping the Nation's power grid to better address reliability, resiliency, safety, and accessibility. This enhances our Nation's energy security and global leadership. The Committee encourages the Department to further advance the development and demonstration of innovative battery and non-battery energy storage components. Energy storage is needed to better enable distributed energy resources; integrate intermittent uses such as water heaters, electric vehicle chargers, battery storage systems, and pumps; help balance supply and demand in the power grid to aid consumers to better manage their energy costs; protect residential and commercial customers and public services from power interruptions; and improve grid security and reliability.

The Committee supports grid-scale field demonstrations of energy storage projects, either as single facilities or as aggregations of units, with a focus on new use cases rather than new battery

chemistry. The Committee encourages the Department to support State energy offices and universities with energy storage planning and deployment, and to participate in industry-led safety codes and standards development. The Committee also supports funding for development of analytical methods for including energy storage in electric system planning, as well as for development of software tools to better value energy storage technologies. The Committee encourages the Department to remain committed to research and development partnerships related to the development and deployment of energy storage, with stakeholders in diverse geographic regions with unique market dynamics and policy challenges that can help to inform nationwide efforts to improve grid resiliency, reliability, and security, empower consumers, and increase integration of a broad range of generation sources. The Committee encourages the Department to make additional investments in cutting-edge storage technologies and relevant software, including conventional and advanced batteries. The Committee further encourages the Department to prioritize pilot scale initiatives with relevant utilities and State energy organizations that have the potential to advance real-time deployment and testing of these technologies.

The Committee is supportive of research for novel materials and system components to resolve key cost and performance challenges for electrochemical energy storage systems based on earth abundant advanced chemistries. In addition, the Committee supports continued materials research that will improve the understanding and predictability of energy storage systems and components, as well as enable safer and more reliable materials and systems to be developed.

TRANSFORMER RESILIENCE AND ADVANCED COMPONENTS

The Committee recommends \$7,000,000 for Transformer Resilience and Advanced Components.

Within available funds, the Committee directs the Department to continue to support research and development for advanced components and grid materials for low-cost, power flow control devices, including both solid state and hybrid concepts that use power electronics to control electromagnetic devices and enable improved controllability, flexibility, and resiliency.

INFRASTRUCTURE SECURITY AND ENERGY RESTORATION

The Committee recommends \$18,000,000 for Infrastructure Security and Energy Restoration.

The Committee supports further development of energy sector situational awareness capabilities through Eagle-I, the Federal Government's situational awareness tool for national power outages. The Committee encourages the Department to further illustrate how to benefit from increased access to more varied sources of data.

The Committee previously directed the Department to submit a report identifying strategic laboratory, university, and industry partnerships that would enhance national security and assist industry in addressing critical threats, including electromagnetic pulses [EMP], geomagnetic disturbances [GMD], cyber-attacks, and supply chain disruptions. The Committee looks forward to receiving

this report expeditiously. The Committee supports the establishment of an EMP/GMD testing facility that can, without posing risk to the existing grid, replicate EMP/GMD events and cyber-attacks on a real world configuration of critical grid components and systems. Such a facility is necessary to expose entire substations, including devices such as Extra High Voltage Transformers and sub-system components, to the combined effects of the complete composite EMP Waveform for early stage research and development, as well as testing and validation purposes at both the transmission and distribution levels. The Committee encourages the Department to ensure such a facility to be a collaborative public-private effort between national laboratories, utilities, and research universities.

NUCLEAR ENERGY

Appropriations, 2018	\$1,205,056,000
Budget estimate, 2019	757,090,000
Committee recommendation	1,206,000,000

The Committee recommends \$1,206,000,000 for Nuclear Energy, an increase of \$448,910,000 above the budget request. The Committee’s recommendation prioritizes funding for programs, projects and activities that will ensure a strong future for nuclear power in the United States.

Nuclear power provides more than 20 percent of our Nation’s electricity and nearly 60 percent of our emissions-free electricity. Electricity generation from our Nation’s operating nuclear power plants is critical to our national security, economy, and way of life. Nuclear power is a reliable, resilient source of power, and the Department is encouraged to seek opportunities to take advantage of that fact to meet its long-term needs.

RESEARCH AND DEVELOPMENT

INTEGRATED UNIVERSITY PROGRAM

The Committee recommends \$5,000,000 for the Integrated University Program.

The Committee notes the administration repeatedly attempts to defund this program, despite continued success in developing highly qualified nuclear specialists to meet national needs.

NUCLEAR ENERGY ENABLING TECHNOLOGY

The Committee recommends \$149,200,000 for Nuclear Energy Enabling Technology.

Within this amount, the Committee recommends \$50,000,000 for Crosscutting Technology Development, \$28,200,000 for Nuclear Energy Advanced Modeling and Simulation, \$41,000,000 for National Scientific User Facilities, and \$30,000,000 for the Energy Innovation Hub for Modeling and Simulation. The Committee notes that the budget request made the short-sighted recommendation to cancel the Energy Innovation Hub for Modeling and Simulation for the second year in a row, despite the important contributions it continues to make to improving operations and safety of operating nuclear reactors, and its likely application in licensing accident tolerant fuels and other advanced technologies.

REACTOR CONCEPTS RESEARCH, DEVELOPMENT, AND DEMONSTRATION

The Committee recommends \$302,000,000 for Reactor Concepts Research, Development, and Demonstration.

Advanced nuclear technologies hold great promise for reliable, safe, emission-free energy and should be a priority for the Department. The Department was previously directed to provide a report that sets aggressive, but achievable goals to demonstrate a variety of private-sector advanced reactor designs and fuel types by the late 2020s. The Department is directed to expedite that report and provide it to the Committee as soon as possible.

Advanced Reactor Technology.—Within available funds, the Committee recommends \$150,000,000, for Advanced Reactor Technology, including \$22,000,000 for the fourth year of the advanced reactor concepts program.

The Committee supports the Department's goal to accelerate reactor manufacturing, development, and deployment of advanced reactors. The Department is encouraged to leverage its technological capabilities in materials research and development, advanced manufacturing, high-fidelity modeling and simulation, sensors and control systems to transform the methods of reactor design, manufacturing, licensing and operation. The Committee recommends \$30,000,000 above the budget request for the demonstration of a Transformational Challenge Reactor concept.

Versatile Fast Reactor.—The Committee supports the budget request and recommends \$15,000,000 for the Versatile Fast Reactor. The Department was previously directed to provide a report that details all current programs and projects within the Office of Nuclear Energy, whether the Department plans to continue to support each program or project, and the expected out-year funding through completion of the program or project. The Department is directed to expedite that report and provide it to the Committee as soon as possible.

Light Water Reactor Sustainability.—Within available funds, the Committee recommends \$47,000,000. The most cost-effective way for the United States to maintain low-cost, carbon-free electricity is to safely extend the lives of our Nation's existing nuclear reactors from 60 to 80 years. Therefore, the Committee recommends additional funding above the budget request for this activity as a priority. The Committee directs the Secretary to use funding in this activity to continue research and development work on the technical basis for subsequent license renewal. The Secretary shall focus funding in this program on materials aging and degradation, advanced instrumentation and control technologies, and component aging modeling and simulation. The Secretary shall also coordinate with industry to determine other areas of high-priority research and development in this area.

FUEL CYCLE RESEARCH AND DEVELOPMENT

The Committee recommends \$267,300,000 for Fuel Cycle Research and Development.

Within available funds, \$30,000,000 is recommended for Material Recovery and Waste Form Development, \$6,000,000 is recommended for Materials Protection, Accountancy, and Controls for

Transmutation, and \$8,500,000 is recommended for Systems Analysis and Integration.

The Committee continues to strongly support the recommendations of the Blue Ribbon Commission on America's Nuclear Future and believes that near-term action is needed to address the accumulating inventory of spent nuclear fuel. The Committee recommends \$35,300,000 for Integrated Waste Management System activities. Funding is recommended to implement plans to consolidate spent nuclear fuel from around the United States to one or more private or government interim central storage facilities. Priority shall be given to accepting spent nuclear fuel from shutdown reactors, and to accelerating the development of a transportation capability to move spent fuel from its current storage locations. Within funds recommended, the Committee recommends up to \$10,000,000 for the Secretary, within existing authorities, to contract for the management of spent nuclear fuel to which the Secretary holds the title or has a contract to accept title, which includes contracting with a private company for consolidated interim storage of spent nuclear fuel.

The Committee directs the Secretary to work across the administration and to report to the Committees on Appropriations of both Houses of Congress, not later than 180 days after the date of enactment of this act, with information regarding existing resources and funding opportunities for which communities hosting decommissioned/decommissioning reactors may be eligible. The report shall also include what opportunities exist for these affected communities to consider alternative uses for these sites upon completion of the decommissioning process.

The Committee does not adopt the budget proposal to eliminate research and development activities previously funded in this account. The Committee recommends \$62,500,000 to continue research and development activities on behavior of spent fuel in long-term storage, under transportation conditions, and in various geologic media, which will continue to be important to developing a solution to the waste problem. Priority shall be placed on the ongoing study of the performance of high-burnup fuel in dry storage and on the potential for direct disposal of existing spent fuel dry storage canister technologies.

The Committee continues to place a high priority on the development of nuclear fuels with enhanced accident-tolerant characteristics to significantly mitigate the potential consequences of a nuclear accident. The Committee urges the Secretary to maintain focus and priority on achieving results in these efforts. The Committee recommends \$125,000,000 for the Advanced Fuels program. The Department is directed to continue implementation of the accident tolerant fuels development program, the goal of which remains development of accident tolerant nuclear fuels leading to commercial reactor fuel assembly testing by 2022. Within this amount not less than \$55,600,000 is recommended to continue the participation of three industry-led teams in Phase 2 of the cost-shared research and development program. Further, the Committee recommends not less than \$20,000,000 to support accident tolerant fuels development at the national laboratories and other facilities, including at the Advanced Test Reactor, the Transient

Reactor Test Facility, and the Halden reactor. In addition to amounts awarded through the Small Business Innovation Research and Small Business Technology Transfer programs, \$3,000,000 is to continue the previously awarded small business projects to develop ceramic cladding for accident tolerant fuels.

Finally, the United States currently lacks either a supply of high assay low enriched uranium [HALEU], or a process to make HALEU, for advanced reactor designs that would require enrichment up to 20 percent, below levels considered usable for nuclear weapons. The Committee recommends \$10,000,000 for the Department to begin work to design and build a demonstration facility to produce HALEU from naval spent nuclear fuel or other available HEU within the Department's inventory. The Committee notes that using naval spent fuel for this purpose has the added benefit of potentially reducing the volume of waste that would eventually require disposal in a permanent repository.

INFRASTRUCTURE

RADIOLOGICAL FACILITIES MANAGEMENT

The Committee recommends \$29,000,000 for Radiological Facilities Management, including \$20,000,000 for continued safe operations and maintenance of Oak Ridge National Laboratory hot cells.

IDAHO FACILITIES MANAGEMENT

The Committee recommends \$238,000,000 for Idaho Facilities Management. The Advanced Test Reactor [ATR] is a vital asset that provides research capability across the Department. The Department was previously directed to provide a report that lists all current and planned users for the ATR for the next 3 years, the operating cost attributed to each user, and the source of funds that will be applied to cover the costs for each user. The Department is directed to expedite that report and provide it to the Committee as soon as possible.

FOSSIL ENERGY RESEARCH AND DEVELOPMENT

Appropriations, 2018	\$726,817,000
Budget estimate, 2019	502,070,000
Committee recommendation	727,000,000

The Committee recommends \$727,000,000 for Fossil Energy Research and Development, an increase of \$224,930,000 above the budget request. Within available funds, the Committee recommends \$61,070,000 for program direction.

Early-Stage Research and Development.—The Fossil Energy Research and Development program advances transformative scientific research, development, and deployment of technologies that enable the reliable, efficient, affordable, and environmentally sound use of fossil fuels. Fossil energy is an essential part of the United States' energy future, and the National Energy Technology Laboratory [NETL] supports the Office of Fossil Energy in this critical national priority. The Committee rejects the approach to only provide funds for early-stage research. Such restrictions would cripple inno-

vation and development, and would reduce the number of energy technologies adopted in the marketplace.

Fossil Energy Roadmap.—The Committee previously directed the Department to develop a cohesive policy and technology strategy and supporting roadmap or long term plan for its Fossil Energy Research and Development portfolio and supporting infrastructure. This roadmap will guide the discovery or advancement of technological solutions and incorporate lessons learned for the future of research, development, and demonstration efforts on advanced carbon capture and storage [CCS] technologies, advanced fossil energy systems, and crosscutting fossil energy research, as well as guide the discovery or advancement of technological solutions for the prudent and sustainable development of unconventional oil and gas. The Committee looks forward to receiving the roadmap expeditiously.

NETL.—No funds shall be used for the closure of NETL sites. The Committee supports NETL’s mission to discover, develop, and deploy new technologies to support a strong domestic fossil energy path. The Committee previously directed the Department to conduct a comprehensive assessment of Fossil Energy writ large to include the Fossil Energy Headquarters programs, NETL, and relevant competencies of other national laboratories which support the mission of the Office of Fossil Energy. The Committee looks forward to receiving the assessment expeditiously.

National Carbon Capture Center.—The Committee recommends funding for the National Carbon Capture Center consistent with the cooperative agreement and fiscal year 2018. The Committee continues to encourage the Department to establish university partnerships to support ongoing fossil energy programs, to promote broader research into CCS technologies, and to expand its technology transfer efforts. The Department has previously funded several university-based CCS projects and is encouraged to build on an established research base to support ongoing research and to address the wider implementation of CCS technologies.

The Committee reiterates the importance of adequate Federal support to promote design-related work and testing for a commercial-scale, post-combustion carbon dioxide capture project on an existing coal-fueled generating unit as well as fossil energy research, development, and deployment of breakthrough technologies.

COAL CCS AND POWER SYSTEMS

The Committee recommends \$463,030,000 for Coal CCS and Power Systems.

The Committee does not support the Department’s proposal to reorganize or consolidate the Carbon Capture, Carbon Storage, Advanced Energy Systems, crosscutting research and development programs, and the Supercritical CO₂ Technology Program [STEP].

The Committee supports the Department’s Cooperative Agreements to develop cost sharing partnerships to conduct basic, fundamental, and applied research that assist industry in developing, deploying, and commercializing efficient, low-carbon, nonpolluting energy technologies that could compete effectively in meeting requirements for clean fuels, chemical feedstocks, electricity, and water resources. The Committee encourages the Department to fund activi-

ties that promote the reuse of captured carbon dioxide from coal, natural gas, industrial facilities, and other sources for the production of fuels and other valuable products. Within the ongoing CCS Program, the Department is encouraged to pursue an aggressive timeline to develop advanced carbon storage and utilization technologies and enhanced oil recovery that will improve the economics associated with domestic energy production. The Committee supports small-scale and modular coal-fired technologies with reduced carbon outputs or carbon capture that can support incremental power generation capacity additions that will enable a step-change in performance, efficiency, or cost of electricity as compared to the technology in existence on the date of enactment.

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The Committee recommends research and development as well as pilot-scale activities that will improve the performance, reliability and efficiency of both new- and existing-fossil fuel fired power plants, including solvent-based, heat-integrated carbon capture and storage research and testing at pilot-scale facilities installed at a commercial power plant with focus on solvent physical property impact on column performance, transformative approaches to mitigate emissions, and solvent quality maintenance to ultimately reduce capital and operating costs; development and testing of materials for highly efficient energy platforms; advancement of gasification systems; development of carbon products from coal; development of transformational energy conversion systems including pressurized oxycombustion, supercritical CO₂ cycles, and chemical looping technologies; advancement of turbine technologies for higher efficiency and pressure cycles; development of fuel cells; coal and methane to liquid fuels; development and testing of advanced water management technologies; and continued investigation of rare earths recovery from coal and coal refuse.

Within funds available for CCS and Power Systems, the Committee recommends not less than \$30,000,000 to support a new solicitation for Front-End Engineering and Design [FEED] studies of two commercial-scale carbon capture power projects for retrofit at an existing coal plant and for a coal or natural gas plant that generates carbon dioxide suitable for utilization or storage. A FEED study shall incorporate work from feasibility studies and testing to provide specific project definition, detailed design, scopes of work, material purchasing and construction schedules, cost for project execution, and subsurface, structural, and environmental permitting requirements.

Carbon Capture.—Achieving low-cost carbon capture technology is important to facilitating economic environmental mitigation solutions for the power and industrial sectors while opening up a broader carbon utilization economy. The Committee encourages the Department to focus its Carbon Capture research, development and deployment efforts on improving the efficiency and decreasing the costs of carbon capture technologies, demonstrating carbon capture

technologies for private sector-driven adoption at fossil energy power systems and industrial sources, and to identify how these technologies can be integrated within business models and operations. This includes small- and large-scale pilot testing of technologies moving through the program pipeline on both coal and natural gas applications, as well as on industrial sources.

Carbon Storage.—Within available funds for Carbon Storage, the Committee recommends \$12,000,000 for Carbon Use and Reuse to continue research and development activities to support valuable and innovative uses for carbon. The Committee believes the potential for carbon dioxide utilization technologies to become economically viable has improved in recent years, and these technologies should continue to receive attention from the Office of Fossil Energy. The Committee urges the Office of Fossil Energy to prioritize research on carbon dioxide utilization technologies, direct air capture technologies, and industrial source capture. The Committee also encourages the Office of Fossil Energy to collaborate with the Bioenergy Technologies program within the EERE, the private sector, and academia to support projects that utilize carbon dioxide in the production of algae and other potentially marketable products. The Committee supports early-stage research and development in conversion of coal pitch/coal to carbon fiber and in other value-added products for alternative uses of coal. Within Carbon Storage, the Committee recommends \$55,000,000 for Storage Infrastructure. The Committee recognizes the successful work of the Regional Carbon Sequestration Partnerships and the important role they play in supporting the research and development of carbon utilization and storage. The Committee supports the focus on infrastructure development strategies through continued efforts to expand regional geological characterization to reduce uncertainties, collect and analyze data, facilitate and inform regional permitting and policy challenges. The Department is directed to fulfill prior commitments to the Regional Carbon Sequestration Partnerships. Further, the Committee recommends funding beyond the current phase, through a multiyear continuation of competitively selected partnerships to expand the work of the existing partnerships. The Committee recommends not less than \$20,000,000 for a competitive continuation of the Regional Carbon Sequestration Partnership Program and not less than \$30,000,000 to continue the four-phase CarbonSAFE initiative. The Committee directs the Department to work collaboratively with the Regional Carbon Sequestration Partnerships to develop a Storage Infrastructure roadmap through 2025 to identify the knowledge gaps and technology and policy developments that are needed to close those gaps.

Advanced Energy Systems.—The Committee recommends up to \$30,000,000 for solid oxide fuel cell systems, which supports research and development to enable efficient, cost-effective electricity generation with minimal use of water. The Committee encourages the Department to promote and assist in the research and development of new higher efficiency gas turbines used in power generation systems to allow the United States to upgrade and increase the reliability and resiliency of the Nation's electrical grid system, to better compete against the threat of foreign competitors who are being subsidized by their governments, while reducing the cost of

electricity and significantly lowering emissions. This includes awarding grants and funding contract proposals from industry, small businesses, universities and other appropriate parties.

The Committee supports coal and coal biomass to liquids activities and encourages the Department to focus on research and development to improve cost and efficiency of coal-to-fuels technology implementation and polygeneration. The Committee recognizes the importance of emerging technologies such as, coal-to-liquids [CTL] fuel conversion. Within available funds, the Committee supports research and development that will ensure CTL technologies have an opportunity to grow. The Committee supports the activities proposed in Power Generation Efficiency which would focus on improving the reliability and efficiency of existing plants through early stage research and development.

Crosscutting Research.—The Committee supports Advanced Ultrasupercritical Materials research and development to identify, test, qualify, and develop a domestic supply chain capable of producing components from high temperature steam materials.

STEP.—The Committee rejects the proposed changes in the request to the STEP Program, and recommends \$25,000,000 to complete the necessary design and construction of the 10MW pilot facility, and conduct the necessary testing, including long-duration testing for the facility.

NETL Coal Research and Development.—Within available funds for NETL Coal Research and Development, the Committee recommends \$18,000,000 for the Department to continue its external agency activities to develop and test advanced separation technologies and accelerate the advancement of commercially viable technologies for the recovery of rare earth elements and minerals from U.S. coal and coal byproduct sources. The Committee expects research to support pilot-scale and experimental activities for near-term applications.

NATURAL GAS TECHNOLOGIES

The Committee recommends \$53,200,000 for Natural Gas Technologies.

Risk-Based Data Management System.—Within available funds, the Committee recommends \$5,200,000 to continue the Risk Based Data Management System [RBDMS] to support a cloud-based application and necessary cybersecurity initiatives. In addition, funding shall support the continued integration of FracFocus and RBDMS for improved public access to State-oil and gas-related data, as well as for State regulatory agencies to support electronic permitting for operators, eForms for improved processing time for new permits, operator training from the improved FracFocus 3.2 after enhancements are implemented, and miscellaneous reports, such as *Produced Water Report: Current and Future Beneficial Uses Report*. The Committee supports the continued efforts to provide public transparency, while protecting proprietary information.

Methane Hydrate Activities.—The Committee recommends \$20,000,000 for methane hydrates. The Committee notes that the budget request includes no money for actual research into the methods for producing methane hydrates. The Committee encourages the Department to perform a long-term methane hydrate pro-

duction test in the Arctic, as proposed in the Methane Hydrate Advisory Committee's earlier recommendations (May 21, 2014) to the Department.

Environmentally Prudent Development.—The Committee recommends \$10,000,000 for the Environmentally Prudent Development subprogram.

Emissions Mitigation from Midstream Infrastructure.—The Committee recommends \$12,000,000 for the Emissions Mitigation from Midstream Infrastructure subprogram. The Committee recommends funds for natural gas infrastructure research, including advanced materials and novel sensor technologies. The Department is directed to incorporate this research into its ongoing work in this field, so that it shall complement the Emissions Mitigation from Midstream Infrastructure subprogram.

Emissions Quantification from Natural Gas Infrastructure.—The Committee recommends \$6,000,000 for the Emissions Quantification from Natural Gas Infrastructure research subprogram.

UNCONVENTIONAL FOSSIL ENERGY TECHNOLOGIES

The Committee recommends \$54,000,000 for Unconventional Fossil Energy Technologies. The Committee notes the importance of providing research support that will assure sustainable, reliable, affordable, and environmentally sound supplies of domestic unconventional fossil energy resources.

The Committee understands the Department is continuing to conduct a study on the feasibility of establishing an ethane storage and distribution hub in central Appalachia. The Department is directed to identify the Federal agencies with jurisdictional oversight of such a project and to coordinate with the liaisons of those agencies to streamline the permitting application and approval process for a central Appalachian ethane storage and distribution hub. Further, the Department is directed to brief the Committees on Appropriations of both Houses of Congress on their findings and recommendations once complete.

The Department is encouraged to explore research and development for safe drilling and completion technologies that use no fresh water and can be deployed in horizontal wells.

Within available funds, \$15,500,000 is recommended for research to better understand reservoirs and to improve low recovery factors from unconventional natural gas and oil wells and \$15,500,000 is recommended to continue research toward enhanced recovery technologies in shale oil, low permeability reservoirs, residual oil zone reservoirs, fractured reservoirs, and conventional oil reservoirs. The Department shall solicit, award and manage these research projects on a nationwide basis directly with researchers from universities and not-for-profit research organizations. The projects may include research projects to improve environmental mitigation, water quality and treatment, infrastructure technology as well as the societal impacts of unconventional shale plays. These awards shall identify ways to improve existing technologies, encourage prudent development, provide cost-effective solutions, and develop a better understanding of these reservoirs' resource potential.

The Committee recommends \$17,500,000 for the Unconventional Field Test Sites.

The Committee recognizes the Department's ongoing efforts to support research into the exploration for and development of emerging unconventional oil and/or gas reservoirs, and directs the Department to direct future allocations to projects in locations geologically representative of the unconventional reservoir of interest. The Committee encourages continued efforts to characterize emerging unconventional reservoirs but with emphasis on geographic areas where geological conditions are optimal for the generation and accumulation of economically significant amounts of oil or gas in the geological formation(s) being studied, as indicated by published reports and existing early-stage commercial activity. The Committee further encourages a focus of available resources on potential unconventional reservoirs for which there is limited data rather than well-known existing reservoirs. University-led research is preferred to ensure a broad range of expertise is utilized to address the entire range of environmental, socio-economic, geological, and technical challenges associated with unconventional oil and gas development. The Committee also recognizes that private industry participation in very early development phase research projects, although desirable, is often difficult to achieve due to the highly proprietary nature of early-stage exploration data.

The Committee recommends \$4,000,000 for further research on multipronged approaches for characterizing the constituents of and managing the cleaning of water produced during the extraction of oil and natural gas, of which \$2,000,000 is recommended to partner with research universities engaged in the study of characterizing, cleaning, treating, and managing produced water and who are willing to engage through public private partnerships with the energy industry to develop and assess commercially viable technology to achieve the same. The Committee encourages the Department to work with the energy producing industry to identify and develop—to a commercial scale—technologies that can characterize, clean and effectively treat produced water to have beneficial reuse.

The Committee directs the Department to continue its research partnership with the Department of Transportation on the crude oil characterization study to improve the safety of crude oil transported by rail. The Committee recommends up to \$1,500,000 for completion of the study.

The Committee recognizes that the United States possesses vast domestic coal reserves that cannot be mined economically at current prices. Although some natural gas is absorbed by coal and can be economically recovered through methane extraction, more efficient recovery mechanisms are feasible. To validate methods for recovering a greater fraction of energy contained in deep coal deposits, the Committee encourages the Department to conduct pilot field tests of technologies for in-situ biological conversion of coal to natural gas with university participants, and evaluate the feasibility of converting coal deposits in both the Western and Eastern United States into natural gas.

NATIONAL ENERGY TECHNOLOGY LABORATORY

The Committee recommends \$50,000,000 for NETL Research and Operations and \$45,000,000 for NETL Infrastructure.

NETL Infrastructure.—The Committee directs the Department to prioritize funds to provide site-wide upgrades for safety, avoid an increase in deferred maintenance, and provide for the continued update and refresh of Joule through the final year of a 3-year lease.

NAVAL PETROLEUM AND OIL SHALE RESERVES

Appropriations, 2018	\$4,900,000
Budget estimate, 2019	10,000,000
Committee recommendation	10,000,000

The Committee recommends \$10,000,000 for Naval Petroleum and Oil Shale Reserves, the same as the budget request.

STRATEGIC PETROLEUM RESERVE

Appropriations, 2018	\$252,000,000
Budget estimate, 2019	175,105,000
Committee recommendation	175,105,000

The Committee recommends \$175,105,000 for the Strategic Petroleum Reserve, the same as the budget request.

NORTHEAST HOME HEATING OIL RESERVE

Appropriations, 2018	\$6,500,000
Budget estimate, 2019	10,000,000
Committee recommendation	10,000,000

The Committee recommends \$10,000,000 for the Northeast Home Heating Oil Reserve, the same as the budget request.

ENERGY INFORMATION ADMINISTRATION

Appropriations, 2018	\$125,000,000
Budget estimate, 2019	115,035,000
Committee recommendation	125,000,000

The Committee recommends \$125,000,000 for the Energy Information Administration, an increase of \$9,965,000 above the budget request.

The Committee recognizes the importance of building energy information and the opportunity for better data collection presented by new technologies. The Department is encouraged to upgrade the Commercial Buildings Energy Consumption Surveys to a real-time data collection system with rapid reporting of results, without compromising statistical validity or data security.

NON-DEFENSE ENVIRONMENTAL CLEANUP

Appropriations, 2018	\$298,400,000
Budget estimate, 2019	218,400,000
Committee recommendation	353,240,000

The Committee recommends \$353,240,000 for Non-Defense Environmental Cleanup, an increase of \$134,840,000 above the budget request.

Small Sites.—The Committee recommends \$174,000,000 for Small Sites. Within the available funds, the Committee recommends \$10,000,000 for work required pursuant to the agreement reached in 2012 between the Department, the Advisory Council on

Historic Preservation, and State and local governments to complete the demolition of K-25 in exchange for preserving the historic contributions made by the K-25 site to the Manhattan Project. The Committee also recommends \$20,000,000 for operations, maintenance, and cleanup activities to support the Manhattan Project National Historical Park sites in Hanford, Washington, and Los Alamos, New Mexico. The Park tells an important story in our Nation's history: the development and production of the technology and materials necessary to create the world's first atomic bomb.

Within available funds, the Committee recommends \$55,000,000 to continue work at Lawrence Berkeley National Laboratory, \$45,000,000 for Moab, and \$25,000,000 to continue the removal of the High Flux Beam Reactor stack at Brookhaven.

URANIUM ENRICHMENT DECONTAMINATION AND DECOMMISSIONING
FUND

Appropriations, 2018	\$840,000,000
Budget estimate, 2019	752,749,000
Committee recommendation	840,818,000

The Committee recommends \$840,818,000 for Uranium Enrichment Decontamination and Decommissioning [UED&D] activities, an increase of \$88,069,000 above the budget request.

The Committee recommendation includes \$195,000,000 for East Tennessee Technology Park to continue cleanup and demolition of all remaining facilities including the K-1200 complex and the K-1600 complex, and to conduct remedial actions, and site closure activities. The Committee also recommends \$206,000,000 for Paducah, and \$408,099,000 for Portsmouth. Additional funding of \$60,000,000 above the budget request is recommended for the Portsmouth Site, and the Department shall not barter, transfer, or sell uranium during fiscal year 2019 to generate additional funding for Portsmouth cleanup that is in excess of the amount of funding recommended.

SCIENCE

Appropriations, 2018	\$6,259,903,000
Budget estimate, 2019	5,390,972,000
Committee recommendation	6,650,000,000

The Committee recommends \$6,650,000,000 for Science, an increase of \$1,259,028,000 above the budget request.

Distinguished Scientist Program.—The Committee recommends \$4,000,000 to support the Department's Distinguished Scientist Program, as authorized in section 5011 of Public Law 110-69 to promote scientific and academic excellence through collaborations between institutions of higher education and national laboratories to be funded from across all Office of Science programs.

Quantum Information Science.—The Committee supports the Office of Science's coordinated and focused research program in quantum information science to support the Department's science, energy, and national security missions. This emerging field of science promises to yield revolutionary new approaches to computing, sensing, communication, and metrology, as well as our understanding of the universe, and accordingly the Committee recommends

\$105,000,000 as requested across the Office of Science programs to advance early stage fundamental research in this field of science.

Small Business Innovation Research.—The Committee recognizes the importance of small businesses in meeting the research and development mission of the Department and is concerned that the Department's previous delays in issuing Small Business Innovation Research [SBIR] and Small Business Technology Transfer [STTR] awards had a negative impact on small businesses. The Committee directs the Department to meet its congressionally mandated deadlines of reviewing small businesses' applications for SBIR/STTR awards as required by P.L. 112–81.

ADVANCED SCIENTIFIC COMPUTING RESEARCH

The Committee recommends \$980,000,000 for Advanced Scientific Computing Research.

The Committee recommends \$232,706,000 for the Exascale Computing Project. In addition, the Committee recommends \$205,000,000 for the Oak Ridge Leadership Computing Facility, \$145,000,000 for the Argonne Leadership Computing Facility, \$110,000,000 for the National Energy Research Scientific Computing Center, and \$85,000,000 for ESnet. The Committee supports the Department's efforts to fully fund an upgrade to ESnet and urges the Department to submit budget requests that provide ESnet the ability to procure the technology and operational resources needed for mission success. Further, the Committee recommends \$10,000,000 for the Computational Sciences Graduate Program. The Committee recommends not less than \$24,000,000 for Research and Evaluation Prototypes.

The Committee recommends not less than \$159,000,000 for Mathematical, Computational, and Computer Sciences Research to support the development of critical tools for advanced computing. The Committee is supportive of recent research thrusts to develop scientific machine learning tools to enhance scientific discovery from user facility data and fundamental research in quantum information science that will lay the groundwork for deployable quantum computing systems.

The Committee recommends \$75,667,000 for Computational Partnerships [SciDAC]. Within available funding for SciDAC, the Committee recommends up to \$13,000,000 to support work on artificial intelligence and big data focused on the development of algorithms and methods to identify new ways of extracting information from data generated at the Office of Science's large user facilities or validating use of machine learning in the Office of Science's program's scientific simulations. This is the only funding recommended within the Office of Science that shall be available for this work. Further, none of the funding in the Office of Science is available for clinical trials or therapeutics.

BASIC ENERGY SCIENCES

The Committee recommends \$2,193,400,000 for Basic Energy Sciences [BES].

The Committee recommends not less than \$110,000,000 for the Energy Frontier Research Centers to continue multi-disciplinary, fundamental research needed to address scientific grand chal-

lenges. The Committee continues to support the EPSCoR program and its goals of broadening participation in sustainable and competitive basic energy research in eligible jurisdictions. The Committee recommends \$20,000,000 for EPSCoR and directs the Department to resume annual or at minimum, biennial, Implementation Grant solicitations. The Committee further directs the Department to submit a report to the Committees on Appropriations of both Houses of Congress not later than 90 days after enactment of this act that provides a plan for future solicitations.

The Committee recommends not less than \$519,009,000 to fully fund optimal operations at the five BES light sources and to adequately invest in the recapitalization of key instruments and infrastructure, and in staff and other resources necessary to deliver critical scientific capabilities to users. Within the available funds, the Committee recommends \$118,200,000 for the operation of NSLS-II. Recognizing that the Department has constructed only half of the 60 beamlines that the NSLS-II can accommodate, and has not yet requested funding for the construction of additional beamlines in fiscal year 2019, the Committee directs the Department to submit as part of its fiscal year 2020 budget request a plan for the build-out of additional beamlines to fully leverage the capabilities of the NSLS-II.

The Committee recommends \$285,000,000 for high-flux neutron source operations which will allow for both Spallation Neutron Source [SNS] and High Flux Isotope Reactor [HFIR] to proceed with the most critical deferred repairs, replace outdated instruments, and make essential machine improvements. The Committee does not recommend funding for the Lujan Neutron Scattering Center.

The Committee recommends not less than \$140,000,000 to fully fund optimal operations at the five BES Nanoscale Science Research Centers and to adequately invest in the recapitalization of key instruments and infrastructure, and in staff and other resources necessary to deliver critical scientific capabilities to users.

The Committee recommends \$24,088,000 for the Batteries and Energy Storage Hub, the Joint Center for Energy Storage Research [JCESR]. The Committee is highly supportive of the work of JCESR to develop energy storage research prototypes for transportation and grid applications beyond lithium-ion technologies. These prototypes will demonstrate the potential to scale up manufacturing prototype batteries to decrease costs and increase energy density of novel energy storage concepts. The Committee supports the continued research and development for JCESR, to ensure the outcome of basic research leads to practical solutions that are competitive in the marketplace.

The Committee recommends not less than \$15,000,000 for the Fuels from Sunlight Hub. The Committee directs the Department of Energy to submit a solar fuels research initiative strategic plan within 120 days after enactment of this act. The 10-year plan shall include research challenges and opportunities, program goals and milestones to overcome scientific and technological impediments, a description of coordination between the Office of Science, EERE, and ARPA-E to leverage basic research and early-stage translational research in solar fuels to accelerate the pace of inno-

vation, an assessment of U.S. leadership in solar fuels research relative to international competition and the extent to which the Department's investments are sufficient to maintain U.S. leadership.

The Committee supports funding for energy research activities related to enhanced efficiency in energy conversion and utilization, including emergent polymer optoelectronic technologies, to ensure continued competitiveness in a global marketplace. The Department is directed to continue its partnership with qualified institutions of higher education in this effort. The Committee encourages the Department to continue funding to support research and development needs of graduate and post-graduate science programs at Historically Black Colleges and Universities.

The Committee recommends \$26,000,000 for exascale systems.

Within the amounts recommended for Construction, the Committee recommends \$70,000,000 for the Proton Power Upgrade project at the Spallation Neutron Source, \$15,000,000 for the Second Target Station preliminary engineering design and to continue work towards a project baseline, \$50,000,000 for the Advanced Light Source Upgrade, \$140,000,000 for the Advanced Photon Source Upgrade, \$28,000,000 for LCLS-II HE, and \$139,300,000 for LCLS-II.

Not less than \$14,100,000 is available for Other Project Costs, of which \$6,000,000 is for the High Energy Upgrade at LCLS-II; \$6,100,000 is for LCLS-II; and \$2,000,000 is for the Advanced Light Source Upgrade.

BIOLOGICAL AND ENVIRONMENTAL RESEARCH

The Committee recommends \$715,000,000 for Biological and Environmental Research. The Committee recognizes the unique and beneficial role that the Department plays for the Nation in the advancement of biosciences to address core departmental missions in energy and the environment. The Department is directed to give priority to optimizing the operation of Biological and Environmental Research User Facilities.

The Committee recommends \$371,000,000 for Biological Systems Science, including not less than \$100,000,000 for the four recently selected Bioenergy Research Centers. The Committee directs the Department to maintain Genomic Science as a top priority and recommends \$90,000,000 for Foundational Genomics Research and \$34,908,000 for Biomolecular Characterization and Imaging Science. The Committee recommends \$70,000,000 for the Joint Genome Institute, an essential component for genomic research. The Committee recognizes the importance of the emerging field of microbiome research to the mission objectives of the Office of Science and more broadly within the Department, especially in relation to energy security and environmental sustainability. To address programmatic opportunities in microbiome research and development and to maintain U.S. leadership in the field, the Committee recommends an additional \$10,000,000 to begin the establishment of a national microbiome database. The Department should lead this effort in collaboration with other Federal agencies.

The Committee recommends \$344,000,000 for Earth and Environmental Systems Sciences. Within available funding for Earth and Environmental Systems Sciences, the Committee recommends

not less than \$40,000,000 for Terrestrial Ecosystem Science, of which not less than \$10,000,000 is for NGEE-Arctic, \$8,300,000 is for the SPRUCE field site, \$5,800,000 is for Next Generation Ecosystem Experiments Tropics, \$6,800,000 is for Watershed Function SFA, and \$5,700,000 is for AmeriFLUX Long-Term Earth System Observations. Within available funding for Earth and Environmental Systems Sciences, the Committee recommends not less than \$22,143,000 for Subsurface Biogeochemical Research, including not less than \$3,000,000 to support on-going research and discovery related to mercury biogeochemical transformations in the environment.

The Committee recommends \$97,000,000 for Earth and Environmental Systems Modeling and directs the Department to expend appropriated funds for earth system modeling, and regional and global model analysis. The Committee further directs the Department to make land-energy interactions, land biogeochemistry, uncertainty quantification, and model evaluation (e.g., ILAMB) a priority within the regional and global modeling activities, and continue to support performance optimization of coupled systems for execution on high performance and exascale systems. The Committee recommends \$15,000,000 to support the exascale computing initiative.

Within available funds, not less than \$133,500,000 is recommended for Facilities and Infrastructure in the Earth and Environmental Systems Sciences program, including \$45,000,000 for the Environmental Molecular Sciences Laboratory, and \$68,000,000 for the Atmospheric Radiation Measurement [ARM] User Facility. The Committee also recommends an additional \$17,500,000 to replace the ARM mobile unit. The Committee supports the Department's proposal to initiate a terrestrial-aquatic interfaces pilot project and encourages the Department to explore as part of this pilot the resilience of ecosystems in coastal regions in response to changing environments and extreme weather events.

The Committee encourages the Department to increase its funding for academia to perform independent evaluations of climate models using existing data sets and peer-reviewed publications of climate-scale processes to determine various models' ability to reproduce the actual climate.

FUSION ENERGY SCIENCES

The Committee recommends \$425,000,000 for Fusion Energy Sciences.

U.S. Contribution to ITER.—The Committee recommends \$122,000,000 for the in-kind contributions and related support activities of the International Thermonuclear Experimental Reactor [ITER] project. The Committee does not recommended funding for the cash contribution.

The Committee recommends not less than \$7,000,000 for the Material Plasma Exposure eXperiment and not less than \$92,500,000 for DIII-D.

The Committee directs the Fusion Energy Sciences Advisory Committee to review establishing a reactor concepts research, development, and deployment activity. Within 180 days after enactment of this act, the Department is directed to brief the Commit-

tees on Appropriations of both Houses of Congress on a recommendation, which if supported, will include a technical plan, program and eligibility requirements, and funding profile for future fiscal years.

HIGH ENERGY PHYSICS

The Committee recommends \$1,010,000,000 for High Energy Physics. The Committee strongly supports the Department's efforts to advance the recommendations of the Particle Physics Project Prioritization Panel Report [P5], which established clear priorities for the domestic particle physics program.

The Committee recommends \$7,500,000 for the Dark Energy Spectroscopic Instrument; \$14,450,000 for the G2 Dark Matter Experiment LUX-ZEPLIN; and \$10,000,000 for the Facility for Advanced Accelerator Experimental Tests II. The Committee notes that fabrication of the Large Synoptic Survey Telescope Camera will be complete with fiscal year 2018 funding and recommends \$6,250,000 for ongoing efforts for commissioning and initial operation of the camera.

In accordance with the P5, the Committee strongly urges the Department to maintain a balanced portfolio of small-, medium- and large-scale experiments, and to ensure adequate funding for the basic research program at universities and the national laboratories. In particular, in addition to the support for the Long Baseline Neutrino Facility to study neutrino physics, the Committee urges the Department to support the P5 recommendation for a next-generation Stage 4 Cosmic Microwave Background experiment for precision studies of the early universe.

Four years into executing the P5, the Committee commends the Office of Science and the high energy physics community for achieving significant accomplishments and meeting the milestones and goals set forth in the strategic plan, including advancing the high-luminosity accelerator and detector upgrades for the Large Hadron Collider, construction of the Long Baseline Neutrino Facility/Deep Underground Neutrino Experiment, completing the construction of second generation dark matter and dark energy experiments, operating the world's highest power beams for neutrino physics, building a successful prototype of the strongest accelerator magnet ever built, and discovering new configurations of matter. The Committee encourages the Department and the high energy physics community to continue to provide progress reports on meeting P5 goals. The Committee recommends \$145,000,000 to continue construction of the Long Baseline Neutrino Facility/Deep Underground Neutrino Experiment, consistent with the Department's project cost profile, and \$35,000,000 for the PIP-II accelerator upgrade.

A recent National Academies study, *Opportunities in Intense Ultrafast Lasers, Towards the Brightest Light*, highlighted the importance of investing in high-intensity laser technology to maintain U.S. leadership and open up new frontiers of science. To help advance this important area of research, the Committee directs the Department to provide a plan within 90 days after enactment of this act that responds to the recommendations of this study concerning this important national capability.

NUCLEAR PHYSICS

The Committee recommends \$710,000,000 for Nuclear Physics, and strongly supports the Long Range Plan for Nuclear Science released in October 2015 to address important scientific questions with modest or constrained growth in the nuclear science budgets, while still maintaining a strong, vital and world-leading program.

Within available funds, the Committee recommends \$75,000,000 for the Facility for Rare Isotope Beams [FRIB], and encourages the Department to work with Michigan State University to commence early operations at FRIB. The Committee also recommends \$11,500,000 for the Stable Isotope Production Facility to provide increased domestic capacity for production of critically needed enriched stable isotopes for research, defense, and industry, and reduce the Nation's dependence on foreign supplies. The Committee also recommends \$6,600,000 for the Gamma-Ray Energy Tracking Array, which will enable advanced, high resolution gamma ray detection capabilities for FRIB.

The Committee further recommends optimal operations at the Relativistic Heavy Ion Collider, Continuous Electron Beam Accelerator Facility, the Argonne Tandem Linac Accelerator System, and the Brookhaven Linac Isotope Producer Facility.

WORKFORCE DEVELOPMENT FOR TEACHERS AND SCIENTISTS

The Committee recommends \$24,500,000 for Workforce Development for Teachers and Scientists. Within available funds, the Committee recommends \$11,300,000 for the Science Undergraduate Laboratory Internship; \$1,000,000 for the Community College Institute of Science and Technology; \$4,500,000 for the Graduate Student Research Program; \$1,200,000 for the Albert Einstein Distinguished Educator Fellowship; \$2,900,000 for the National Science Bowl; \$750,000 for Technology Development and Online Application; \$600,000 for Evaluation Studies; \$500,000 for Outreach; and \$50,000 for Laboratory Equipment Donation Program.

SCIENCE LABORATORIES INFRASTRUCTURE

The Committee recommends \$302,100,000 for Science Laboratories Infrastructure.

Within these funds, the Committee recommends \$26,000,000 for nuclear operations at Oak Ridge National Laboratory. In future budget requests, the Committee directs the Office of Science to work with the Office of Nuclear Energy to demonstrate a commitment to operations and maintenance of nuclear facilities at Oak Ridge National Laboratory that support multiple critical missions.

ADVANCED RESEARCH PROJECTS AGENCY—ENERGY

Appropriations, 2018	\$353,314,000
Budget estimate, 2019 .....	.....
Committee recommendation	375,000,000

The Committee recommends \$375,000,000 for the Advanced Research Projects Agency—Energy [ARPA-E], an increase of \$375,000,000 above the budget request. Within available funds, the Committee recommends \$33,250,000 for program direction.

ARPA-E was established by the America COMPETES Act of 2007 following a recommendation by the National Academies of Sciences, Engineering, and Medicine in the *Rising Above the Gathering Storm* report. Since receiving its first funding in fiscal year 2009, ARPA-E continues to catalyze and support the development of transformational, high-impact energy technologies to ensure the Nation's economic and energy security and technological leadership. Project sponsors continue to form strategic partnerships and new companies, as well as secure private sector funding to help move ARPA-E technologies closer to the market.

The Committee definitively rejects the short-sighted proposal to terminate ARPA-E, and instead increases investment in this transformational program and directs the Department to continue to spend funds provided on research and development and program direction. The Department shall not use any appropriated funds to plan or execute the termination of ARPA-E.

INNOVATIVE TECHNOLOGY LOAN GUARANTEE PROGRAM

ADMINISTRATIVE EXPENSES

GROSS APPROPRIATION

Appropriations, 2018	\$33,000,000
Budget estimate, 2019	10,000,000
Committee recommendation	33,000,000

OFFSETTING COLLECTIONS

Appropriations, 2018	-\$10,000,000
Budget estimate, 2019	- 15,000,000
Committee recommendation	- 15,000,000

NET APPROPRIATION

Appropriations, 2018	\$23,000,000
Budget estimate, 2019	- 5,000,000
Committee recommendation	18,000,000

The Committee recommends \$33,000,000 in funding for the Loan Guarantee Program, an increase of \$23,000,000 above the budget request. This funding is offset by \$15,000,000 in collections from loan guarantee applicants, for a net appropriation of \$18,000,000. An additional \$44,000,000 is credited to the bill as an adjustment from negative subsidies associated with this program. No funds recommended under this heading may be used to plan, develop, implement or pursue the elimination of the Title XVII Innovative Technologies Loan Program.

ADVANCED TECHNOLOGY VEHICLES MANUFACTURING LOAN PROGRAM

Appropriations, 2018	\$5,000,000
Budget estimate, 2019	1,000,000
Committee recommendation	5,000,000

The Committee recommends \$5,000,000 for the Advanced Technology Vehicles Manufacturing Loan Program, an increase of \$4,000,000 above the budget request.

TRIBAL ENERGY LOAN GUARANTEE PROGRAM

Appropriations, 2018	\$1,000,000
Budget estimate, 2019	-8,500,000
Committee recommendation	1,000,000

The Committee recommends \$1,000,000 for the Tribal Energy Loan Guarantee Program, an increase of \$9,500,000 above the budget request.

OFFICE OF INDIAN ENERGY POLICY AND PROGRAMS

Appropriations, 2018	
Budget estimate, 2019	
Committee recommendation	\$18,000,000

The Committee recommends \$18,000,000 for the Office of Indian Energy Policy and Programs. The activities of this office have previously been funded in the Departmental Administration account.

DEPARTMENTAL ADMINISTRATION

(GROSS)

Appropriations, 2018	\$285,652,000
Budget estimate, 2019	235,534,000
Committee recommendation	266,000,000

(MISCELLANEOUS REVENUES)

Appropriations, 2018	-\$96,000,000
Budget estimate, 2019	-96,000,000
Committee recommendation	-96,000,000

NET APPROPRIATION

Appropriations, 2018	\$189,652,000
Budget estimate, 2019	139,534,000
Committee recommendation	170,000,000

The Committee recommends \$266,000,000 in funding for Departmental Administration. This funding is offset by \$96,000,000 in revenue for a net appropriation of \$170,000,000.

The Committee has reduced the number of control points in this account to provide flexibility to the Department in its management and funding of its support functions. The Department is directed to continue to submit its budget request for this account in its current structure. The Other Departmental Administration activity includes Technology Transition Management, Chief Human Capital Officer, Chief Information Officer, Office of Small and Disadvantaged Business Utilization, General Counsel, Energy Policy and Systems Analysis, Technology Transitions, International Affairs, Public Affairs, Economic Impact and Diversity, and Office of Energy Jobs Development. The Office of Indian Energy Policy and Programs is funded in a separate account.

Within International Affairs, the Committee recommends \$2,000,000 for the Israel Binational Industrial Research and Development [BIRD] Foundation and \$4,000,000 to continue the U.S.-Israel Center of Excellence in Energy Engineering and Water Technology as authorized by the United States-Israel Strategic Partnership Act. This joint research and development center between the

U.S. and Israel shall focus on collaborative research initiatives among universities, research institutions, and industry partners that could include hydrocarbon extraction and processing, energy infrastructure and policies, process water treatment, alternative energy sources, and impacts on coastal communities. Funding provided shall be matched with Israeli government and industry funding. The Department is directed to expeditiously obligate funding provided in fiscal year 2018 and provide to the Committees on Appropriations of both Houses of Congress a briefing on implementation and management. The Committee directs the Department to ensure the center is cost-shared with Israel and non-federal partners.

Technology Transfer.—Within the amount recommended for Other Departmental Administration, the Committee recommends \$8,505,000 for the Office of Technology Transition. In awarding funding from the Technology Commercialization Fund, the Department shall assure cost match with private partners is in accordance with cost sharing in section 988 of the Energy Policy Act of 2005 (42 U.S.C. 16352).

Small Refinery Exemption.—The Department is directed to continue to follow the direction included in the Energy and Water Development and Related Agencies Appropriations Act, 2018, under this heading.

OFFICE OF THE INSPECTOR GENERAL

Appropriations, 2018	\$49,000,000
Budget estimate, 2019	51,330,000
Committee recommendation	51,330,000

The Committee recommends \$51,330,000 for the Office of the Inspector General, the same as the request.

ATOMIC ENERGY DEFENSE ACTIVITIES

NATIONAL NUCLEAR SECURITY ADMINISTRATION

The Committee recommendation for the National Nuclear Security Administration [NNSA] continues funding for recapitalization of our nuclear weapons infrastructure, while modernizing and maintaining a safe, secure, and credible nuclear deterrent without the need for underground testing. This is among our most important national security priorities.

At the same time, the Committee supports continuing important efforts to secure and permanently eliminate remaining stockpiles of nuclear and radiological materials overseas and in the United States that could be used for nuclear or radiological weapons. In addition, the Committee supports Naval Reactors and the important role they play in enabling the Navy's nuclear fleet.

The NNSA is a semi-autonomous agency within the Department. The NNSA Act clearly lays out the functions of the NNSA, and gives the Administrator authority over, and responsibility for, those functions. No funds shall be used to reorganize, reclassify, or study combining any of those functions with the Department. Funds may be used to evaluate any other function not specifically listed as an NNSA function in the NNSA Act, such as a chief scientist or office of policy.

INTEGRATED UNIVERSITY PROGRAM

The Committee directs the Secretary to carry out the requirements of 42 U.S.C. 16274a in support of university research and development in areas relevant to the NNSA's mission. Within available funds, the Committee recommends not less than \$5,000,000 for the Integrated University Program to cultivate the next generation of leaders in nonproliferation, nuclear security, and international security. Together with funds from the Office of Nuclear Energy and the Nuclear Regulatory Commission, this program ensures highly qualified nuclear specialists will be available to meet national needs. The Committee directs the Department to request funding for this program in future budget years. Funding for this program shall not come from prior year funds.

In addition to the Integrated University Program within Defense Nuclear Nonproliferation, the NNSA manages several university-related programs, ranging from fellowships and scholarships to university research. The NNSA has not been able to provide a clear accounting of these various programs, and is directed to provide a report annually with the budget request that lists all of the university programs requested, the recommended funding level, and the value that program provides the NNSA.

PROJECT MANAGEMENT

The Committee is concerned about the NNSA's ability to properly estimate costs and timelines for large projects. The NNSA is encouraged to assess current performance on projects costing more than \$750,000,000, and make appropriate project management changes. The Committee encourages the NNSA to identify problems in cost and schedule estimates early, and provide updated information to the Committees on Appropriations of both Houses of Congress in a timely manner.

WEAPONS ACTIVITIES

Appropriations, 2018	\$10,642,138,000
Budget estimate, 2019	11,017,078,000
Committee recommendation	10,850,000,000

The Committee recommends \$10,850,000,000 for Weapons Activities, a decrease of \$167,078,000 below the budget request, to ensure the safety, security, reliability, and effectiveness of the Nation's nuclear weapons stockpile without the need for nuclear testing.

DIRECTED STOCKPILE WORK

The Committee recommends \$4,700,501,000 for Directed Stockpile Work.

Life Extension Programs.—The Committee recommends \$1,919,988,000 for Life Extension Programs [LEPs] and Major Alterations, which fully funds all LEPs and major alterations in the budget request, consistent with the plan of record approved by the Nuclear Weapons Council. The NNSA needs to ensure that LEPs are completed on time and on budget to prevent impact on other high priorities, such as modernizing aging infrastructure, critical nonproliferation activities to combat nuclear terrorism, and naval nuclear propulsion.

Weapons Dismantlement and Disposition.—The Committee recommends \$56,000,000 for the dismantlement of retired nuclear weapons removed from the stockpile.

Strategic Materials.—The Committee supports the budget request for strategic materials, including management of existing material stockpiles and methods to replenish the supply needed for our national security programs. As the Department progresses through the ongoing warhead life extension programs, it will require the necessary strategic materials to meet the stockpile demands. The NNSA is encouraged to explore all options, including leveraging qualified industrial partners, to ensure it can maintain a consistent supply of purified uranium metal and other strategic materials.

The Committee continues to support the Nuclear Weapons Council's program of record for plutonium pit production to meet the Fiscal Year 2015 National Defense Authorization Act requirement of 30 pits per year at Los Alamos National Laboratory by 2026.

Within available funds, NNSA is directed to contract with a third-party federally-funded Research and Development Corporation to conduct an independent assessment of the NNSA's decision to conduct pit production operations at two sites. NNSA shall identify and execute a contract with an independent FFRDC, not directly involved in plutonium pit production, not later than 60 days after enactment of this act. NNSA shall not proceed with conceptual design activities for the recently announced preferred alternative until an FFRDC is under contract. The assessment shall include an analysis of the four options evaluated in the recent Plutonium Pit Production Engineering Assessment, all identified risks, engineering requirements, workforce development requirements, and other factors considered. The FFRDC shall submit its report to the Committees on Appropriations of both the Houses of Congress not later than 210 days after enactment of this act.

Domestic Uranium Enrichment.—The Department's approved Mission Need Statement [MNS] for Domestic Uranium Enrichment states that in 2014–2015, the American Centrifuge Plant had successfully completed its mission of providing reliability and operational data. The Department's research and development on small centrifuges has not yet reached that level of maturity. The MNS also stated that the cost range to enrich uranium using AC-100 would cost approximately twice as much as using small centrifuges. The Committee is concerned that the Department lacks a credible plan to obtain adequate data on small centrifuge operations to complete the Analysis of Alternatives for uranium enrichment as scheduled. The Committee recommends \$50,000,000 for Domestic Uranium Enrichment, including not more than \$5,000,000 for research, development, and demonstration of AC-100 and not less than \$45,000,000 for research, development and demonstration of small centrifuges. No funds are recommended for uranium downblending within this account.

Tritium Sustainment.—The Committee recommends \$290,275,000 for tritium sustainment, including \$85,000,000 to downblend uranium for tritium production.

RESEARCH, DEVELOPMENT, TECHNOLOGY, AND ENGINEERING

The Committee recommends \$2,042,289,000 for Research, Development, Technology, and Engineering.

Science.—The Committee directs the Administrator to enter into a contract with the group known as JASON for a study to assess the efforts of the NNSA to understand plutonium aging and the lifetime of plutonium pits in nuclear weapons. The Administrator shall make available all information that is necessary to successfully complete a meaningful study on a timely basis. Not later than 18 months after the date of enactment of this act, the Administrator shall submit to Congress a report on the findings of the study. The report shall include recommendations of the study for improving the knowledge, understanding, and application of the fundamental and applied sciences related to the study of plutonium aging and pit lifetimes, an estimate of minimum and likely lifetimes for pits in current warheads, and the feasibility of reusing pits in modified nuclear weapons. The report shall be submitted in unclassified form but may include a classified annex.

Academic Alliances and Partnerships.—The Committee recognizes the importance of the Academic Alliances and Partnerships program in supporting fundamental science and technology research at universities that support stockpile stewardship, the development of the next generation of highly-trained workforce, and the maintenance of a strong network of independent technical peers. The Committee is also aware of the expertise provided to the NNSA by academic alliances and the centers of excellence program. The Committee encourages the NNSA to fund new centers of excellence, especially in the field of materials under extreme conditions research. The Committee recommends \$53,364,000. Within this amount, not less than \$20,000,000 is recommended for the Minority Serving Institution Partnership Program, within which not less than \$2,000,000 is recommended for Tribal Colleges and Universities.

Engineering.—The Committee recommends \$22,500,000 to complete the recapitalization of the Microsystems and Engineering Sciences Applications silicon fabrication facility, consistent with the budget request. The Committee also supports increased investment in Enhanced Surety in recognition of new threats and the challenges maintaining readiness on aging systems. Within the available funding, \$5,000,000 is recommended for next-generation technology development for warhead system certification and the protection against theft/loss and terrorism incident.

Inertial Confinement Fusion Ignition and High-Yield.—The Committee finds that the Inertial Confinement Fusion and High Yield [ICF] program continues to be a critical and essential component of nuclear stockpile certification without underground nuclear weapons testing, maintaining U.S. leadership in high energy density physics and laser technologies, and developing the next-generation workforce. Therefore, the Committee recommends \$544,934,000 for the ICF program. Within available funds, the Committee recommends \$344,000,000 for inertial confinement fusion activities at the National Ignition Facility, \$63,100,000 is recommended for Sandia National Laboratory's Z facility, and

\$80,000,000 is recommended for the University of Rochester’s Omega facility. Within available funds for facility operations and other amounts, the Committee recommends not less than \$30,000,000 for target research, development, and production. To ensure a robust, diverse, and competitive vendor base for targets, the Committee directs the NNSA to compete as much scope as practicable and limit sole-source contracts to \$15,000,000 or less. The Committee further encourages continued research by the NNSA in High Energy Density Plasmas and recognizes the partnerships between the laboratories and research universities to address the critical need for skilled graduates to replace an aging workforce at our NNSA laboratories.

Advanced Simulation and Computing.—The Committee recommends \$703,404,000 for advanced simulation and computing. Within available funds, the Committee recommends not less than \$163,000,000 for activities associated with the exascale initiative, such as advanced system architecture design contracts with vendors and advanced weapons code development to effectively use new high performance computing platforms. Within funds provided, the Committee recommends up to \$13,000,000 for work on integration of artificial intelligence approaches into mechanistic modeling and prediction.

Advanced Manufacturing Development.—The Committee recommends \$96,838,000 for Advanced Manufacturing Development. Within available funds, \$35,914,000 is recommended for Process Technology Development, including \$5,000,000 to modernize and upgrade legacy applications at weapons production facilities to improve manufacturing and safety.

INFRASTRUCTURE AND OPERATIONS

The Committee recommends \$2,749,048,000 for Infrastructure and Operations.

Project 06-D-141, Uranium Processing Facility, Y-12, Oak Ridge, Tennessee.—The Committee recommends \$703,000,000 to continue construction activities of the five remaining subprojects of the Uranium Processing Facility, including the Main Process Building and the Salvage and Accountability Building. The Committee notes that the designs for these nuclear facilities have reached the 90 percent completion milestone and the NNSA Administrator has approved the cost and schedule baselines for both buildings.

The Committee supports the ongoing effort to replace existing enriched uranium capabilities currently residing in Building 9212 by 2025 for not more than \$6,500,000,000 and the strategy of breaking the project into more manageable subprojects. This practice is specifically permitted by DOE Order 413.3B, and is a practical approach for any project of this magnitude.

DEFENSE NUCLEAR NONPROLIFERATION

Appropriations, 2018	\$1,999,219,000
Budget estimate, 2019	1,862,825,000
Committee recommendation	1,902,000,000

The Committee recommends \$1,902,000,000 for Defense Nuclear Nonproliferation, an increase of \$39,175,000 above the budget request.

Defense Nuclear Nonproliferation provides a vitally important component of our national security—preventing nuclear materials and weapons from falling into the wrong hands, including non-weapons nations, terrorist organizations, and other non-state entities. This mission is challenged by an increasingly dangerous world with emerging and evolving threats, in addition to the proliferation of technologies that simplify production, manufacturing, and design of nuclear materials and weapons. The Committee recognizes the importance of bilateral and multilateral agreements and organizations in detecting, intercepting, and deterring nuclear and radiological threats. The Committee urges the full use of these partnerships to further strengthen U.S. and global security. Within available funds, the Committee recommends up to \$18,000,000 to partner with interested State or local governments to improve capabilities to train first-responders, and other experts in nuclear operations, safeguards, cyber, and emergency operations.

To preserve and advance uranium and engineering expertise for purposes of national security and nonproliferation, the Committee encourages the ongoing collaboration between the Department's Office of Intelligence and the Defense Nuclear Nonproliferation program. Further, as the pathways to proliferation increase, it is vital to maintain the skilled workforce and unique infrastructure to detect nuclear proliferation and support policymakers in the future. The Department is directed to provide a report to the Committees on Appropriations of both Houses of Congress within 90 days after enactment of this act that provides a plan to maintain the necessary technical competencies and infrastructure. The Department is directed to coordinate with other government agencies and non-government entities to ensure it addresses the broad spectrum of nonproliferation needs.

Domestic Radiological Security.—The Committee recommends \$115,433,000 for Domestic Radiological Security, including not less than \$25,000,000 for the Cesium Irradiator Replacement Program.

Nonproliferation and Arms Control.—The Committee recommends \$129,703,000 for Nonproliferation and Arms Control activities. Within available funds, the Committee recommends not less than \$3,000,000 for international cooperation between governmental and non-governmental organizations at the national and sub-national levels to implement robust export control protocols.

Defense Nuclear Nonproliferation Research and Development.—The Committee recommends \$487,270,000 for Defense Nuclear Nonproliferation Research and Development. The Committee supports a robust research and development capability to support nonproliferation initiatives. Proliferation of illicit nuclear materials and weapons continues to be a high-consequence threat, and our ability to detect the production and movement of these materials is vitally important. Research and development in this area is especially important. The Committee recommendation supports continued research and development of novel enrichment technologies to support nonproliferation goals, and recommends \$7,500,000 for this purpose. The Committee also supports exploration and develop-

ment of material disposal technologies, and recommends up to \$10,000,000 for this purpose.

Low Enriched Uranium for Naval Applications.—Within available funds for Defense Nuclear Nonproliferation Research and Development, the Committee recommends \$10,000,000 for Advanced Low Enriched Uranium Fuel Research and Development for the national laboratories to develop low-enriched fuels that could replace highly enriched uranium for naval applications. Consistent with section 7319 of title 10, United States Code, this funding is recommended within the Defense Nuclear Nonproliferation account. This work shall be managed within Defense Nuclear Nonproliferation.

Seismic Research Instruments.—Several U.S. Government agencies reduce the costs of seismic research by utilizing shared-use instruments instead of owning, operating, and maintaining their own equipment. The Committee directs that within 180 days after enactment of this act, the NNSA shall submit a report to Committees on Appropriations of both Houses of Congress on the cost-effectiveness of establishing an agreement between the Department and one or more instrument centers to maintain and provide shared use of any instruments the Department acquires, rather than the Department doing so internally.

MOX Construction.—The Committee recommends \$220,000,000 for closeout costs associated with the termination of MOX Fuel Fabrication Facility construction, consistent with the budget request and the Secretary’s waiver to terminate the project.

Use of Prior Year Funds.—The Committee recommendation assumes the use of \$19,000,000 in prior year funds as recommended in the budget request, and the use of \$55,000,000 in prior year funds from Nonproliferation Construction.

NAVAL REACTORS

Appropriations, 2018	\$1,620,000,000
Budget estimate, 2019	1,788,618,000
Committee recommendation	1,620,000,000

The Committee recommends \$1,620,000,000 for Naval Reactors, a decrease of \$168,618,000 below the budget request. The Committee’s recommendation fully funds important national priorities, including the *Columbia*-class replacement submarine design and the prototype refueling. Naval Reactors currently relies on high-enriched uranium from weapons that have been removed from the stockpile to fuel the Navy’s aircraft carriers and submarines. The Committee encourages Naval Reactors to work with the NNSA to ensure there is a long-term plan that meets the Navy’s needs for high-enriched uranium.

COLUMBIA-CLASS REACTOR SYSTEMS DEVELOPMENT

The Committee recommends \$138,000,000 for *Columbia*-Class Reactor Systems Development. *Columbia*-class submarines must be delivered on time to maintain our survivable deterrent. The Committee directs Naval Reactors to provide the report in the Energy and Water Development and Related Agencies Appropriations Act,

2018, on technical risks to delivering the lead submarine on time, and mitigation strategies for those risks.

NAVAL REACTORS DEVELOPMENT

The Committee recommends \$475,000,000 for Naval Reactors Development. Within the available funds, the Committee recommends \$83,000,000 for the Advanced Test Reactor and \$2,000,000 for planning, preparation, and shipments of unirradiated or irradiated material to support a pilot project on ZIRCEX.

CONSTRUCTION

The Committee recommends \$233,194,000 for Construction. Within available funds, the Committee recommends \$209,000,000 for the Spent Fuel Handling Facility in Idaho, \$13,200,000 for the Fire System Upgrade at Bettis, and \$10,994,000 to replace an overhead piping utility distribution system at the KS site.

FEDERAL SALARIES AND EXPENSES

Appropriations, 2018	\$407,595,000
Budget estimate, 2019	422,529,000
Committee recommendation	408,000,000

The Committee recommends \$408,000,000 for Federal Salaries and Expenses, a decrease of \$14,529,000 below the budget request.

DEFENSE ENVIRONMENTAL CLEANUP

Appropriations, 2018	\$5,988,048,000
Budget estimate, 2019	5,630,217,000
Committee recommendation	5,988,000,000

The Committee recommendation for Defense Environmental Cleanup is \$5,988,000,000, an increase of \$357,783,000 above the budget request. Within available funds, the Department is directed to fund the hazardous waste worker training program at \$10,000,000.

Future Budget Requests.—The Committee directs the Department to include out-year funding projections in the annual budget request for Environmental Management, and an estimate of the total cost and time to complete each site.

Richland.—As a signatory to the Tri-Party Agreement, the Department is required to meet specific compliance milestones toward the cleanup of the Hanford site. Among other things, the Department committed to provide the funding necessary to enable full compliance with its cleanup milestones. Unfortunately, if the Department’s fiscal year 2019 budget request were enacted without change, future fiscal year Tri-Party Agreement milestones could be at risk, threatening high-risk cleanup projects near the City of Richland, Washington and the economically and environmentally important Columbia River. The Committee recognizes that significant progress has been made at the Hanford Site. However, because the Department’s budget request could slow or halt critical cleanup work and threaten the Department’s compliance with its legal obligations under the Tri-Party Agreement, the Committee recommends \$838,171,000 for Richland Operations. Additional funding is recommended for cleanup of the 300–296 waste site

under the 324 Building, interim stabilization of PUREX Tunnel #2, risk reduction activities associated with legacy waste sites, K-West facility cleanup and deactivation, site-wide infrastructure, and community and regulatory support. The Committee recommends no funding for the Department to carry out activities relating to single-shell tank stabilization nor activities in the Office of River Protection's tank farms within this control point.

Within available funds, the Department recommends \$8,500,000 for the Hazardous Materials Management and Emergency Response facilities. Further, within available funds, the Department is directed to support the recently established Hanford Workforce Engagement Center to provide education and advocacy to current and former Hanford employees on all available Federal and State compensation programs, and to identify if a capability to resolve disputes and concerns can be integrated into the Hanford Workforce Engagement Center. Funding for maintenance and public safety efforts at B Reactor in the Manhattan Project National Historical Park is recommended within the Non-Defense Environmental Cleanup account.

Oak Ridge Reservation.—The Committee recommends \$410,000,000 for the Oak Ridge Reservation, including \$10,000,000 to continue preliminary design of a new landfill. The existing on-site waste disposal facility is expected to reach capacity before all cleanup activities are completed. The new landfill needs to be completed to ensure that there is no interruption of cleanup activities. Additional funds above the budget request are recommended to address the growing backlog of deferred maintenance associated with excess contaminated facilities, several of which are on the Department's list of high-risk facilities, and to focus efforts at reducing threats to worker safety and health. Efforts should also be focused on cleanup of facilities needed for other purposes, such as hot cells, reactors, and other excess facilities located in the central campus at Oak Ridge National Laboratory.

U-233 Disposition Program.—The Committee recommends \$52,300,000 for the disposition of material in Building 3019. Removal of legacy material from this building, an aging facility in the heart of the Oak Ridge National Laboratory central campus, must remain a high priority for the Department. Removal of the Uranium 233 will enable the overall security posture at the laboratory to be relaxed, which will reduce costs and eliminate nuclear safety issues, and make the campus more conducive to collaborative science. The Committee encourages the Department to seek opportunities to expedite the disposition of material in Building 3019, including public-private partnerships that may reduce the overall cost of cleanup. At the same time, the Department shall consider direct disposal of remaining material that may not be suitable to processing.

Mercury Treatment Facility.—The Committee recommends \$76,000,000 for construction of the Outfall 200 Mercury Treatment Facility. Remediation of mercury contamination at the Oak Ridge Reservation is an important precursor to full site remediation. Reducing the mercury being released into the East Fork of Poplar Creek continues to be among the highest priorities for the Environmental Management program.

Office of River Protection.—The Committee recommends \$1,573,000,000 for the Office of River Protection. Funds above the budget request are recommended to resume engineering, procurement, and design work on the High-Level Waste Treatment Facility, to ensure compliance with the 2016 Consent Decree and Tri-Party Agreement milestones, and to continue tank waste retrievals. Funds that support the Waste Treatment Plant project are recommended separately for: (1) Low-Activity Waste Treatment Facility, Analytical Laboratory, and Balance of Facilities; (2) High-Level Waste Treatment Facility; (3) Pre-Treatment Facility; and (4) Low Activity Waste Pretreatment System. The Committee recommends no funding for the Department to carry out activities relating to the test bed initiative for low activity waste disposition. The Committee is aware of efforts to remove high-curie constituents from high-level waste tanks to facilitate low-activity waste vitrification through the Direct Feed Low Activity Waste concept and meet consent decree requirements. Funding is provided to install and test one tank-side treatment device. The Department shall not proceed with expansion of this approach until it reports to the Committees on Appropriations of both Houses of Congress on how this approach will be integrated with existing and planned capital facilities, how lifecycle cost compare to other approaches, strategy for obtaining State permits, and plans for ancillary waste streams. The Department shall report to the Committees on Appropriations of both Houses of Congress before moving ahead with any plans to place the High Level Waste Treatment Facility or the Pretreatment Facility into preservation mode for an extended period of time.

The Committee recognizes the Department's efforts to improve working conditions in the tank farms and to address chemical vapor exposures by implementing recommendations from the 2014 Hanford Tank Vapor Assessment Report. The Committee is aware of three subsequent reviews conducted by the Department's Office of the Inspector General and Office of Enterprise Assessments, and the National Institute for Occupational Safety and Health. Within available funds in the Tank Farms Activities control point, the Department is directed to continue ongoing work to address chemical vapor exposures, implement recommendations from all reviews, and maintain a safe work environment for Hanford employees.

Savannah River Site.—The Committee recommends \$1,400,000,000 for the Savannah River site. Within available funds, \$3,000,000 is for disposition of spent fuel from the High Flux Isotope Reactor. The Committee remains concerned about the coordination among the Office of Environmental Management, the NNSA, and the Office of Management and Budget when planning for retiree pension payments at the Savannah River Site. The Department is directed to provide the report required in the Energy and Water Development and Related Agencies Appropriations Act, 2018 on retiree pension payments as soon as possible.

Waste Isolation Pilot Plant.—The Department proposes to dispose of 34 metric tons of surplus plutonium at the Waste Isolation Pilot Plant [WIPP] in New Mexico. The Department is directed to work cooperatively with the State of New Mexico, recognizing the limits in the Land Withdrawal Act and New Mexico's status as an independent regulator of the WIPP facility. Further, no later than

February 1, 2019, the Department shall submit to the Committees on Appropriations of both Houses of Congress, a plan for obtaining all necessary final state and Federal permits; acquiring independent scientific and technical review of dilute and dispose processes and waste forms to ensure compliance with waste acceptance criteria; defining any legislative changes necessary to accommodate this material and the existing WIPP waste inventory; and outlining any necessary design and construction modifications to the current facility, including cost and schedule impacts of any modifications needed to WIPP facilities or for developing additional repositories.

Technology Development and Demonstration.—The Committee recommends \$28,954,000 for Technology Development and Demonstration. The Committee supports the Department’s efforts to expand technology development and demonstration to address its long-term and technically complex cleanup challenges. Within the amount recommended, not less than \$5,000,000 is recommended for work on qualification, testing and research to advance the state-of-the-art on containment ventilation systems. Further, the Department is directed to take the necessary steps to implement and competitively award a cooperative university affiliated research center for that purpose.

Within available funds provided, not less than \$5,000,000 is recommended to fund the existing cooperative agreement with the Consortium for Risk Evaluation with Stakeholder Participation [CRESP] and up to \$5,000,000 is recommended for research and development of robotics to enhance worker safety.

OTHER DEFENSE ACTIVITIES

Appropriations, 2018	\$840,000,000
Budget estimate, 2019	853,300,000
Committee recommendation	840,000,000

The Committee recommends \$840,000,000 for Other Defense Activities, a decrease of \$13,300,000 from the budget request. Within available funds, the Committee recommends \$254,378,000 for Specialized Security Activities. Within the available funds for Environment, Health and Safety, the Committee recommends not less than \$1,000,000 for the Epidemiologic Study of One Million U.S. Radiation Workers and Veterans, which was originally approved by the Office of Science in 2012.

POWER MARKETING ADMINISTRATIONS

No funds are recommended to divest transmission assets of the Power Marketing Administrations [PMA]. The Committee reminds the Department of the prohibition on studying transfer of PMA assets in Public Law 99–349.

The Committee understands the Department has used existing authorities to reorganize the reporting structure for the Power Marketing Administrations [PMAs), shifting responsibilities from the Deputy Secretary of Energy to the Assistant Secretary of the Office of Electricity. While the Committee understands the expertise of the Office of Electricity and recognizes the already existing relationship between PMAs and the Office of Electricity, the Committee remains concerned with this unnecessary change and urges

the Department to continue the long-standing practice of the PMA’s organizational reporting to the Deputy Secretary of Energy.

The bill includes reductions of \$16,000,000 and \$44,000,000 to the annual expense requests for Southwestern Power Administration and Western Area Power Administration, respectively, to account for the Congressional Budget Office’s [CBO] initial estimate of collections assumed in the budget request. CBO inadvertently misreported its estimate of annual expense collections associated with the level of funding for administrative expenses proposed in the fiscal year 2019 President’s request by approximately \$60,000,000 (in the aggregate), but the oversight was not discovered until after the House Committee on Appropriations had reported its version of the fiscal year 2019 Energy and Water Development appropriations bill and, therefore, could not be corrected prior to the Senate Committee on Appropriations taking action on this bill. CBO has indicated that it will adjust its estimate of the annual expense collection estimate prior to the conference between the House and Senate. Assuming that the Committee provides the requested level for annual expenses in the conference, the updated collection estimates will be at or around the levels in the budget request. The Committee has included additional lines in the detail table accompanying Title III of this report to show these adjustments.

Additionally, CBO has continued to raise questions about the current receipt authority provided in this and prior year appropriations acts to create carryover of unobligated balances for purchase power and wheeling expenditures [PPW]. Since the scoring for PPW receipts has historically equaled expenses as a result of a 2001 scoring agreement, the Committee continues to be unable to recommend the full budget request for PPW expenses for the Southeastern Power Administration, Southwestern Power Administration, or Western Area Power Administration due to CBO scoring. The Committee recommends the full amount for PPW expenses that CBO has estimated will be spent for those purposes in fiscal year 2019, which is approximately \$200,000,000 lower (in the aggregate) than the budget request. The Committee will continue to work to resolve the differences in the CBO and administration estimates for PPW expenses.

OPERATIONS AND MAINTENANCE, SOUTHWESTERN POWER
ADMINISTRATION

Appropriations, 2018	\$11,400,000
Budget estimate, 2019	26,400,000
Committee recommendation	10,400,000

The Committee recommends a net appropriation of \$10,400,000 for the Southwestern Power Administration.

CONSTRUCTION, REHABILITATION, OPERATIONS AND MAINTENANCE,
WESTERN AREA POWER ADMINISTRATION

Appropriations, 2018	\$93,372,000
Budget estimate, 2019	132,372,000
Committee recommendation	89,372,000

The Committee recommends a net appropriation of \$89,372,000 for the Western Area Power Administration.

FALCON AND AMISTAD OPERATING AND MAINTENANCE FUND

Appropriations, 2018	\$228,000
Budget estimate, 2019	228,000
Committee recommendation	228,000

The Committee recommends a net appropriation of \$228,000 for the Falcon and Amistad Operating and Maintenance Fund.

FEDERAL ENERGY REGULATORY COMMISSION

SALARIES AND EXPENSES

Appropriations, 2018	\$367,600,000
Budget estimate, 2019	369,900,000
Committee recommendation	369,900,000

REVENUES APPLIED

Appropriations, 2018	-\$367,600,000
Budget estimate, 2019	-369,900,000
Committee recommendation	-369,900,000

The Committee recommends a net appropriation of \$0 for the Federal Energy Regulatory Commission [FERC]. California recently experienced one of its worst fire seasons in modern history, resulting in severe challenges to the well-being of utilities and the electric system in that State. The Committee is concerned that the safe, reliable, and affordable delivery of electricity to consumers could be compromised by the increasing frequency and severity of natural disasters due to climate change—including hurricanes, floods, and wildfires. As FERC reviews way to improve the resilience of the electric transmission system, the Committee directs FERC to include the evaluation of just and reasonable cost-recovery mechanisms for the development of resilient infrastructure and system repair and restoration, as well as practices to better prepare the Nation’s bulk power system for natural disasters. FERC shall study the impacts and effects of strict liability doctrines on utilities’ ability to invest in the reliability and resilience of transmission systems. FERC is directed to report its findings and recommendations to the Committees on Appropriations of both Houses of Congress, not later than 90 days after the enactment of this act.

The Committee encourages FERC to prioritize meaningful opportunities for public engagement and coordination with State and local governments in the Federal permitting and review processes of energy infrastructure proposals. Specifically, review processes should remain transparent and consistent, and ensure the health, safety, and security of the environment and each affected community.

Oroville Dam.—FERC is directed to brief the Committees on Appropriations of both Houses of Congress on its response to the recommendations of the external independent panel reviewing FERC’s dam safety practices in light of the 2017 incident at Oroville Dam in California within 60 days of receiving the external independent panel’s report.

FERC shall require the licensee of Oroville Dam to request the United States Society on Dams to nominate independent consultants to prepare a level 2 risk analysis, consistent with the Commission's guidelines, for use in conducting the next Part 12 safety review of Oroville Dam, currently scheduled for 2019. FERC shall ensure the independence of the nominated consultants from the licensee.

The Committee encourages FERC to prioritize meaningful opportunities for public engagement and coordination with State and local governments in the Federal permitting and review processes of energy infrastructure proposals. Specifically, review processes should remain transparent and consistent, and ensure the health, safety, and security of the environment and each affected community.

DEPARTMENT OF ENERGY
[In thousands of dollars]

	2018 Appropriations	Budget estimate	Committee recommendation	Committee recommendation compared to—	
				2018 Appropriations	Budget estimate
ENERGY PROGRAMS					
ENERGY EFFICIENCY AND RENEWABLE ENERGY					
Sustainable Transportation:					
Vehicle technologies	337,500	68,500	337,500	.....	+ 269,000
Bioenergy technologies	221,545	37,000	215,000	- 6,545	+ 178,000
Hydrogen and fuel cell technologies	115,000	58,000	115,000	.....	+ 57,000
Subtotal, Sustainable Transportation	674,045	163,500	667,500	- 6,545	+ 504,000
Renewable Energy:					
Solar energy	241,600	67,000	239,500	- 2,100	+ 172,500
Wind energy	92,000	33,000	80,000	- 12,000	+ 47,000
Water power	105,000	45,000	105,000	.....	+ 60,000
Geothermal technologies	80,906	30,000	85,000	+ 4,094	+ 55,000
Subtotal, Renewable Energy	519,506	175,000	509,500	- 10,006	+ 334,500
Energy Efficiency:					
Advanced manufacturing	305,000	75,000	311,000	+ 6,000	+ 236,000
Building technologies	220,727	57,000	225,000	+ 4,273	+ 168,000
Federal energy management program	27,000	10,000	31,000	+ 4,000	+ 21,000
Weatherization and Intergovernmental Programs:					
Weatherization:					
Weatherization assistance program	248,000	.....	248,000	.....	+ 248,000
Training and technical assistance	3,000	.....	3,000	.....	+ 3,000
Subtotal, Weatherization	251,000	.....	251,000	.....	+ 251,000
State Energy Program Grants	55,000	.....	55,000	.....	+ 55,000
Subtotal, Weatherization and Intergovernmental Program	306,000	.....	306,000	.....	+ 306,000

DEPARTMENT OF ENERGY—Continued
[In thousands of dollars]

	2018 Appropriations	Budget estimate	Committee recommendation	Committee recommendation compared to—	
				2018 Appropriations	Budget estimate
Subtotal, Energy Efficiency	858,727	142,000	873,000	+ 14,273	+ 731,000
Corporate Support:					
Facilities and infrastructure:					
National Renewable Energy Laboratory (NREL)	92,000	90,000	97,000	+ 5,000	+ 7,000
Program direction	162,500	125,110	162,500		+ 37,390
Strategic programs	15,000		12,500	- 2,500	+ 12,500
Subtotal, Corporate Support	269,500	215,110	272,000	+ 2,500	+ 56,890
Subtotal, Energy efficiency and renewable energy	2,321,778	695,610	2,322,000	+ 222	+ 1,626,390
TOTAL, ENERGY EFFICIENCY AND RENEWABLE ENERGY	2,321,778	695,610	2,322,000	+ 222	+ 1,626,390
ELECTRICITY DELIVERY AND ENERGY RELIABILITY					
Research and development:					
Transmission Reliability	39,000			- 39,000	
Resilient Distribution Systems	38,000			- 38,000	
Cyber security for energy delivery systems	75,829			- 75,829	
Energy storage	41,000			- 41,000	
Transformer resilience and advanced components	7,000			- 7,000	
Subtotal, Research and development	200,829			- 200,829	
Transmission Permitting and Technical Assistance	7,000			- 7,000	
Infrastructure security and energy restoration	12,000			- 12,000	
Program direction	28,500			- 28,500	
Reliability	248,329			- 248,329	
TOTAL, ELECTRICITY DELIVERY AND ENERGY RELIABILITY	248,329			- 248,329	

CYBERSECURITY, ENERGY SECURITY, AND EMERGENCY RESPONSE					
Research and development:					
Cybersecurity for energy delivery systems	70,000	80,829	+ 80,829	+ 10,829	
Transmission reliability .....	.....	39,000	+ 39,000	+ 39,000	
Resilient distribution systems .....	.....	38,671	+ 38,671	+ 38,671	
Energy storage .....	.....	41,000	+ 41,000	+ 41,000	
Transformer resilience and advanced components .....	.....	7,000	+ 7,000	+ 7,000	
Subtotal, Research and development	70,000	206,500	+ 206,500	+ 136,500	
Transmission permitting and technical assistance .....	.....	7,000	+ 7,000	+ 7,000	
Infrastructure security and energy restoration	18,000	18,000	+ 18,000	.....
Program direction	7,800	28,500	+ 28,500	+ 20,700	
TOTAL, CYBERSECURITY, ENERGY SECURITY, AND EMERGENCY RESPONSE	95,800	260,000	+ 260,000	+ 164,200	
ELECTRICITY DELIVERY					
Transmission reliability	13,000	.....	.....	- 13,000	
Resilient distribution systems	10,000	.....	.....	- 10,000	
Energy storage	8,000	.....	.....	- 8,000	
Transformer resilience and advanced components	5,000	.....	.....	- 5,000	
Transmission permitting and technical assistance	6,000	.....	.....	- 6,000	
Program direction	19,309	.....	.....	- 19,309	
TOTAL, ELECTRICITY DELIVERY	61,309	.....	.....	- 61,309	
NUCLEAR ENERGY					
Research and development:					
Integrated university program	5,000	5,000	.....	+ 5,000	
STEP R&D	5,000	.....	- 5,000	.....
Nuclear energy enabling technologies	159,000	149,200	- 9,800	+ 33,200	
Reactor concepts RD&D	237,000	302,000	+ 65,000	+ 139,000	
Fuel cycle research and development	260,056	267,300	+ 7,244	+ 207,300	
International nuclear energy cooperation	3,000	2,500	- 500	.....
Subtotal, Research and development	669,056	726,000	+ 56,944	+ 384,500	
Infrastructure:					
Radiological facilities management	20,000	20,000	.....	+ 20,000	
Space and defense infrastructure .....	.....	.....	.....	.....

DEPARTMENT OF ENERGY—Continued
[In thousands of dollars]

	2018 Appropriations	Budget estimate	Committee recommendation	Committee recommendation compared to—	
				2018 Appropriations	Budget estimate
Research reactor infrastructure	9,000	9,000	9,000		
Subtotal, Radiological facilities management	29,000	9,000	29,000		+ 20,000
INL facilities management:					
INL operations and infrastructure	288,000	204,000	238,000	- 50,000	+ 34,000
Construction:					
16-E-200 Sample preparation laboratory	6,000			- 6,000	
Subtotal, INL facilities management	294,000	204,000	238,000	- 56,000	+ 34,000
Subtotal, Infrastructure	323,000	213,000	267,000	- 56,000	+ 54,000
Idaho statewide safeguards and security	133,000	136,090	133,000		- 3,090
Program direction	80,000	66,500	80,000		+ 13,500
TOTAL, NUCLEAR ENERGY	1,205,056	757,090	1,206,000	+ 944	+ 448,910
FOSSIL ENERGY RESEARCH AND DEVELOPMENT					
Coal CCS and Power Systems:					
Carbon Capture	100,671	20,000	104,015	+ 3,344	+ 84,015
Carbon Storage	96,096	20,000	103,015	+ 4,919	+ 83,015
Advanced Energy Systems	112,000	135,000	116,000	+ 4,000	- 19,000
Cross Cutting Research	58,350	78,300	61,000	+ 2,650	- 17,300
NETL Coal Research and Development	53,000	65,000	54,000	+ 1,000	- 11,000
STEP (Supercritical CO2)	24,000	25,000	25,000	+ 1,000	
Transformational Coal Pilots	35,000			- 35,000	
Subtotal, Coal CCS and Power Systems	481,117	343,300	463,030	- 18,087	+ 119,730
Natural Gas Technologies:					
Research	50,000	5,500	53,200	+ 3,200	+ 47,700
Unconventional fossil energy technologies from petroleum—oil technologies	40,000	14,000	54,000	+ 14,000	+ 40,000

Program direction	60,000	61,070	61,070	+ 1,070	.....	.....
Special recruitment programs	700	200	700	.....	.....	+ 500
NETL Research and Operations	50,000	40,000	50,000	.....	.....	+ 10,000
NETL Infrastructure	45,000	38,000	45,000	.....	.....	+ 7,000
TOTAL, FOSSIL ENERGY RESEARCH AND DEVELOPMENT	726,817	502,070	727,000	+ 183	.....	+ 224,930
Naval Petroleum and Oil Shale Reserves	20,200	20,550	20,550	+ 350	.....	.....
Use of prior year balances	-15,300	-10,550	-10,550	+ 4,750	.....	.....
TOTAL, NAVAL PETROLEUM AND OIL SHALE RESERVES	4,900	10,000	10,000	+ 5,100	.....	.....
STRATEGIC PETROLEUM RESERVE							
Strategic Petroleum Reserve	252,000	175,105	175,105	- 76,895	.....	.....
Sale of crude oil	-350,000	-300,000	-350,000	.....	.....	- 50,000
Use of sale proceeds	350,000	.....	350,000	.....	.....	+ 350,000
TOTAL, STRATEGIC PETROLEUM RESERVE	252,000	- 124,895	175,105	- 76,895	.....	+ 300,000
SPR PETROLEUM ACCOUNT							
SPR Petroleum Account	8,400	.....	8,400	.....	.....	+ 8,400
TOTAL, SPR PETROLEUM ACCOUNT	8,400	.....	8,400	.....	.....	+ 8,400
NORTHEAST HOME HEATING OIL RESERVE							
Northeast Home Heating Oil Reserve	10,000	10,000	10,000	.....	.....	.....
Use of prior year balances	-3,500	.....	.....	+ 3,500	.....	.....
TOTAL, NORTHEAST HOME HEATING OIL RESERVE	6,500	10,000	10,000	+ 3,500	.....	.....
ENERGY INFORMATION ADMINISTRATION	125,000	115,035	125,000	.....	.....	+ 9,965
NON-DEFENSE ENVIRONMENTAL CLEANUP							
Fast Flux Test Reactor Facility (WA)	2,240	2,240	2,240	.....	.....	.....
Gaseous Diffusion Plants	101,304	100,575	102,000	+ 696	.....	+ 1,425
Small sites	119,856	55,031	174,000	+ 54,144	.....	+ 118,969
West Valley Demonstration Project	75,000	60,554	75,000	.....	.....	+ 14,446

DEPARTMENT OF ENERGY—Continued
[In thousands of dollars]

	2018 Appropriations	Budget estimate	Committee recommendation	Committee recommendation compared to—	
				2018 Appropriations	Budget estimate
TOTAL, NON-DEFENSE ENVIRONMENTAL CLEANUP	298,400	218,400	353,240	+ 54,840	+ 134,840
URANIUM ENRICHMENT DECONTAMINATION AND DECOMMISSIONING FUND					
Oak Ridge	194,673	151,039	195,000	+ 327	+ 43,961
Nuclear facility D&D, Paducah	205,530	202,581	206,000	+ 470	+ 3,419
Portsmouth:	342,389	306,931	366,931	+ 24,542	+ 60,000
Nuclear facility D&D, Portsmouth	38,882	41,168	41,168	+ 2,286	.....
Construction:					
15-U-408 On-site waste disposal facility, Portsmouth	381,271	348,099	408,099	+ 26,828	+ 60,000
Subtotal, Portsmouth	22,794	21,030	21,030	- 1,764	.....
Pension and community and regulatory support	35,732	30,000	10,689	- 25,043	- 19,311
Title X uranium/thorium reimbursement program	840,000	752,749	840,818	+ 818	+ 88,069
TOTAL, URANIUM ENRICHMENT DECONTAMINATION AND DECOMMISSIONING FUND					
SCIENCE					
Advanced scientific computing research	605,000	666,304	747,294	+ 142,294	+ 80,990
Construction:	205,000	232,706	232,706	+ 27,706	.....
17-SC-20 SC Exascale Computing Project	810,000	899,010	980,000	+ 170,000	+ 80,990
Subtotal, Advanced scientific computing research	1,744,900	1,635,700	1,751,100	+ 6,200	+ 115,400
Basic energy sciences:					
Research	192,100	139,300	139,300	- 52,800	.....
Construction:	93,000	60,000	140,000	+ 47,000	+ 80,000
13-SC-10 LINAC coherent light source II, SLAC	36,000	70,000	70,000	+ 34,000	+ 70,000
18-SC-10 APS Upgrade, ANL	16,000	10,000	50,000	+ 34,000	+ 40,000
18-SC-11 Spallation Neutron Source Proton Power Upgrade (PPU), ORNL					
18-SC-12 Advanced Light Source Upgrade (ALS-U), LBNL					

18-SC-13 LINAC coherent light source II HE, SLAC	8,000	5,000	28,000	+20,000	+23,000
19-SC-14 Second Target Station, ORNL			15,000	+15,000	+15,000
Subtotal, Construction	345,100	214,300	442,300	+97,200	+228,000
Subtotal, Basic energy sciences	2,090,000	1,850,000	2,193,400	+103,400	+343,400
Biological and environmental research	673,000	500,000	715,000	+42,000	+215,000
Fusion energy sciences:					
Research	410,111	265,000	303,000	-107,111	+38,000
Construction:					
14-SC-60 ITER	122,000	75,000	122,000		+47,000
Subtotal, Fusion energy sciences	532,111	340,000	425,000	-107,111	+85,000
High energy physics:					
Research	767,600	627,000	800,000	+32,400	+173,000
Construction:					
11-SC-40 Long baseline neutrino facility / deep underground neutrino experiment, FNAL	95,000	113,000	145,000	+50,000	+32,000
11-SC-41 Muon to electron conversion experiment, FNAL	44,400	30,000	30,000	-14,400	
18-SC-42 PIP-II, FNAL	1,000		35,000	+34,000	+35,000
Subtotal, Construction	140,400	143,000	210,000	+69,600	+67,000
Subtotal, High energy physics	908,000	770,000	1,010,000	+102,000	+240,000
Nuclear physics:					
Operations and maintenance	586,800	525,000	635,000	+48,200	+110,000
Construction:					
14-SC-50 Facility for rare isotope beams, Michigan State University	97,200	75,000	75,000	-22,200	
Subtotal, Nuclear physics	684,000	600,000	710,000	+26,000	+110,000
Workforce development for teachers and scientists	19,500	19,000	24,500	+5,000	+5,500
Science laboratories infrastructure:					
Infrastructure support:					
Payment in lieu of taxes	1,713	1,513	1,713		+200
Oak Ridge landford	6,382	6,434	6,434	+52	
Facilities and infrastructure	70,347	30,724	48,253	-22,094	+17,529
Oak Ridge nuclear operations	26,000	10,000	26,000		+16,000

DEPARTMENT OF ENERGY—Continued
[In thousands of dollars]

	2018 Appropriations	Budget estimate	Committee recommendation	Committee recommendation compared to—	
				2018 Appropriations	Budget estimate
Subtotal, Infrastructure support	104,442	48,671	82,400	-22,042	+33,729
Construction:					
19-SC-71 Science User Support Center, BNL		2,000	10,000	+10,000	+8,000
19-SC-72 Electrical Capacity and Distribution Capability, ANL		20,000	60,000	+60,000	+40,000
18-SC-71 Energy Sciences Capability, PNNL	20,000	4,000	35,000	+15,000	+31,000
17-SC-71 Integrated Engineering Research Center, FINAL	20,000	5,000	32,500	+12,500	+27,500
17-SC-73 Core Facility Revitalization, BNL	30,000	13,632	42,200	+12,200	+28,568
15-SC-78 Integrative genomics building, LBNL	38,350	13,549	.....	-38,350	-13,549
15-SC-76 Materials design Laboratory, ANL	44,500	20,000	.....	-44,500	-20,000
19-SC-73 Translational Research Capability, ORNL .....		.....	35,000	+35,000	+35,000
19-SC-74 BioEPIC Building, LBNL .....		.....	2,000	+2,000	+2,000
19-SC-75 CEBAF Renovation and Expansion, JINAF .....		.....	1,000	+1,000	+1,000
19-SC-76 Craft Resources Support Facility, ORNL .....		.....	1,000	+1,000	+1,000
19-SC-77 Large Scale Collaboration Center, SLAC .....		.....	1,000	+1,000	+1,000
Subtotal, Construction:	152,850	78,181	219,700	+66,850	+141,519
Subtotal, Science laboratories infrastructure	257,292	126,852	302,100	+44,808	+175,248
Safeguards and security	103,000	106,110	106,000	+3,000	-110
Science program direction	183,000	180,000	184,000	+1,000	+4,000
TOTAL, SCIENCE	6,259,903	5,390,972	6,650,000	+390,097	+1,259,028
NUCLEAR WASTE DISPOSAL		90,000	.....	.....	-90,000
ADVANCED RESEARCH PROJECTS AGENCY-ENERGY					
ARPA-E projects	324,064	.....	341,750	+17,686	+341,750
Program direction	29,250	.....	33,250	+4,000	+33,250
TOTAL, ADVANCED RESEARCH PROJECTS AGENCY-ENERGY	353,314	.....	375,000	+21,686	+375,000

TITLE 17—INNOVATIVE TECHNOLOGY LOAN GUARANTEE PROGRAM					
Administrative expenses	33,000	10,000	33,000		+ 23,000
Offsetting collection	- 10,000	- 15,000	- 15,000	- 5,000	
Rescission		- 240,000			+ 240,000
Title 17 negative subsidy	15,000	- 44,000	- 44,000	- 59,000	
Rescission of emergency funding		- 383,433			+ 383,433
TOTAL, TITLE 17—INNOVATIVE TECHNOLOGY LOAN GUARANTEE PROGRAM	38,000	- 672,433	- 26,000	- 64,000	+ 646,433
ADVANCED TECHNOLOGY VEHICLES MANUFACTURING LOAN PROGRAM					
Administrative expenses	5,000	1,000	5,000		+ 4,000
Rescission of emergency funding		- 4,300,000			+ 4,300,000
TOTAL, ADVANCED TECHNOLOGY VEHICLES MANUFACTURING LOAN PROGRAM	5,000	- 4,299,000	5,000		+ 4,304,000
TRIBAL ENERGY LOAN GUARANTEE PROGRAM					
Administrative expenses	1,000		1,000		+ 1,000
Rescission		- 8,500			+ 8,500
TOTAL, TRIBAL ENERGY LOAN GUARANTEE PROGRAM	1,000	- 8,500	1,000		+ 9,500
OFFICE OF INDIAN ENERGY POLICY AND PROGRAMS					
Administrative Expenses			13,200	+ 13,200	+ 13,200
Program Direction			4,800	+ 4,800	+ 4,800
TOTAL, OFFICE OF INDIAN ENERGY POLICY AND PROGRAMS			18,000	+ 18,000	+ 18,000
DEPARTMENTAL ADMINISTRATION					
Administrative operations:					
Salaries and expenses:					
Office of the Secretary:					
Program direction	5,300	5,395	5,395	+ 95	
Chief Financial Officer	48,484	48,912	48,912	+ 428	
Chief Information Officer	126,274	96,793	131,593	+ 5,319	+ 34,800
Office of Indian energy policy and programs	18,000	10,005		- 18,000	- 10,005
Congressional and intergovernmental affairs	6,200	6,212	4,212	- 1,988	- 2,000
Economic impact and diversity	10,169	10,005	10,005	- 164	

DEPARTMENT OF ENERGY—Continued
[In thousands of dollars]

	2018 Appropriations	Budget estimate	Committee recommendation	Committee recommendation compared to—	
				2018 Appropriations	Budget estimate
Other Departmental Administration	174,225	173,901	168,883	- 5,342	- 5,018
Subtotal, Salaries and expenses	388,652	351,223	369,000	- 19,652	+ 17,777
Subtotal, Administrative operations	388,652	351,223	369,000	- 19,652	+ 17,777
Strategic partnership projects	40,000	40,000	40,000	.....	.....
Subtotal, Departmental administration	428,652	391,223	409,000	- 19,652	+ 17,777
Use of prior-year balances .....	.....	- 2,000	.....	.....	+ 2,000
Funding from other defense activities	- 143,000	- 153,689	- 143,000	.....	+ 10,689
Total, Departmental administration (gross)	285,652	235,534	266,000	- 19,652	+ 30,466
Miscellaneous revenues	- 96,000	- 96,000	- 96,000	.....	.....
TOTAL, DEPARTMENTAL ADMINISTRATION (net)	189,652	139,534	170,000	- 19,652	+ 30,466
OFFICE OF THE INSPECTOR GENERAL	49,000	51,330	51,330	+ 2,330	.....
TOTAL, ENERGY PROGRAMS	12,933,049	3,785,071	13,281,893	+ 348,844	+ 9,496,822
ATOMIC ENERGY DEFENSE ACTIVITIES					
NATIONAL NUCLEAR SECURITY ADMINISTRATION					
WEAPONS ACTIVITIES					
Directed stockpile work:					
Life Extension Programs and Major Alterations:					
B61 Life extension program	788,572	794,049	794,049	+ 5,477	.....
W76-1 Life extension program	224,134	48,888	48,888	- 175,246	.....
W88 Alteration program	332,292	304,285	304,285	- 28,007	.....

W80-4 Life extension program	399,090	654,766	654,766	+ 255,676	.....
W-1	.....	53,000	53,000	+ 53,000	.....
W76-2 Modification program	.....	65,000	65,000	+ 65,000	.....
Subtotal, Life Extension Programs and Major Alterations	1,744,088	1,919,988	1,919,988	+ 175,900	.....
Stockpile systems:					
B61 Stockpile systems	59,729	64,547	64,547	+ 4,818	.....
W76 Stockpile systems	51,400	94,300	94,300	+ 42,900	.....
W78 Stockpile systems	60,100	81,329	81,329	+ 21,229	.....
W80 Stockpile systems	80,087	80,204	80,204	+ 117	.....
B83 Stockpile systems	35,762	35,082	35,082	- 680	.....
W87 Stockpile systems	83,200	83,107	83,107	- 93	.....
W88 Stockpile systems	131,576	180,913	180,913	+ 49,337	.....
Subtotal, Stockpile systems	501,854	619,482	619,482	+ 117,628	.....
Weapons dismantlement and disposition	56,000	56,000	56,000	.....	.....
Stockpile services:					
Production support	485,400	512,916	512,916	+ 27,516	.....
Research and Development support	31,150	38,129	38,129	+ 6,979	.....
R and D certification and safety	196,840	216,582	216,582	+ 19,742	.....
Management, technology, and production	285,400	300,736	300,736	+ 15,336	.....
Subtotal, Stockpile services	998,790	1,068,363	1,068,363	+ 69,573	.....
Strategic materials:					
Domestic uranium enrichment	60,000	100,704	50,000	- 10,000	- 50,704
Uranium sustainment	24,000	87,182	87,182	+ 63,182	.....
Plutonium sustainment	210,367	361,282	361,282	+ 150,915	.....
Tritium sustainment	198,152	205,275	290,275	+ 85,000	.....
Lithium sustainment	.....	29,135	29,135	+ 29,135	.....
Strategic materials sustainment	216,196	218,794	218,794	+ 2,598	.....
Subtotal, Strategic materials	708,715	1,002,372	1,036,668	+ 327,953	+ 34,296
Subtotal, Directed stockpile work	4,009,447	4,666,205	4,700,501	+ 691,054	+ 34,296
Research, Development, Test and Evaluation (RD&E):					
Science:					
Advanced certification	57,710	57,710	57,710	.....	.....
Primary assessment technologies	89,313	95,057	89,313	.....	- 5,744

DEPARTMENT OF ENERGY—Continued
[In thousands of dollars]

	2018 Appropriations	Budget estimate	Committee recommendation	Committee recommendation compared to—	
				2018 Appropriations	Budget estimate
Dynamic materials properties	120,000	131,000	120,000	.....	— 11,000
Advanced radiography	37,600	32,544	32,544	— 5,056	.....
Secondary assessment technologies	76,833	77,553	77,553	+ 720	.....
Academic alliances and partnerships	52,963	53,364	53,364	+ 401	.....
Enhanced capabilities for subcritical experiments	40,105	117,632	80,000	+ 39,895	— 37,632
Subtotal, Science	474,524	564,860	510,484	+ 35,960	— 54,376
Engineering:					
Enhanced surety	39,717	43,226	43,226	+ 3,509	.....
Weapons system engineering assessment technology	23,029	27,536	23,029	.....	— 4,507
Nuclear survivability	45,230	48,230	45,230	.....	— 3,000
Enhanced surveillance	45,147	58,375	45,147	.....	— 13,228
Stockpile responsiveness	30,000	34,000	30,000	.....	— 4,000
Subtotal, Engineering	183,123	211,367	186,632	+ 3,509	— 24,735
Inertial confinement fusion ignition and high yield:					
Ignition	79,575	22,434	79,575	.....	+ 57,141
Support of other stockpile programs	23,565	17,397	23,565	.....	+ 6,168
Diagnostics, cryogenics and experimental support	77,915	51,453	77,915	.....	+ 26,462
Pulsed power inertial confinement fusion	7,596	8,310	7,596	.....	— 714
Joint program in high energy density laboratory plasmas	9,492	.....	9,492	.....	+ 9,492
Facility operations and target production	346,791	319,333	346,791	.....	+ 27,458
Subtotal, inertial confinement fusion ignition and high yield	544,934	418,927	544,934	.....	+ 126,007
Advanced simulation and computing:					
Advanced simulation and computing	721,244	656,401	656,401	— 64,843	.....
Construction:					
18-D-670 Exascale class computer cooling equipment, LANL	22,000	24,000	24,000	+ 2,000	.....
18-D-620 Exascale computing facility modernization project, LLNL	3,000	23,000	23,000	+ 20,000	.....

Subtotal, Construction	25,000	47,000	47,000	47,000	+ 22,000	.....
Subtotal, Advanced simulation, Computing and Construction	746,244	703,401	703,401	703,401	-42,843	.....
Advanced manufacturing development:						
Additive manufacturing	12,000	17,447	17,447	17,447	+ 5,447	.....
Component manufacturing development	38,644	48,477	48,477	43,477	+ 4,833	- 5,000
Process technology development	34,896	30,914	30,914	35,914	+ 1,018	+ 5,000
Subtotal, Advanced manufacturing development	85,540	96,838	96,838	96,838	+ 11,298	.....
Subtotal, Research, Development, Test and Evaluation (RDT&E)	2,034,365	1,995,393	2,042,289	2,042,289	+ 7,924	+ 46,896
Infrastructure and Operations:						
Operations of facilities	848,470	891,000	874,000	874,000	+ 25,530	- 17,000
Safety and environmental operations	110,000	115,000	110,000	110,000	.....	- 5,000
Maintenance and repair of facilities	515,138	365,000	250,000	250,000	- 265,138	- 115,000
Recapitalization:						
Infrastructure and safety	482,661	431,631	320,000	320,000	- 162,661	- 111,631
Capability based investments	130,000	109,057	105,000	105,000	- 25,000	- 4,057
Subtotal, Recapitalization	612,661	540,688	425,000	425,000	- 187,661	- 115,688
Construction:						
19-D-125 Plutonium infrastructure recapitalization, LANL .....	.....	.....	.....	.....	.....	- 6,000
19-D-670 138KV Power Transmission System Replacement, MNSS .....	.....	6,000	.....	.....	+ 5,218	+ 10,418
18-D-680 Material staging facility, PX	5,200	.....	10,418	.....	- 28,000	.....
18-D-660 Fire station, Y-12	28,000	.....	.....	.....	.....	.....
18-D-650 Tritium production capability, SRS .....	.....	27,000	27,000	27,000	+ 27,000	.....
18-D-690 Lithium production capability, Y-12	5,000	19,000	19,000	19,000	+ 14,000	.....
17-D-640 U1a complex enhancements project, MNSA	22,100	53,000	53,000	53,000	+ 30,900	.....
17-D-630 Electrical distribution system, LLNL	6,000	.....	.....	.....	- 6,000	.....
16-D-515 Albuquerque Complex project	98,000	47,953	47,953	47,953	- 50,047	.....
15-D-613 Emergency Operations Center, Y-12	7,000	.....	.....	.....	- 7,000	.....
07-D-220 Radioactive liquid waste treatment facility, LANL	2,100	.....	.....	.....	- 2,100	.....
07-D-220-04 TRU liquid waste facility, LANL	17,895	.....	.....	.....	- 17,895	.....
06-D-141 Uranium Processing Facility, Y-12	663,000	703,000	703,000	703,000	+ 40,000	.....
Chemistry and metallurgy replacement:						
04-D-125 Chemistry and metallurgy replacement project, LANL .....	.....	235,095	235,095	235,095	+ 235,095	.....
04-D-125-04 RUOB equipment installation, phase 2	127,025	.....	.....	.....	- 127,025	.....
04-D-125-05 PF-4 equipment installation	50,214	.....	.....	.....	- 50,214	.....

DEPARTMENT OF ENERGY—Continued
[In thousands of dollars]

	2018 Appropriations	Budget estimate	Committee recommendation	Committee recommendation compared to—	
				2018 Appropriations	Budget estimate
Subtotal, Chemistry and metallurgy replacement	177,239	235,095	235,095	+ 57,856	.....
Subtotal, Construction	1,031,534	1,091,048	1,095,466	+ 63,932	+ 4,418
Subtotal, Infrastructure and Operations	3,117,803	3,002,736	2,754,466	- 363,337	- 248,270
Secure transportation asset:					
Operations and equipment	185,568	176,617	176,617	- 8,951	.....
Program direction	105,600	102,022	102,022	- 3,578	.....
Subtotal, Secure transportation asset	291,168	278,639	278,639	- 12,529	.....
Defense nuclear security:					
Defense nuclear security	686,977	690,638	690,638	+ 3,661	.....
Security improvements program	30,000	.....	.....	- 30,000	.....
Construction:					
17-D-710 West end protected area reduction project, Y-12	53,600	.....	.....	- 53,600	.....
Subtotal, Defense nuclear security	770,577	690,638	690,638	- 79,939	.....
Information technology and cyber security	186,728	221,175	221,175	+ 34,447	.....
Legacy contractor pensions	232,050	162,292	162,292	- 69,758	.....
TOTAL, WEAPONS ACTIVITIES	10,642,138	11,017,078	10,850,000	+ 207,862	- 167,078
DEFENSE NUCLEAR NONPROLIFERATION					
Global material security:					
International nuclear security	46,339	46,339	46,339	.....	.....
Domestic radiologic security	110,433	90,764	115,433	+ 5,000	+ 24,669
International radiologic security	78,907	59,576	78,907	.....	+ 19,331
Nuclear smuggling detection	154,429	140,429	154,429	.....	+ 14,000

Subtotal, Global material security	390,108	337,108	395,108	+ 5,000	+ 58,000
Material management and minimization:					
Conversion	98,300	88,300	88,300	+ 88,300	- 10,000
Nuclear material removal	32,925	32,925	32,925		
Material disposition	183,669	200,869	200,869	+ 17,200	
Laboratory and partnership support	92,000		15,000	- 77,000	+ 15,000
Subtotal, Material management and minimization	308,594	332,094	337,094	+ 28,500	+ 5,000
Nonproliferation and arms control	134,703	129,703	129,703	- 5,000	
Defense nuclear nonproliferation R&D:					
Proliferation detection	278,255	273,200	281,521	+ 3,266	+ 8,321
Nuclear detonation detection	195,749	182,895	195,749		+ 12,854
Nonproliferation fuels development	82,500		10,000	- 72,500	+ 10,000
Subtotal, Defense nuclear nonproliferation R&D	556,504	456,095	487,270	- 69,234	+ 31,175
Nonproliferation construction:					
99-D-143 Mixed Oxide (MOX) Fuel Fabrication Facility, SRS	335,000	220,000	220,000	- 115,000	
18-D-150 Surplus plutonium disposition project, SRS		59,000	59,000	+ 59,000	
Subtotal, Nonproliferation construction	335,000	279,000	279,000	- 56,000	
Legacy contractor pensions	40,950	28,640	28,640	- 12,310	
Nuclear counterterrorism and incident response	282,360	319,185	319,185	+ 36,825	
Use of prior-year balances		- 19,000	- 74,000	- 74,000	- 55,000
Subtotal, Defense Nuclear Nonproliferation	2,046,219	1,862,825	1,902,000	- 146,219	+ 39,175
Rescission	- 49,000			+ 49,000	
TOTAL, DEFENSE NUCLEAR NONPROLIFERATION	1,999,219	1,862,825	1,902,000	- 97,219	+ 39,175
NAVAL REACTORS					
Columbia-class reactor systems development	156,700	138,000	138,000	- 18,700	
Naval reactors development	473,065	514,951	475,000	+ 1,935	- 39,951
S8G Prototype refueling	250,000	250,000	200,000	- 50,000	- 50,000
Naval reactors operations and infrastructure	466,884	525,764	525,764	+ 58,880	
Construction:					
19-D-930 KS Overhead Piping		10,994	10,994	+ 10,994	

DEPARTMENT OF ENERGY—Continued
[In thousands of dollars]

	2018 Appropriations	Budget estimate	Committee recommendation	Committee recommendation compared to—	
				2018 Appropriations	Budget estimate
17-D-911 BL Fire System Upgrade	13,200	13,200	13,200	+ 13,200	.....
15-D-904 NRF Overpack Storage Expansion 3	13,700	.....	.....	- 13,700	.....
15-D-903 KL Fire System Upgrade	15,000	.....	.....	- 15,000	.....
14-D-901 Spent fuel handling recapitalization project, NRF	197,000	287,000	209,000	+ 12,000	- 78,000
Subtotal, Construction	225,700	311,194	233,194	+ 7,494	- 78,000
Program direction	47,651	48,709	48,042	+ 391	- 667
TOTAL, NAVAL REACTORS	1,620,000	1,788,618	1,620,000	.....	- 168,618
FEDERAL SALARIES AND EXPENSES	407,595	422,529	408,000	+ 405	- 14,529
TOTAL, NATIONAL NUCLEAR SECURITY ADMINISTRATION	14,668,952	15,091,050	14,780,000	+ 111,048	- 311,050
DEFENSE ENVIRONMENTAL CLEANUP					
Closure sites administration	4,889	4,889	4,889	.....	.....
Richland:					
River corridor and other cleanup operations	183,692	89,577	209,577	+ 25,885	+ 120,000
Central plateau remediation	662,879	562,473	618,473	- 44,406	+ 56,000
RL Community and regulatory support	10,121	5,121	10,121	.....	+ 5,000
RL Excess facilities D&D .....	.....	.....	.....	.....	.....
Construction:					
18-D-404 WESF Modifications and capsule storage	6,500	1,000	.....	- 6,500	- 1,000
Subtotal, Richland	863,192	658,171	838,171	- 25,021	+ 180,000
Idaho National Laboratory:					
Idaho cleanup and waste disposition	420,000	346,026	346,026	- 73,974	.....
Idaho community and regulatory support	4,071	3,200	3,200	- 871	.....

	10,000				- 10,000	
ID Excess facilities D&D	434,071	349,226	349,226	349,226	- 84,845	
Subtotal, Idaho National Laboratory						
NNSA sites and Nevada offsites:						
Lawrence Livermore National Laboratory	1,175	1,704	1,704	1,704	+ 529	
Separations Process Research Unit	4,800	15,000	15,000	15,000	+ 10,200	
Nevada	60,136	60,136	60,136	60,136		
Sandia National Laboratory	2,600	2,600	2,600	2,600		
Los Alamos National Laboratory	220,000	191,629	220,000	220,000	+ 28,371	
LLNL Excess facilities D&D	100,000		50,000	50,000	+ 50,000	
Subtotal, NNSA sites and Nevada offsites	388,711	271,069	349,440	349,440	- 39,271	+ 78,371
Oak Ridge Reservation:						
OR Nuclear facility D&D	118,203	90,221	189,000	189,000	+ 70,797	+ 98,779
U233 disposition program	50,311	45,000	52,300	52,300	+ 1,989	+ 7,300
OR Cleanup and disposition	71,000	67,000	74,000	74,000	+ 3,000	+ 7,000
Construction:						
17-D-401 On-site waste disposal facility	10,000	5,000	10,000	10,000		+ 5,000
14-D-403 Outfall 200 mercury treatment facility	17,100	11,274	76,000	76,000	+ 58,900	+ 64,726
Subtotal, Construction	27,100	16,274	86,000	86,000	+ 58,900	+ 69,726
OR Community & regulatory support	5,605	4,711	5,700	5,700	+ 95	+ 989
OR Technology development and deployment	3,000	3,000	3,000	3,000		
OR Excess facilities D&D	125,000				- 125,000	
Subtotal, Oak Ridge Reservation	400,219	226,206	410,000	410,000	+ 9,781	+ 183,794
Office of River Protection:						
Waste treatment and immobilization plant commissioning	8,000	15,000	15,000	15,000	+ 7,000	
Rad liquid tank waste stabilization and disposition	719,000	677,460	771,947	771,947	+ 52,947	+ 94,487
Construction:						
15-D-409 Low activity waste pretreatment system	93,000	56,053	56,053	56,053	- 36,947	
01-D-16 A-D Waste treatment and immobilization plant		675,000	655,000	655,000	+ 655,000	- 20,000
18-D-16 Waste treatment and immobilization plant—LBL/Direct feed LAW	630,000				- 630,000	
01-D-16 D High-level waste facility	75,000		60,000	60,000	- 15,000	+ 60,000
01-D-16 E Pretreatment facility	35,000	15,000	15,000	15,000	- 20,000	
Subtotal, Construction	833,000	746,053	786,053	786,053	- 46,947	+ 40,000

DEPARTMENT OF ENERGY—Continued
[In thousands of dollars]

	2018 Appropriations	Budget estimate	Committee recommendation	Committee recommendation compared to—	
				2018 Appropriations	Budget estimate
Subtotal, Office of River Protection	1,560,000	1,438,513	1,573,000	+ 13,000	+ 134,487
Savannah River Site:					
SR Site risk management operations	482,960	517,436	517,436	+ 34,476	.....
SR Community and regulatory support	11,249	4,749	4,749	- 6,500	.....
SR Radioactive liquid tank waste stabilization and disposition	637,105	805,686	732,863	+ 95,758	- 72,823
Construction:					
19-D-701 SR Security system replacement .....	.....	.....	.....	.....	.....
18-D-402 Saltstone disposal unit #8/9	500	37,450	37,450	+ 36,950	.....
18-D-402 Emergency Operations Center Replacement, SR	500	1,259	1,259	+ 759	.....
17-D-402 Saltstone disposal Unit #7 SRS	30,000	41,243	41,243	+ 11,243	.....
05-D-405 Salt waste processing facility, SRS	150,000	65,000	65,000	- 85,000	.....
Subtotal, Construction	181,000	144,952	144,952	- 36,048	.....
Subtotal, Savannah River Site	1,312,314	1,472,823	1,400,000	+ 87,686	- 72,823
Waste Isolation Pilot Plant:					
Waste Isolation Pilot Plant	270,971	311,695	311,695	+ 40,724	.....
Construction:					
15-D-411 Safety significant confinement ventilation system, WIPP	86,000	84,212	84,212	- 1,788	.....
15-D-412 Exhaust shaft, WIPP	19,600	1,000	1,000	- 18,600	.....
Subtotal, Waste Isolation Pilot Plant	376,571	396,907	396,907	+ 20,336	.....
Program direction	300,000	300,000	300,000	.....	.....
Program support	14,979	12,979	12,979	- 2,000	.....
Safeguards and Security	298,102	324,434	324,434	+ 26,332	.....
Technology development	35,000	25,000	28,954	- 6,046	+ 3,954
Excess facilities .....	.....	150,000	.....	.....	- 150,000
Use of prior year balances .....	.....	.....	.....	.....	.....

TOTAL, DEFENSE ENVIRONMENTAL CLEANUP	5,988,048	5,630,217	5,988,000	-48	+357,783
OTHER DEFENSE ACTIVITIES					
Environment, health, safety and security:					
Environment, health, safety and security	130,693	135,194	132,583	+1,890	-2,611
Program direction	68,253	70,653	70,653	+2,400	
Subtotal, Environment, Health, safety and security	198,946	205,847	203,236	+4,290	-2,611
Independent enterprise assessments:					
Independent enterprise assessments	24,068	24,068	24,068		
Program direction	50,863	52,702	52,702	+1,839	
Subtotal, Independent enterprise assessments	74,931	76,770	76,770	+1,839	
Specialized security activities	262,912	254,378	254,378	-8,534	
Office of Legacy Management:					
Legacy management	137,674	140,575	140,575	+2,901	
Program direction	16,932	18,302	18,302	+1,370	
Subtotal, Office of Legacy Management	154,606	158,877	158,877	+4,271	
Defense related administrative support	143,000	153,689	143,000		-10,689
Office of hearings and appeals	5,605	5,739	5,739	+134	
Use of prior year balances		-2,000	-2,000	-2,000	
TOTAL, OTHER DEFENSE ACTIVITIES	840,000	853,300	840,000		-13,300
DEFENSE NUCLEAR WASTE DISPOSAL		30,000			-30,000
TOTAL, ATOMIC ENERGY DEFENSE ACTIVITIES	21,497,000	21,604,567	21,608,000	+111,000	+3,433
POWER MARKETING ADMINISTRATIONS ¹ SOUTHEASTERN POWER ADMINISTRATION					
Operation and maintenance:					
Purchase power and wheeling	66,070	73,184	73,184	+7,114	
Program direction	6,379	6,500	6,500	+121	
Subtotal, Operation and maintenance	72,449	79,684	79,684	+7,235	

DEPARTMENT OF ENERGY—Continued
[In thousands of dollars]

	2018 Appropriations	Budget estimate	Committee recommendation	Committee recommendation compared to—	
				2018 Appropriations	Budget estimate
Less alternative financing (PPW)	-15,070	-13,824	-13,824	+1,246	.....
Offsetting collections (for PPW)	-51,000	-59,360	-59,360	-8,360	.....
Offsetting collections (PD)	-6,379	-6,500	-6,500	-121	.....
TOTAL, SOUTHEASTERN POWER ADMINISTRATION .....	.....	.....	.....	.....	.....
SOUTHWESTERN POWER ADMINISTRATION					
Operation and maintenance:					
Operating expenses	16,680	17,006	17,006	+326	.....
Purchase power and wheeling	50,000	93,000	93,000	+43,000	.....
Program direction	31,335	32,995	32,995	+1,660	.....
Construction	14,932	16,875	16,875	+1,943	.....
Reduction due to CBO initial estimates of collections .....	.....	.....	-16,000	-16,000	.....
Subtotal, Operation and maintenance	112,947	159,876	143,876	+30,929	-16,000
Less alternative financing (for O&M)	-9,042	-8,894	-8,894	+148	.....
Less alternative financing (for PPW)	-10,000	-10,000	-10,000	.....	.....
Less alternative financing (Const)	-9,417	-12,180	-12,180	-2,763	.....
Offsetting collections (PD)	-16,035	-29,695	-29,695	-13,660	.....
Offsetting collections (for O&M)	-2,853	-3,707	-3,707	-2,854	.....
Offsetting collections (for PPW)	-40,000	-83,000	-83,000	-43,000	.....
Use of prior year balances	-14,200	.....	.....	+14,200	.....
Southwestern Power Administration CBO initial estimates of collections .....	.....	16,000	16,000	+16,000	.....
TOTAL, SOUTHWESTERN POWER ADMINISTRATION	11,400	26,400	10,400	-1,000	-16,000
WESTERN AREA POWER ADMINISTRATION					
Operation and maintenance:					
Construction and rehabilitation	52,272	32,632	32,632	-19,640	.....
Operation and maintenance	72,407	77,056	77,056	+4,649	.....

Purchase power and wheeling	498,072	567,362	567,362	567,362	+ 69,290	.....
Program direction	235,722	238,483	238,483	238,483	+ 2,761	.....
Reduction due to CBO initial estimates of collections .....	.....	.....	-43,000	-43,000	-43,000	.....
Subtotal, Operation and maintenance	858,473	915,533	872,533	872,533	+ 14,060	-43,000	
Less alternative financing (for O&M)	-5,068	-7,758	-7,758	-7,758	-2,690	.....
Less alternative financing (for Construction)	-40,500	-27,077	-27,077	-27,077	+ 13,423	.....
Less alternative financing (for Program Dir.)	-38,398	-39,136	-39,136	-39,136	-738	.....
Less alternative financing (for PPW)	-289,072	-260,954	-260,954	-260,954	+ 28,118	.....
Offsetting collections (for program direction)	-116,050	-150,761	-150,761	-150,761	-34,711	.....
Offsetting collections (for O&M)	-13,854	-25,009	-25,009	-25,009	-11,155	.....
Offsetting collections (Public Law 108-477; Public Law 109-103)	-209,000	-306,408	-306,408	-306,408	-97,408	.....
Offsetting collections (Public Law 98-381)	-9,306	-9,058	-9,058	-9,058	+ 248	.....
Use of prior-year balances	-43,853	.....	.....	.....	+43,853	.....
Western Area Power Administration CBO initial estimates of collections .....	.....	43,000	43,000	43,000	+43,000	.....
TOTAL, WESTERN AREA POWER ADMINISTRATION	93,372	132,372	89,372	89,372	-4,000	-43,000	
FALCON AND AMISTAD OPERATING AND MAINTENANCE FUND							
Operation and maintenance	5,048	5,329	5,329	5,329	+ 281	.....
Offsetting collections	-3,948	-4,979	-4,979	-4,979	-1,031	.....
Less alternative financing	-872	-122	-122	-122	+ 750	.....
CBO estimate for third party financing	872	122	122	122	-750	.....
TOTAL, FALCON AND AMISTAD OPERATING AND MAINTENANCE FUND	1,100	350	350	350	-750	.....
TOTAL, POWER MARKETING ADMINISTRATIONS							
.....	105,872	159,122	100,122	100,122	-5,750	-59,000	
FEDERAL ENERGY REGULATORY COMMISSION							
Federal Energy Regulatory Commission	367,600	369,900	369,900	369,900	+ 2,300	.....
FERC revenues	-367,600	-369,900	-369,900	-369,900	-2,300	.....
TOTAL, FEDERAL ENERGY REGULATORY COMMISSION .....	.....	.....	.....	.....	.....	.....
General Provisions							
Title III Rescissions:	.....	.....	.....	.....	.....	.....
Northeast gasoline supply reserve sale .....	.....	-71,000	.....	.....	.....	+ 71,000
Strategic Petroleum Reserve crude oil sale .....	.....	-15,000	.....	.....	.....	+ 15,000

DEPARTMENT OF ENERGY—Continued
[In thousands of dollars]

	2018 Appropriations	Budget estimate	Committee recommendation	Committee recommendation compared to—	
				2018 Appropriations	Budget estimate
Strategic Petroleum Reserve use of sale proceeds		15,000			— 15,000
Total, General Provisions		— 71,000			+ 71,000
GRAND TOTAL, DEPARTMENT OF ENERGY	34,535,921	25,477,760	34,990,015	+ 454,094	+ 9,512,255
(Appropriations)	(34,584,921)	(30,409,693)	(34,990,015)	(+ 405,094)	(+ 4,580,322)
(Rescissions)	(— 49,000)	(— 248,500)		(+ 248,500)	(+ 248,500)
(Rescissions of emergency funding)		(— 4,683,433)		(+ 49,000)	(+ 4,683,433)
SUMMARY OF ACCOUNTS					
Energy efficiency and renewable energy	2,321,778	695,610	2,322,000	+ 222	+ 1,626,390
Electricity delivery and energy reliability	248,329			— 248,329	
Cybersecurity, Energy Security, and Emergency Response		93,800	260,000	+ 260,000	+ 164,200
Electricity delivery		61,309			— 61,309
Nuclear energy	1,205,056	757,090	1,206,000	+ 944	+ 448,910
Fossil Energy Research and Development	726,817	502,070	727,000	+ 183	+ 224,930
Naval Petroleum & Oil Shale Reserves	4,900	10,000	10,000	+ 5,100	
Strategic petroleum reserve	252,000	— 124,895	175,105	— 76,895	+ 300,000
SPR Petroleum Account	8,400		8,400		+ 8,400
Northeast home heating oil reserve	6,500	10,000	10,000	+ 3,500	
Energy Information Administration	125,000	115,035	125,000		+ 9,965
Non-Defense Environmental Cleanup	298,400	218,400	353,240	+ 54,840	+ 134,840
Uranium enrichment D&D fund	840,000	752,749	840,818	+ 818	+ 88,069
Science	6,259,903	5,390,972	6,650,000	+ 390,097	+ 1,259,028
Nuclear Waste Disposal		90,000			— 90,000
Advanced Research Projects Agency—Energy	353,314		375,000	+ 21,686	+ 375,000
Title 17 Innovative technology loan guarantee program	38,000	— 672,433	— 26,000	— 64,000	+ 646,433
Advanced technology vehicles manufacturing loan pgm	5,000	— 4,299,000	5,000		+ 4,304,000
Tribal Energy Loan Guarantee program	1,000	— 8,500	1,000		+ 9,500
Office of Indian Energy Policy and Programs			18,000	+ 18,000	+ 18,000
Departmental administration	189,652	139,534	170,000	— 19,652	+ 30,466

Office of the Inspector General	49,000	51,330	51,330	+ 2,330	.....
Atomic energy defense activities:					
National Nuclear Security Administration:					
Weapons activities	10,642,138	11,017,078	10,850,000	+ 207,862	- 167,078
Defense nuclear nonproliferation	1,999,219	1,862,825	1,902,000	- 97,219	+ 39,175
Naval reactors	1,620,000	1,788,618	1,620,000	.....	- 168,618
Federal Salaries and Expenses	407,595	422,529	408,000	+ 405	- 14,529
Subtotal, National Nuclear Security Admin	14,668,952	15,091,050	14,780,000	+ 111,048	- 311,050
Defense environmental cleanup	5,988,048	5,630,217	5,988,000	- 48	+ 357,783
Other defense activities	840,000	853,300	840,000	.....	- 13,300
Defense nuclear waste disposal .....	.....	30,000	.....	.....	- 30,000
Total, Atomic Energy Defense Activities	21,497,000	21,604,567	21,608,000	+ 111,000	+ 3,433
Power marketing administrations ¹ :					
Southeastern Power Administration	11,400	26,400	10,400	- 1,000	- 16,000
Southwestern Power Administration	93,372	132,372	89,372	- 4,000	- 43,000
Western Area Power Administration	1,100	350	350	- 750	.....
Falcon and Amistad operating and maintenance fund .....	.....	.....	.....	.....	.....
Total, Power Marketing Administrations	105,872	159,122	100,122	- 5,750	- 59,000
Federal Energy Regulatory Commission:					
Salaries and expenses	367,600	369,900	369,900	+ 2,300	.....
Revenues	- 367,600	- 369,900	- 369,900	- 2,300	.....
General Provisions .....	.....	- 71,000	.....	.....	+ 71,000
Strategic Petroleum Reserve crude oil sale .....	.....	- 15,000	.....	.....	+ 15,000
Strategic Petroleum Reserve use of sale proceeds .....	.....	15,000	.....	.....	- 15,000
Total Summary of Accounts, Department of Energy	34,535,921	25,477,760	34,990,015	+ 454,094	+ 9,512,255

¹ Totals include alternative financing costs, reimbursable agreement funding, and power purchase and wheeling expenditures. Offsetting collection totals reflect funds collected for annual expenses, including power purchase and wheeling.

GENERAL PROVISIONS—DEPARTMENT OF ENERGY

Section 301. The bill includes a provision related to reprogramming.

Section 302. The bill includes a provision to authorize intelligence activities pending enactment of the fiscal year 2019 Intelligence Authorization Act.

Section 303. The bill includes a provision related to independent cost estimates.

Section 304. The bill includes a provision concerning a pilot program for consolidated storage of spent nuclear fuel.

TITLE IV

INDEPENDENT AGENCIES

The budget request proposes to eliminate the Delta Regional Authority, Denali Commission, and Northern Border Regional Commission. The budget requests funding to conduct closeout of the agencies in fiscal year 2019. The Committee strongly opposes the termination of these agencies, and recommends funding to continue their activities. The Administration shall continue all activities funded by this act, as well as follow directive language included in this report. No funds shall be used for the planning of or implementation of termination of these agencies.

APPALACHIAN REGIONAL COMMISSION

Appropriations, 2018	\$155,000,000
Budget estimate, 2019	152,000,000
Committee recommendation	155,000,000

The Committee recommends \$155,000,000 for the Appalachian Regional Commission [ARC], an increase of \$3,000,000 above the budget request. Established in 1965, the Appalachian Regional Commission is an economic development agency composed of 13 Appalachian States and a Federal co-chair appointed by the President. Within available funding, \$73,000,000 is recommended for base funds.

Further, not less than \$16,000,000 shall be for a program of industrial site and workforce development in Southern and South Central Appalachia, focused primarily on the automotive supplier sector and the aviation sector. Up to \$13,500,000 of that amount is recommended for activities in Southern Appalachia. The funds shall be distributed to States that have distressed counties in Southern and South Central Appalachia using the ARC Area Development Formula.

Within available funding, the Committee recommends \$16,000,000 for a program of basic infrastructure improvements in distressed counties in Central Appalachia. Funds shall be distributed according to ARC's distressed counties formula and shall be in addition to the regular allocation to distressed counties.

Within available funds, the Committee recommends \$50,000,000 for the POWER Initiative to support communities, primarily in Appalachia, that have been adversely impacted by the closure of coal-powered generating plants and a declining coal industry by pro-

viding resources for economic diversification, job creation, job training, and other employment services.

The Committee recognizes that the headquarters of the Delta Regional Authority, the Denali Commission, and the Northern Border Regional Commission are each headquartered in their respective regions. However, the Appalachian Regional Commission is headquartered in Washington, D.C. Headquartering regional commissions within the region affected is a sensible approach to ensure that the commissions are housed in more affordable locations than the District of Columbia, thereby reducing administrative overhead and making the commissions closer and more accountable to the people the commissions were designed to serve. Accordingly, the Committee directs the Appalachian Regional Commission, not later than 180 days after the enactment of this act, to provide the Committees on Appropriations of both Houses of Congress with a report that examines the feasibility of relocating the Appalachian Regional Commission to within the Appalachian region, including any potential long-term cost savings that could be accomplished.

The Committee believes that if the Appalachian Regional Commission is going to move, it should move to the State of West Virginia.

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

SALARIES AND EXPENSES

Appropriations, 2018	\$31,000,000
Budget estimate, 2019	31,243,000
Committee recommendation	31,000,000

The Committee recommends \$31,000,000 for the Defense Nuclear Facilities Safety Board, a decrease of \$243,000 below the budget request. Congress permanently authorized the Inspector General for the Nuclear Regulatory Commission to serve as the Inspector General for the Defense Nuclear Facilities Safety Board. The Committee recommendation includes \$1,103,000 within the Office of Inspector General of the Nuclear Regulatory Commission to perform these services.

DELTA REGIONAL AUTHORITY

Appropriations, 2018	\$25,000,000
Budget estimate, 2019	2,500,000
Committee recommendation	25,000,000

The Committee recommends \$25,000,000 for the Delta Regional Authority [DRA], an increase of \$22,500,000 above the budget request. DRA is a Federal-State partnership that is designed to assist the eight-State Mississippi Delta Region in developing basic infrastructure, transportation, skill training, and opportunities for economic development for distressed counties and parishes. Within available funds, not less than \$10,000,000 is recommended for flood control, basic public infrastructure development and transportation improvements, which shall be allocated separate from the State formula funding method. The Committee does not include a statutory waiver with regard to DRA's priority of funding, and directs DRA to focus on activities relating to basic public infrastructure

and transportation infrastructure before allocating funding toward other priority areas.

DENALI COMMISSION

Appropriations, 2018	\$30,000,000
Budget estimate, 2019	7,300,000
Committee recommendation	15,000,000

The Committee recommends \$15,000,000 for the Denali Commission, an increase of \$7,700,000 above the budget request. The Denali Commission is a Federal-State partnership responsible for promoting infrastructure development, job training, and other economic support services in rural areas throughout Alaska.

NORTHERN BORDER REGIONAL COMMISSION

Appropriations, 2018	\$15,000,000
Budget estimate, 2019	850,000
Committee recommendation	20,000,000

The Committee recommends \$20,000,000 for the Northern Border Regional Commission, an increase of \$19,150,000 above the budget request. Within available funds, no less than \$4,000,000 is recommended for initiatives that seek to address the decline in forest-based economies throughout the region.

NUCLEAR REGULATORY COMMISSION

SALARIES AND EXPENSES

Appropriations, 2018	\$909,137,000
Budget estimate, 2019	958,050,000
Committee recommendation	898,350,000

REVENUES

Appropriations, 2018	-\$779,768,032
Budget estimate, 2019	-805,018,500
Committee recommendation	-794,218,500

NET APPROPRIATION

Appropriations, 2018	\$129,300,892
Budget estimate, 2019	153,031,500
Committee recommendation	104,131,500

The Committee recommends \$898,350,000 for the Nuclear Regulatory Commission [Commission], a decrease of \$59,700,000 below the budget request. The Committee's recommendation requires the use of \$20,000,000 of unobligated balances from prior year appropriations. This amount is offset by estimated revenues of \$794,218,500, resulting in a net appropriation of \$104,131,500. In developing this recommendation, the Committee has consulted with the Commission to ensure it maintains its gold-standard health and safety mission while reducing low-priority work.

Budget Execution Plan.—The Commission is directed to provide the Committee with a specific budget execution plan not later than 30 days after the enactment of this act. This plan shall provide details at the product line level within each of the control points, as

applicable, included in the table after the Office of Inspector General heading below.

Budget Control Points.—The recommendation includes budget control points for fiscal year 2019 to ensure the Commission’s budget execution follows congressional intent. These budget control points are included in the table following the heading of Office of Inspector General. As it did for fiscal year 2018, the Committee includes statutory language incorporating the control points by reference into law, and notes that any breaches are subject to the reporting requirements and remedies of the Antideficiency Act contained in title 31 of the United States Code.

Reprogramming Authority.—Section 402 continues reprogramming authority included in the Energy and Water Development and Related Agencies Appropriations Act, 2018, for the Commission between the budget control points, subject to prior congressional approval, with a provision made for emergency circumstances. This reprogramming authority supersedes the Commission’s existing guidance on internal reprogrammings.

Unobligated Balances from Prior Appropriations.—The Committee notes that the Commission carries unobligated balances from appropriations received prior to fiscal year 2019. The Committee’s recommendation requires the use of \$20,000,000 of these balances, derived from fee-based activities. Because the Commission has already collected fees corresponding to these activities in prior years, the Committee does not include these funds within the fee base calculation for determining authorized revenues, and does not provide authority to collect additional offsetting receipts for their use. The Committee notes that any remaining unobligated balances carried forward from prior years are subject to the reprogramming guidelines in section 402, and shall only be used to supplement appropriations consistent with those guidelines.

Integrated University Program.—The Committee recommends \$15,000,000 for the Integrated University Program, of which not less than \$5,000,000 is for grants to support research projects that do not align with programmatic missions but are critical to maintaining the discipline of nuclear science.

Reporting Requirement.—The Committee directs the Commission to continue the reporting required in the explanatory statement for the Energy and Water Development and Related Agencies Appropriations Act, 2018, relating to progress against the Commission’s licensing goals and right-sizing commitments.

Rulemaking.—The Committee directs the Commission to provide in its annual budget request and the semi-annual report to Congress on licensing and regulatory activities a list of all rulemaking activities planned, to include their priority and schedule.

OFFICE OF INSPECTOR GENERAL

GROSS APPROPRIATION

Appropriations, 2018	\$12,859,000
Budget estimate, 2019	12,609,000
Committee recommendation	12,609,000

REVENUES

Appropriations, 2018	-\$10,555,000
Budget estimate, 2019	- 10,355,400
Committee recommendation	- 10,355,400

NET APPROPRIATION

Appropriations, 2018	\$2,304,000
Budget estimate, 2019	2,253,600
Committee recommendation	2,253,600

The Committee recommends \$12,609,000 for the Office of Inspector General, the same as the budget request, which is offset by revenues estimated at \$10,355,400, for a net appropriation of \$2,253,600. The Office of Inspector General serves both the Nuclear Regulatory Commission and the Defense Nuclear Facilities Safety Board, and the recommendation includes \$1,103,000 for that purpose, which is not available from fee revenues.

NUCLEAR REGULATORY COMMISSION

[In thousands of dollars]

Item	Budget estimate	Committee recommendation	Committee recommendation compared to budget estimate
SALARIES AND EXPENSES	958,050	.....	- 958,050
NUCLEAR REACTOR SAFETY .....	.....	469,767	+ 469,767
NUCLEAR MATERIALS AND WASTE SAFETY .....	.....	108,609	+ 108,609
DECOMMISSIONING AND LOW-LEVEL WASTE .....	.....	25,393	+ 25,393
CORPORATE SUPPORT .....	.....	299,581	+ 299,581
INTEGRATED UNIVERSITY PROGRAM .....	.....	15,000	+ 15,000
Subtotal	958,050	918,350	- 39,700
USE OF PRIOR YEAR BALANCES .....	.....	- 20,000	- 20,000
TOTAL, SALARIES AND EXPENSES	958,050	898,350	- 59,700
REVENUES	- 805,019	- 794,219	- 10,800
Subtotal	153,032	104,132	- 48,900
OFFICE OF INSPECTOR GENERAL:			
OFFICE OF INSPECTOR GENERAL	12,609	12,609	.....
REVENUES	- 10,355	- 10,355	.....
Subtotal	2,254	2,254	.....
TOTAL, NUCLEAR REGULATORY COMMISSION	155,285	106,385	- 48,900
APPROPRIATIONS	(155,285)	(106,385)	(- 48,900)

NUCLEAR WASTE TECHNICAL REVIEW BOARD

Appropriations, 2018	\$3,600,000
Budget estimate, 2019	3,600,000
Committee recommendation	3,600,000

The Committee recommends \$3,600,000 for the Nuclear Waste Technical Review Board to be derived from the Nuclear Waste Fund, the same as the budget request.

GENERAL PROVISIONS

Section 401. The bill includes a provision regarding Congressional requests for information.

Section 402. The bill includes a provision regarding reprogramming.

TITLE V
GENERAL PROVISIONS

The following list of general provisions is recommended by the Committee:

Section 501. The bill includes a provision regarding influencing congressional action.

Section 502. The bill includes a provision regarding transfer authority.

Section 503. The bill includes a provision regarding requirements for computer networks.

PROGRAM, PROJECT, AND ACTIVITY

In fiscal year 2019, for purposes of the Balanced Budget and Emergency Deficit Control Act of 1985 (Public Law 99–177), as amended, the following information provides the definition of the term “program, project or activity” for departments and agencies under the jurisdiction of the Energy and Water Development and Related Agencies Appropriation Act. The term “program, project or activity” shall include the most specific level of budget items identified in the Energy and Water Development and Related Agencies Appropriations Bill, 2019 and the report accompanying the bill.

If a sequestration order is necessary, in implementing the Presidential order, departments and agencies shall apply any percentage reduction required for fiscal year 2019 pursuant to the provisions of Public Law 99–177 to all items specified in the report accompanying the bill by the Senate Committee on Appropriations in support of the fiscal year 2019 budget estimates as modified by congressional action.

COMPLIANCE WITH PARAGRAPH 7, RULE XVI, OF THE
STANDING RULES OF THE SENATE

Paragraph 7 of rule XVI requires Committee reports on general appropriations bills to identify each Committee amendment to the House bill “which proposes an item of appropriation which is not made to carry out the provisions of an existing law, a treaty stipulation, or an act or resolution previously passed by the Senate during that session.”

The Committee is filing an original bill, which is not covered under this rule, but reports this information in the spirit of full disclosure.

The Committee recommends funding for the following programs or activities which currently lack authorization for fiscal year 2019:

APPROPRIATIONS NOT AUTHORIZED BY LAW—FISCAL YEAR 2019

[Dollars in thousands]

Agency/Program	Last Year of Authorization	Authorization Level	Appropriation in Last Year of Authorization	Net Appropriation in this Bill
Corps FUSRAP	¹	.....	.....	120,000
EERE Program Direction	2006	110,500	164,198	162,500
EERE Weatherization Activities	2012	1,400,000	68,000	251,000
EERE State Energy Programs	2012	125,000	50,000	55,000
EERE Marine and Hydrokinetic R&D	2012	50,000	34,000	70,000
Nuclear Energy	2009	495,000	792,000	1,206,000
Nuclear Energy Infrastructure and Facilities	2009	145,000	245,000	267,000
Fossil Energy	2009	641,000	727,320	727,000
Naval Petroleum and Oil Shale Reserves	2014	20,000	20,000	10,000
Strategic Petroleum Reserve	2003	not specified	172,856	175,105
Northeast Home Heating Oil Reserve	2003	not specified	6,000	10,000
Energy Information Administration	1984	not specified	55,870	125,000
Office of Science	2013	6,007,000	4,876,000	6,650,000
Advanced Technology Vehicle Manufacturing Program	2012	not specified	6,000	5,000
Advanced Research Projects Agency-Energy	2013	312,000	265,000	375,000
Non-Defense Environmental Cleanup:				
West Valley Demonstration	1981	5,000	5,000	75,000
Departmental Administration	1984	246,963	185,682	170,000
Atomic Energy Defense Activities:				
National Nuclear Security Administration:				
Weapons Activities	2018	10,377,475	10,642,138	10,850,000
Defense Nuclear Nonproliferation	2018	1,883,310	1,999,219	1,902,000
Naval Reactors	2018	1,431,551	1,620,000	1,620,000
Federal Salaries and Expenses	2018	407,551	407,595	408,000
Defense Environmental Cleanup	2018	5,440,106	5,988,048	5,988,000
Other Defense Activities	2018	816,000	840,000	840,000
Power Marketing Administrations:				
Southwestern	1984	40,254	36,229	10,400
Western Area	1984	259,700	194,630	89,372
Federal Energy Regulatory Commission	1984	not specified	29,582	.....
Defense Nuclear Facilities Safety Board	2018	30,600	31,000	31,000
Nuclear Regulatory Commission	1985	460,000	448,200	104,132
Delta Regional Authority	2018	30,000	25,000	25,000
Northern Border Regional Commission	2018	30,000	15,000	20,000

¹ Program was initiated in 1972 and has never received a separate authorization.

COMPLIANCE WITH PARAGRAPH 7(C), RULE XXVI, OF THE
STANDING RULES OF THE SENATE

Pursuant to paragraph 7(c) of rule XXVI, on May 24, 2018, the Committee ordered favorably reported a bill (S. 2975) making appropriations for energy and water development and related agencies for the fiscal year ending September 30, 2019, and for other purposes, provided, that the bill be subject to amendment and that the bill be consistent with its budget allocation, and provided that the Chairman of the Committee or his designee be authorized to offer the substance of the original bill as a Committee amendment in the nature of a substitute to the House companion measure, by a recorded vote of 30–1, a quorum being present. The vote was as follows:

Yeas	Nays
Chairman Shelby	Mr. Graham
Mr. McConnell	
Mr. Alexander	
Ms. Collins	
Ms. Murkowski	
Mr. Blunt	
Mr. Moran	
Mr. Hoeven	
Mr. Boozman	
Mrs. Capito	
Mr. Lankford	
Mr. Daines	
Mr. Kennedy	
Mr. Rubio	
Mrs. Hyde-Smith	
Mr. Leahy	
Mrs. Murray	
Mrs. Feinstein	
Mr. Durbin	
Mr. Reed	
Mr. Tester	
Mr. Udall	
Mrs. Shaheen	
Mr. Merkley	
Mr. Coons	
Mr. Schatz	
Ms. Baldwin	
Mr. Murphy	
Mr. Manchin	
Mr. Van Hollen	

**COMPLIANCE WITH PARAGRAPH 12, RULE XXVI, OF THE
STANDING RULES OF THE SENATE**

Paragraph 12 of rule XXVI requires that Committee reports on a bill or joint resolution repealing or amending any statute or part of any statute include “(a) the text of the statute or part thereof which is proposed to be repealed; and (b) a comparative print of that part of the bill or joint resolution making the amendment and of the statute or part thereof proposed to be amended, showing by stricken-through type and italics, parallel columns, or other appropriate typographical devices the omissions and insertions which would be made by the bill or joint resolution if enacted in the form recommended by the Committee.”

In compliance with this rule, no changes to existing law are displayed because this bill proposes no changes.

BUDGETARY IMPACT OF BILL

PREPARED IN CONSULTATION WITH THE CONGRESSIONAL BUDGET OFFICE PURSUANT TO SEC.
308(A), PUBLIC LAW 93-344, AS AMENDED

[In millions of dollars]

	Budget authority		Outlays	
	Committee allocation	Amount in bill	Committee allocation	Amount in bill
Comparison of amounts in the bill with the subcommittee allocation for 2019: Subcommittee on Energy and Water Development:				
Mandatory				
Discretionary	43,766	43,766	43,842	¹ 43,842
Security	21,892	21,892	NA	NA
Nonsecurity	21,874	21,874	NA	NA
Projection of outlays associated with the recommendation:				
2019				² 25,518
2020				12,393
2021				4,189
2022				969
2023 and future years				596
Financial assistance to State and local governments for 2019	NA	180	NA	²

¹ Includes outlays from prior-year budget authority.

² Excludes outlays from prior-year budget authority.

NA: Not applicable.

COMPARATIVE STATEMENT OF NEW BUDGET (OBLIGATIONAL) AUTHORITY FOR FISCAL YEAR 2018 AND BUDGET ESTIMATES AND AMOUNTS RECOMMENDED IN THE BILL FOR FISCAL YEAR 2019
 [In thousands of dollars]

Item	2018 appropriation	Budget estimate	Committee recommendation	Senate Committee recommendation compared with (+ or -)	
				2018 appropriation	Budget estimate
TITLE I—DEPARTMENT OF DEFENSE—CIVIL					
DEPARTMENT OF THE ARMY					
Corps of Engineers—Civil					
Investigations	123,000	82,000	123,000	.....	+ 41,000
Construction	2,085,000	871,733	2,161,000	+ 76,000	+ 1,289,267
Mississippi River and Tributaries	425,000	244,735	350,000	- 75,000	+ 105,265
Operation and Maintenance	3,630,000	2,076,733	3,740,000	+ 110,000	+ 1,663,267
Regulatory Program	200,000	200,000	200,000	.....	.....
Formerly Utilized Sites Remedial Action Program (FUSRAP)	139,000	120,000	120,000	- 19,000	.....
Flood Control and Coastal Emergencies	35,000	27,000	35,000	.....	+ 8,000
Expenses	185,000	187,000	193,000	+ 8,000	+ 6,000
Office of Assistant Secretary of the Army (Civil Works)	5,000	5,000	5,000	.....	.....
Harbor Maintenance Trust Fund .....	.....	965,132	.....	.....	- 965,132
Inland Waterways Trust Fund .....	.....	5,250	.....	.....	- 5,250
Total, title I, Department of Defense—Civil	6,827,000	4,784,583	6,927,000	+ 100,000	+ 2,142,417
TITLE II—DEPARTMENT OF THE INTERIOR					
Central Utah Project					
Bureau of Reclamation					
Central Utah Project Completion Account	10,500	7,983	15,000	+ 4,500	+ 7,017
Water and Related Resources	1,332,124	891,017	1,382,000	+ 49,876	+ 490,983
Central Valley Project Restoration Fund	41,376	62,008	62,008	+ 20,632	.....
Central Valley Project collections	-41,376	-62,008	-62,008	-20,632	.....
Subtotal .....	.....	.....	.....	.....	.....
California Bay-Delta Restoration	37,000	35,000	35,000	- 2,000	.....

Policy and Administration	59,000	61,000	61,000	+ 2,000	.....
Total, Bureau of Reclamation	1,428,124	987,017	1,478,000	+ 49,876	+ 490,983
Total, title II, Department of the Interior	1,438,624	995,000	1,493,000	+ 54,376	+ 498,000
TITLE III—DEPARTMENT OF ENERGY					
Energy Programs					
Energy Efficiency and Renewable Energy	2,321,778	695,610	2,322,000	+ 222	+ 1,626,390
Electricity Delivery and Energy Reliability	248,329	.....	.....	- 248,329	.....
Cybersecurity, Energy Security, and Emergency Response .....	.....	95,800	260,000	+ 260,000	+ 164,200
Electricity Delivery .....	.....	61,309	.....	.....	- 61,309
Nuclear Energy	1,072,056	621,000	1,073,000	+ 944	+ 452,000
Defense function	133,000	136,090	133,000	.....	- 3,090
Subtotal	1,205,056	757,090	1,206,000	+ 944	+ 448,910
Fossil Energy Research and Development	726,817	502,070	727,000	+ 183	+ 224,930
Naval Petroleum and Oil Shale Reserves	4,900	10,000	10,000	+ 5,100	.....
Strategic Petroleum Reserve	252,000	175,105	175,105	- 76,895	.....
Sale of crude oil	- 350,000	- 300,000	- 350,000	.....	- 50,000
Use of sale proceeds	350,000	.....	350,000	.....	+ 350,000
Subtotal	252,000	- 124,895	175,105	- 76,895	+ 300,000
SPR petroleum account	8,400	.....	8,400	.....	+ 8,400
Northeast Home Heating Oil Reserve	6,500	10,000	10,000	.....	.....
Energy Information Administration	125,000	115,035	125,000	+ 3,500	+ 9,965
Non-defense Environmental Cleanup	298,400	218,400	353,240	+ 54,840	+ 134,840
Uranium Enrichment Decontamination and Decommissioning Fund	840,000	752,749	840,818	+ 818	+ 88,069
Science	6,259,903	5,390,972	6,650,000	+ 390,097	+ 1,259,028
Nuclear Waste Disposal .....	.....	90,000	.....	.....	- 90,000
Advanced Research Projects Agency-Energy	353,314	.....	375,000	+ 21,686	+ 375,000
Title 17 Innovative Technology Loan Guarantee Program	33,000	10,000	33,000	.....	+ 23,000
Offsetting collection	- 10,000	- 15,000	- 15,000	- 5,000	.....
Rescission .....	.....	- 240,000	.....	.....	+ 240,000
Subtotal	23,000	- 245,000	18,000	- 5,000	+ 263,000
Title 17 negative subsidy	- 15,000	- 44,000	- 44,000	- 29,000	.....

COMPARATIVE STATEMENT OF NEW BUDGET (OBLIGATIONAL) AUTHORITY FOR FISCAL YEAR 2018 AND BUDGET ESTIMATES AND AMOUNTS RECOMMENDED IN THE BILL
FOR FISCAL YEAR 2019—Continued

[In thousands of dollars]

Item	2018 appropriation	Budget estimate	Committee recommendation	Senate Committee recommendation compared with (+ or -)	
				2018 appropriation	Budget estimate
Rescission of emergency funding		- 383,433			+ 383,433
Subtotal					
Advanced Technology Vehicles Manufacturing Loans program	8,000	- 672,433	- 26,000	- 34,000	+ 646,433
Rescission of emergency funding	5,000	1,000	5,000		+ 4,000
Subtotal		- 4,300,000			+ 4,300,000
Tribal Energy Loan Guarantee Program	5,000	- 4,299,000	5,000		+ 4,304,000
Rescission	1,000		1,000		+ 1,000
Subtotal		- 8,500			+ 8,500
Office of Indian Energy Policy and Programs	1,000	- 8,500	1,000		+ 9,500
Departmental Administration			18,000	+ 18,000	+ 18,000
Miscellaneous revenues	285,652	235,534	266,000	- 19,652	+ 30,466
Net appropriation	189,652	139,534	170,000	- 19,652	+ 30,466
Office of the Inspector General	49,000	51,330	51,330	+ 2,330	
Total, Energy programs	12,903,049	3,785,071	13,281,893	+ 378,844	+ 9,496,822
Atomic Energy Defense Activities					
National Nuclear Security Administration					
Weapons Activities	10,642,138	11,017,078	10,850,000	+ 207,862	- 167,078
Defense Nuclear Nonproliferation	2,048,219	1,862,825	1,902,000	- 146,219	+ 39,175
Rescission	- 49,000			+ 49,000	
Subtotal	1,999,219	1,862,825	1,902,000	- 97,219	+ 39,175

Naval Reactors	1,620,000	1,788,618	1,620,000	.....	- 168,618
Federal Salaries and Expenses	407,595	422,529	408,000	+ 405	- 14,529
Total, National Nuclear Security Administration	14,668,952	15,091,050	14,780,000	+ 111,048	- 311,050
Environmental and Other Defense Activities					
Defense Environmental Cleanup	5,988,048	5,630,217	5,988,000	- 48	+ 357,783
Other Defense Activities	840,000	853,300	840,000	.....	- 13,300
Defense nuclear waste disposal .....	.....	30,000	.....	.....	- 30,000
Total, Environmental and Other Defense Activities	6,828,048	6,513,517	6,828,000	- 48	+ 314,483
Total, Atomic Energy Defense Activities	21,497,000	21,604,567	21,608,000	+ 111,000	+ 3,433
Power Marketing Administrations ¹					
Operation and maintenance, Southeastern Power Administration	6,379	6,500	6,500	+ 121	.....
Offsetting collections	- 6,379	- 6,500	- 6,500	- 121	.....
Subtotal .....	.....	.....	.....	.....	.....
Operation and maintenance, Southwestern Power Administration	30,288	45,802	45,802	+ 15,514	.....
Reduction due to CBO initial estimates of collections for annual expenses .....	.....	.....	- 16,000	- 16,000	- 16,000
Offsetting collections	- 18,888	- 35,402	- 35,402	- 16,514	.....
Southwestern Power Administration CBO initial estimates of collections for annual expenses .....	.....	16,000	16,000	+ 16,000	.....
Subtotal	11,400	26,400	10,400	- 1,000	- 16,000
Construction, Rehabilitation, Operation and Maintenance, Western Area Power Administration	223,276	265,142	265,142	+ 41,866	.....
Reduction due to CBO initial estimates of collections for annual expenses .....	.....	.....	- 43,000	- 43,000	- 43,000
Offsetting collections	- 129,904	- 175,770	- 175,770	- 45,866	.....
Western Area Power Administration CBO initial estimates of collections for annual expenses .....	.....	43,000	43,000	+ 43,000	.....
Subtotal	93,372	132,372	89,372	- 4,000	- 43,000
Falcon and Amistad Operating and Maintenance Fund	4,176	5,207	5,207	+ 1,031	.....
Offsetting collections	- 3,948	- 4,979	- 4,979	- 1,031	.....
Subtotal	228	228	228	.....	.....
CBO estimate for 3rd party financing	872	122	122	- 750	.....

COMPARATIVE STATEMENT OF NEW BUDGET (OBLIGATIONAL) AUTHORITY FOR FISCAL YEAR 2018 AND BUDGET ESTIMATES AND AMOUNTS RECOMMENDED IN THE BILL
FOR FISCAL YEAR 2019—Continued

(In thousands of dollars)

Item	2018 appropriation	Budget estimate	Committee recommendation	Senate Committee recommendation compared with (+ or -)	
				2018 appropriation	Budget estimate
Subtotal	1,100	350	350	-750	.....
Total, Power Marketing Administrations	105,872	159,122	100,122	-5,750	-59,000
Federal Energy Regulatory Commission					
Salaries and expenses	367,600	369,900	369,900	+2,300	.....
Revenues applied	-367,600	-369,900	-369,900	-2,300	.....
General Provisions					
Title III Rescissions:					
Northeast gasoline supply reserve sale .....	.....	-71,000	.....	.....	+71,000
Strategic Petroleum Reserve crude oil sale .....	.....	-15,000	.....	.....	+15,000
Strategic Petroleum Reserve use of sale proceeds .....	.....	15,000	.....	.....	-15,000
Total, General Provisions .....	.....	-71,000	.....	.....	+71,000
Total, title III, Department of Energy					
Appropriations	34,505,921	25,477,760	34,990,015	+484,094	+9,512,255
Rescissions	(34,554,921)	(30,409,693)	(34,990,015)	(+435,094)	(+4,580,322)
.....	(-49,000)	(-248,500)	.....	(+49,000)	(+248,500)
TITLE IV—INDEPENDENT AGENCIES					
Appalachian Regional Commission	155,000	152,000	155,000	.....	+3,000
Defense Nuclear Facilities Safety Board	31,000	31,243	31,000	.....	-243
Delta Regional Authority	25,000	2,500	25,000	.....	+22,500
Denali Commission	30,000	7,300	15,000	-15,000	+7,700
Northern Border Regional Commission	15,000	850	20,000	+5,000	+19,150
Southeast Crescent Regional Commission	250	.....	.....	-250	.....
Nuclear Regulatory Commission:					
Salaries and expenses	909,137	958,050	898,350	-10,787	-59,700

Revenues	- 779,768	- 805,019	- 794,219	- 14,451	+ 10,800
Rescission	- 68			+ 68	
Subtotal	129,301	153,031	104,131	- 25,170	- 48,900
Office of Inspector General	12,859	12,609	12,609	- 250	
Revenues	- 10,555	- 10,355	- 10,355	+ 200	
Subtotal	2,304	2,254	2,254	- 50	
Total, Nuclear Regulatory Commission	131,605	155,285	106,385	- 25,220	- 48,900
Appropriations	(131,673)	(155,285)	(106,385)	(- 25,288)	(- 48,900)
Rescissions	(- 68)			(+ 68)	
Nuclear Waste Technical Review Board	3,600	3,600	3,600		
Total, title IV, Independent agencies	391,455	352,778	355,985	- 35,470	+ 3,207
OTHER APPROPRIATIONS					
SUPPLEMENTAL APPROPRIATIONS FOR DISASTER RELIEF REQUIREMENTS					
DEPARTMENT OF DEFENSE—CIVIL					
DEPARTMENT OF THE ARMY					
Corps of Engineers—Civil					
Investigations (Public Law 115-123) (emergency)	135,000			- 135,000	
Construction (Public Law 115-123) (emergency)	15,055,000			- 15,055,000	
Mississippi River and Tributaries (Public Law 115-123) (emergency)	770,000			- 770,000	
Operations and Maintenance (Public Law 115-123) (emergency)	608,000			- 608,000	
Flood Control and Coastal Emergencies (Public Law 115-123) (emergency)	810,000			- 810,000	
Expenses (Public Law 115-123) (emergency)	20,000			- 20,000	
Electricity Delivery and Energy Reliability (Public Law 115-123) (emergency)	13,000			- 13,000	
Strategic Petroleum Reserve (Public Law 115-123) (emergency)	8,716			- 8,716	
Total, Other Appropriations	17,419,716			- 17,419,716	
Grand total	60,582,716	31,610,121	43,766,000	- 16,816,716	+ 12,155,879
Appropriations	(43,212,068)	(36,542,054)	(43,766,000)	(+ 553,932)	(+ 7,223,946)
Emergency appropriations	(17,419,716)			(- 17,419,716)	

**COMPARATIVE STATEMENT OF NEW BUDGET (OBLIGATIONAL) AUTHORITY FOR FISCAL YEAR 2018 AND BUDGET ESTIMATES AND AMOUNTS RECOMMENDED IN THE BILL
FOR FISCAL YEAR 2019—Continued**

[In thousands of dollars]

Item	2018 appropriation	Budget estimate	Committee recommendation	Senate Committee recommendation compared with (+ or -)	
				2018 appropriation	Budget estimate
Rescissions					
Rescissions of emergency appropriations	(-49,068)	(-248,500)	.....	(+49,068)	(+248,500)
	.....	(-4,683,433)	.....	.....	(+4,683,433)

¹Totals adjusted to net out alternative financing costs, reimbursable agreement funding, and power purchase and wheeling expenditures. Offsetting collection totals only reflect funds collected for annual expenses, excluding power purchase wheeling.

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