

DEPARTMENT OF ENERGY

NATIONAL NUCLEAR SECURITY ADMINISTRATION

Federal Funds

FEDERAL SALARIES AND EXPENSES

[(INCLUDING RESCISSION OF FUNDS)]

For expenses necessary for Federal Salaries and Expenses in the National Nuclear Security Administration, **[\$383,666,000]** \$412,817,000, to remain available until September 30, **[2017]** 2018, including official reception and representation expenses not to exceed \$12,000: *Provided*, That of the unobligated balances from prior year appropriations available under this heading, \$19,900,000 is hereby rescinded: *Provided further*, That no amounts may be rescinded from amounts that were designated by the Congress as an emergency requirement pursuant to a concurrent resolution on the budget or the Balanced Budget and Emergency Deficit Control Act of 1985. *(Energy and Water Development and Related Agencies Appropriations Act, 2016.)*

Program and Financing (in millions of dollars)

Identification code 089-0313-0-1-053	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0010 Federal Salaries and Expenses	364	407	413
Budgetary resources:			
Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	32	43	
1021 Recoveries of prior year unpaid obligations	5		
1050 Unobligated balance (total)	37	43	
Budget authority:			
Appropriations, discretionary:			
1100 Appropriation	370	384	413
1131 Unobligated balance of appropriations permanently reduced		-20	
1160 Appropriation, discretionary (total)	370	364	413
1900 Budget authority (total)	370	364	413
1930 Total budgetary resources available	407	407	413
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	43		
Change in obligated balance:			
Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	67	68	96
3010 Obligations incurred, unexpired accounts	364	407	413
3020 Outlays (gross)	-355	-379	-437
3040 Recoveries of prior year unpaid obligations, unexpired	-5		
3041 Recoveries of prior year unpaid obligations, expired	-3		
3050 Unpaid obligations, end of year	68	96	72
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	67	68	96
3200 Obligated balance, end of year	68	96	72
Budget authority and outlays, net:			
Discretionary:			
4000 Budget authority, gross	370	364	413
Outlays, gross:			
4010 Outlays from new discretionary authority	278	300	341
4011 Outlays from discretionary balances	77	79	96
4020 Outlays, gross (total)	355	379	437
4180 Budget authority, net (total)	370	364	413
4190 Outlays, net (total)	355	379	437

Federal Salaries and Expenses.—This account provides the Federal salaries and other expenses of the National Nuclear Security Administration (NNSA) mission and mission support staff. The Federal Salaries and Expenses appropriation allows for the creation of a well-managed, inclusive, responsive, and accountable organization through the strategic management of human capital and greater integration of budget and performance data. It also includes funding for a standardized corporate project management enterprise. Program direction for Naval Reactors is within that program's account, and program direction for Secure Transportation Asset is within the Weapons Activities account.

Object Classification (in millions of dollars)

Identification code 089-0313-0-1-053	2015 actual	2016 est.	2017 est.
Direct obligations:			
Personnel compensation:			
11.1 Full-time permanent	196	205	215
11.3 Other than full-time permanent	3	3	3
11.5 Other personnel compensation	5	5	5
11.9 Total personnel compensation	204	213	223
12.1 Civilian personnel benefits	60	73	71
21.0 Travel and transportation of persons	12	15	14
23.1 Rental payments to GSA	1	1	1
23.3 Communications, utilities, and miscellaneous charges	2	2	2
25.1 Advisory and assistance services	27	33	33
25.2 Other services from non-Federal sources	4	5	5
25.3 Other goods and services from Federal sources	37	45	44
25.4 Operation and maintenance of facilities	16	19	19
26.0 Supplies and materials	1	1	1
99.9 Total new obligations	364	407	413

Employment Summary

Identification code 089-0313-0-1-053	2015 actual	2016 est.	2017 est.
1001 Direct civilian full-time equivalent employment	1,541	1,690	1,740
2001 Reimbursable civilian full-time equivalent employment	2		

NAVAL REACTORS

For Department of Energy expenses necessary for naval reactors activities to carry out the Department of Energy Organization Act (42 U.S.C. 7101 et seq.), including the acquisition (by purchase, condemnation, construction, or otherwise) of real property, plant, and capital equipment, facilities, and facility expansion, **[\$1,375,496,000]** \$1,420,120,000, to remain available until expended: *Provided*, That of such amount, **[\$42,504,000]** \$47,100,000 shall be available until September 30, **[2017]** 2018, for program direction. *(Energy and Water Development and Related Agencies Appropriations Act, 2016.)*

Program and Financing (in millions of dollars)

Identification code 089-0314-0-1-053	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0010 Naval reactors development	406	447	437
0020 Program Direction	43	43	47
0030 S8C prototype refueling	126	133	124
0040 Naval reactors operations and infrastructure	390	445	450
0050 Construction	113	121	148
0060 OHIO replacement reactor systems development	156	186	214
0900 Total new obligations	1,234	1,375	1,420
Budgetary resources:			
Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	12	12	12
Budget authority:			
Appropriations, discretionary:			
1100 Appropriation	1,239	1,375	1,420
1131 Unobligated balance of appropriations permanently reduced	-5		
1160 Appropriation, discretionary (total)	1,234	1,375	1,420
1930 Total budgetary resources available	1,246	1,387	1,432
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	12	12	12
Change in obligated balance:			
Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	343	465	442
3010 Obligations incurred, unexpired accounts	1,234	1,375	1,420
3020 Outlays (gross)	-1,112	-1,398	-1,593
3050 Unpaid obligations, end of year	465	442	269
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	343	465	442

NAVAL REACTORS—Continued
Program and Financing—Continued

Identification code 089-0314-0-1-053	2015 actual	2016 est.	2017 est.
3200 Obligated balance, end of year	465	442	269
Budget authority and outlays, net:			
Discretionary:			
4000 Budget authority, gross	1,234	1,375	1,420
Outlays, gross:			
4010 Outlays from new discretionary authority	788	1,169	1,207
4011 Outlays from discretionary balances	324	229	386
4020 Outlays, gross (total)	1,112	1,398	1,593
4180 Budget authority, net (total)	1,234	1,375	1,420
4190 Outlays, net (total)	1,112	1,398	1,593

Naval Reactors.—This account funds all naval nuclear propulsion work. It begins with reactor technology development and design, continues through reactor operation and maintenance, and ends with reactor plant disposal. The program ensures the safe and reliable operation of reactor plants in nuclear-powered submarines and aircraft carriers (constituting over 45 percent of the Navy's combatants), and fulfills the Navy's requirements for new nuclear propulsion plants that meet current and future national defense requirements. Due to the crucial nature of nuclear reactor work, Naval Reactors is a centrally managed organization. Federal employees oversee and set policies/procedures for developing new reactor plants and operating existing nuclear plants and the facilities that support these plants.

Object Classification (in millions of dollars)

Identification code 089-0314-0-1-053	2015 actual	2016 est.	2017 est.
Direct obligations:			
Personnel compensation:			
11.1 Full-time permanent	26	29	29
11.5 Other personnel compensation	1	1	1
11.9 Total personnel compensation	27	30	30
12.1 Civilian personnel benefits	9	10	10
21.0 Travel and transportation of persons	1	1	1
25.2 Other services from non-Federal sources	6	7	7
25.3 Other goods and services from Federal sources	6	7	7
25.4 Operation and maintenance of facilities	1,011	1,126	1,164
31.0 Equipment	26	29	30
32.0 Land and structures	145	162	167
41.0 Grants, subsidies, and contributions	3	3	4
99.9 Total new obligations	1,234	1,375	1,420

Employment Summary

Identification code 089-0314-0-1-053	2015 actual	2016 est.	2017 est.
1001 Direct civilian full-time equivalent employment	217	246	246

WEAPONS ACTIVITIES

For Department of Energy expenses, including the purchase, construction, and acquisition of plant and capital equipment and other incidental expenses necessary for atomic energy defense weapons activities in carrying out the purposes of the Department of Energy Organization Act (42 U.S.C. 7101 et seq.), including the acquisition or condemnation of any real property or any facility or for plant or facility acquisition, construction, or expansion, **[\$8,846,948,000]** \$9,285,147,000, to remain available until expended: *Provided*, That of such amount, **[\$97,118,000]** \$106,600,000 shall be available until September 30, **[2017]** 2018, for program direction: *Provided further*, That **[** funding made available under this heading may be made available for project engineering and design for the Albuquerque Complex Project **]** of the unobligated balances from prior year appropriations available under this heading, \$42,000,000 is hereby permanently cancelled: *Provided further*, That no amounts may be cancelled from amounts that were previously designated by the Congress as an emergency requirement pursuant to a concurrent resolution on the budget or the Balanced Budget and Emergency Deficit Control Act of 1985. (Energy and Water Development and Related Agencies Appropriations Act, 2016.)

Program and Financing (in millions of dollars)

Identification code 089-0240-0-1-053	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0020 Directed stockpile work	2,659	3,395	3,331
0021 Science	412	423	442
0022 Engineering	136	131	139
0023 Inertial confinement fusion ignition and high yield	516	511	523
0024 Advanced simulation and computing	607	623	663
0025 Readiness campaign	1		
0026 Readiness in technical base and facilities	2,004		
0027 Secure transportation asset	225	237	283
0028 Advanced manufacturing development	106	130	87
0030 Infrastructure and Operations		2,281	2,722
0091 Defense programs (DP), subtotal	6,666	7,731	8,190
0150 Nuclear counterterrorism incident response	176		
0161 Counterterrorism and counterproliferation programs	46		
0170 Site stewardship	78		
0179 Information technology and cybersecurity	170	162	177
0180 Defense nuclear security	627	683	670
0183 Legacy contractor pensions	307	284	248
0185 Domestic Uranium Research, Development and Demonstration	97		
0191 Non-DP activities, subtotal	1,501	1,129	1,095
0300 Subtotal, Weapons Activities	8,167	8,860	9,285
0799 Total direct obligations	8,167	8,860	9,285
0810 Weapons Activities (Reimbursable)	1,488	1,500	1,500
0900 Total new obligations	9,655	10,360	10,785

Budgetary resources:

Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	146	213	225
1021 Recoveries of prior year unpaid obligations	54		
1050 Unobligated balance (total)	200	213	225
Budget authority:			
Appropriations, discretionary:			
1100 Appropriation	8,232	8,847	9,285
1131 Unobligated balance of appropriations permanently reduced	-51		-42
1160 Appropriation, discretionary (total)	8,181	8,847	9,243
Spending authority from offsetting collections, discretionary:			
1700 Collected	2,409	1,525	1,525
1701 Change in uncollected payments, Federal sources	-922		
1750 Spending auth from offsetting collections, disc (total)	1,487	1,525	1,525
1900 Budget authority (total)	9,668	10,372	10,768
1930 Total budgetary resources available	9,868	10,585	10,993
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	213	225	208

Change in obligated balance:

Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	6,598	6,237	7,335
3010 Obligations incurred, unexpired accounts	9,655	10,360	10,785
3020 Outlays (gross)	-9,962	-9,262	-11,071
3040 Recoveries of prior year unpaid obligations, unexpired	-54		
3050 Unpaid obligations, end of year	6,237	7,335	7,049
Uncollected payments:			
3060 Uncollected pymts, Fed sources, brought forward, Oct 1	-3,078	-2,156	-2,156
3070 Change in uncollected pymts, Fed sources, unexpired	922		
3090 Uncollected pymts, Fed sources, end of year	-2,156	-2,156	-2,156
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	3,520	4,081	5,179
3200 Obligated balance, end of year	4,081	5,179	4,893

Budget authority and outlays, net:

Discretionary:			
4000 Budget authority, gross	9,668	10,372	10,768
Outlays, gross:			
4010 Outlays from new discretionary authority	4,782	6,742	6,999
4011 Outlays from discretionary balances	5,180	2,520	4,072
4020 Outlays, gross (total)	9,962	9,262	11,071
Offsets against gross budget authority and outlays:			
Offsetting collections (collected) from:			
4030 Federal sources	-2,302	-1,475	-1,475
4033 Non-Federal sources	-107	-50	-50
4040 Offsets against gross budget authority and outlays (total) ...	-2,409	-1,525	-1,525

Additional offsets against gross budget authority only:			
4050	Change in uncollected pymts, Fed sources, unexpired	922	.....
4070	Budget authority, net (discretionary)	8,181	8,847 9,243
4080	Outlays, net (discretionary)	7,553	7,737 9,546
4180	Budget authority, net (total)	8,181	8,847 9,243
4190	Outlays, net (total)	7,553	7,737 9,546

Programs funded within the Weapons Activities appropriation support the Nation's current and future defense posture, and its attendant nationwide infrastructure of science, technology and engineering capabilities. Weapons Activities provides for the maintenance and refurbishment of nuclear weapons to continue sustained confidence in their safety, reliability, and performance; continued investment in scientific, engineering, and manufacturing capabilities to enable certification of the enduring nuclear weapons stockpile; and manufacture of nuclear weapon components. Weapons Activities also provides for continued maintenance and investment in the NNSA nuclear complex to be more responsive and cost effective. The major elements of the program include the following:

Directed Stockpile Work.—Encompasses all activities that directly support the nuclear weapons stockpile. These activities include: maintenance and surveillance; planned refurbishment; reliability assessment; weapon dismantlement and disposal; and research, development, and certification technology efforts to meet stockpile requirements. Additionally, starting in FY 2016, Strategic Materials are also included in Directed Stockpile Work, in order to recognize the investment needed in nuclear materials to maintain the viability of the enduring stockpile.

Research, Development, Test and Evaluation.—Focuses on scientific, technical, and engineering efforts to develop and maintain critical capabilities, tools, and processes needed to support science-based stockpile stewardship, weapons refurbishments, and continued certification of the stockpile over the long-term in the absence of underground nuclear testing.

Infrastructure and Operations (formerly Readiness in Technical Base and Facilities).—Provides for the base operations funding required to operate NNSA facilities and support underlying infrastructure and capabilities at the level necessary to deliver mission results in a safe and secure manner. Includes resources for cross-cutting programmatic functions such as Long Term Stewardship (formerly Environmental Projects and Operations), Nuclear Safety Research & Development, Nuclear Criticality Safety, and the Packaging (formerly Containers) program. Modernizes NNSA infrastructure through recapitalization, capability investments, strategic development, and line-item construction projects for the enhancement of capabilities.

Defense Nuclear Security.—Provides protection for NNSA personnel, facilities, and nuclear weapons from a full spectrum of threats, most notably terrorism. Provides for all safeguards and security requirements including protective forces and systems at all NNSA sites.

Secure Transportation Asset.—Provides for the safe, secure movement of nuclear weapons, special nuclear material, and weapon components to meet projected DOE, Department of Defense (DOD), and other customer requirements. The Program Direction in this account provides for the secure transportation workforce, including the Federal agents.

Information Technology and Cybersecurity.—Provides for research and development of information technology and cyber security solutions such as identity, credential, and access management to help meet energy security, proliferation resistance, and climate goals.

NNSA's request reflects the partnership between NNSA and DOD to maintain and modernize the nuclear deterrent. DOD's NNSA Program Support account has the amounts for Weapons Activities that are shown in the table below, underscoring the close link between these activities and DOD nuclear weapons-related requirements and missions. OMB will ensure that future budget year allocations to NNSA occur in the required amounts.

DEPARTMENT OF DEFENSE SUPPORT TO NNSA ACTIVITIES

		(in millions)		Future Funds from DOD Support to NNSA Account	Weapons Activities Total Including DOD Support to NNSA
FY 2017			—	9,285
FY 2018			1,665	9,661
FY 2019			1,698	9,863
FY 2020			1,735	10,118
FY 2021			1,770	10,518

Of the Future Funds from DOD, OMB will ensure that the following allocations from DOD occur as planned for Naval Reactors: FY 2018, \$393 million; FY 2019, \$402 million; FY 2020, \$411 million; and FY 2021, \$419 million. The remaining Future Funds from DOD are included in "Weapons Activities Total Including DOD Support to NNSA."

Object Classification (in millions of dollars)

Identification code 089-0240-0-1-053	2015 actual	2016 est.	2017 est.
Direct obligations:			
Personnel compensation:			
11.1 Full-time permanent	44	47	48
11.5 Other personnel compensation	10	11	11
11.9 Total personnel compensation	54	58	59
12.1 Civilian personnel benefits	24	26	27
21.0 Travel and transportation of persons	4	4	5
23.1 Rental payments to GSA	77	84	88
23.3 Communications, utilities, and miscellaneous charges	29	31	33
25.1 Advisory and assistance services	184	200	209
25.2 Other services from non-Federal sources	462	501	525
25.3 Other goods and services from Federal sources	35	38	40
25.4 Operation and maintenance of facilities	6,375	6,916	7,249
25.5 Research and development contracts	117	127	133
25.6 Medical care	4	4	5
25.7 Operation and maintenance of equipment	1	1	1
26.0 Supplies and materials	7	8	8
31.0 Equipment	235	255	267
32.0 Land and structures	502	545	571
41.0 Grants, subsidies, and contributions	57	62	65
99.0 Direct obligations	8,167	8,860	9,285
99.0 Reimbursable obligations	1,488	1,500	1,500
99.9 Total new obligations	9,655	10,360	10,785

Employment Summary

Identification code 089-0240-0-1-053	2015 actual	2016 est.	2017 est.
1001 Direct civilian full-time equivalent employment	536	579	586

DEFENSE NUCLEAR NONPROLIFERATION

For Department of Energy expenses, including the purchase, construction, and acquisition of plant and capital equipment and other incidental expenses necessary for defense nuclear nonproliferation activities, in carrying out the purposes of the Department of Energy Organization Act (42 U.S.C. 7101 et seq.), including the acquisition or condemnation of any real property or any facility or for plant or facility acquisition, construction, or expansion, **[\$1,940,302,000] \$1,821,916,000**, to remain available until expended: *Provided, That of the unobligated balances from prior year appropriations available under this heading, \$14,000,000 is hereby permanently cancelled: Provided further, That no amounts may be cancelled from amounts that were previously designated by the Congress as an emergency requirement pursuant to a concurrent resolution on the budget or the Balanced Budget and Emergency Deficit Control Act of 1985. (Energy and Water Development and Related Agencies Appropriations Act, 2016.)*

Program and Financing (in millions of dollars)

Identification code 089-0309-0-1-053	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0010 Defense nuclear nonproliferation research and development	387	419	394
0030 Nonproliferation and international security	141	.....	.....

DEFENSE NUCLEAR NONPROLIFERATION—Continued
Program and Financing—Continued

Identification code 089-0309-0-1-053	2015 actual	2016 est.	2017 est.
0040 International materials protection and cooperation	284	.....	.....
0050 Fissile materials disposition	445	.....	.....
0071 Global material security .....	.....	427	337
0072 Material management and minimization .....	.....	317	341
0073 Nonproliferation and arms control .....	.....	130	125
0074 Nonproliferation construction .....	.....	340	270
0075 Nuclear counterterrorism incident response .....	.....	234	272
0080 Global threat reduction initiative	325	.....	.....
0085 Legacy contractor pensions	103	95	83
0100 Subtotal, obligations by program activity	1,685	1,962	1,822
0799 Total direct obligations	1,685	1,962	1,822
0801 INMP&C international contributions	2	.....	.....
0802 GTRI international contribution	4	.....	.....
0899 Total reimbursable obligations	6	.....	.....
0900 Total new obligations	1,691	1,962	1,822
Budgetary resources:			
Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	40	69	47
1021 Recoveries of prior year unpaid obligations	108	.....	.....
1050 Unobligated balance (total)	148	69	47
Budget authority:			
Appropriations, discretionary:			
1100 Appropriation	1,641	1,940	1,822
1120 Appropriations transferred to other accts [089-0222]	-7	.....	.....
1131 Unobligated balance of appropriations permanently reduced	-26	.....	-14
1160 Appropriation, discretionary (total)	1,608	1,940	1,808
Spending authority from offsetting collections, discretionary:			
1700 Collected	4	.....	.....
1900 Budget authority (total)	1,612	1,940	1,808
1930 Total budgetary resources available	1,760	2,009	1,855
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	69	47	33
Change in obligated balance:			
Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	1,913	1,642	1,647
3010 Obligations incurred, unexpired accounts	1,691	1,962	1,822
3020 Outlays (gross)	-1,854	-1,957	-1,906
3040 Recoveries of prior year unpaid obligations, unexpired	-108	.....	.....
3050 Unpaid obligations, end of year	1,642	1,647	1,563
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	1,913	1,642	1,647
3200 Obligated balance, end of year	1,642	1,647	1,563
Budget authority and outlays, net:			
Discretionary:			
4000 Budget authority, gross	1,612	1,940	1,808
Outlays, gross:			
4010 Outlays from new discretionary authority	617	660	615
4011 Outlays from discretionary balances	1,237	1,297	1,291
4020 Outlays, gross (total)	1,854	1,957	1,906
Offsets against gross budget authority and outlays:			
Offsetting collections (collected) from:			
4034 Offsetting governmental collections	-4	.....	.....
4180 Budget authority, net (total)	1,608	1,940	1,808
4190 Outlays, net (total)	1,850	1,957	1,906

Nuclear threat reduction is one of the three pillars of the NNSA mission, as identified in the 2015 DOE/NNSA Enterprise Strategic Vision. To achieve this mission, the NNSA strategy is to address the entire nuclear threat spectrum by preventing the acquisition of nuclear weapons or weapons-usable materials, countering efforts to acquire such weapons or materials, and responding to nuclear or radiological incidents.

This appropriation funds the Defense Nuclear Nonproliferation (DNN) program, which primarily supports efforts to prevent nuclear threats, as well as the Nuclear Counterterrorism and Incident Response (NCTIR) program, which primarily supports efforts to counter and respond to nuclear threats. These two programs provide policy and technical leadership to prevent or limit the spread of materials, technology, and expertise relating

to weapons of mass destruction; advance technologies that detect the proliferation of weapons of mass destruction worldwide; eliminate and secure inventories of surplus materials and infrastructure usable for nuclear weapons; ensure a technically trained response to nuclear and radiological incidents worldwide; support the Department's enterprise-wide approach to emergency management; and reduce the danger that hostile nations or terrorist groups may acquire nuclear devices or weapons-usable material, nuclear and dual-use commodities and technology, or nuclear-related expertise that could be used to develop nuclear weapon capabilities by states or non-state actors.

These activities are carried out within the context of a dynamic global security environment, which is described in NNSA's annual report entitled Prevent, Counter, and Respond—A Strategic Plan to Reduce Global Nuclear Threats. This environment is characterized by the persistent vulnerability of nuclear and radiological materials (particularly in regions of conflict); the pressure on arms control and nonproliferation regimes from enduring interest in nuclear weapons capabilities by state- and non-state actors; the global expansion of nuclear power and possible spread of fuel cycle technology; the increasing opportunities for illicit nuclear material trafficking due to expanding global trade volumes and increasingly sophisticated procurement networks; and the rapid advance of technology (including cyber) that may shorten nuclear weapon development pathways and directly affect nuclear safeguards and security missions.

The major elements of the appropriation account include the following:

Global Material Security (GMS).—Supports the President's nuclear security agenda and the Secretary's goal of enhancing nuclear security through nonproliferation by working with partner countries to increase the security of vulnerable stockpiles of nuclear weapons, weapons-usable nuclear materials, and radiological materials and to improve partner countries' abilities to deter, detect, and interdict illicit trafficking.

Material Management and Minimization (M³).—Presents an integrated approach to addressing the persistent threat posed by nuclear materials through a full cycle of materials management and minimization efforts. Consistent with the priorities articulated in the National Security Strategy of the United States and the Nuclear Posture Review, the primary objective of the program is to achieve permanent threat reduction by minimizing and, when possible, eliminating weapons-usable nuclear material around the world.

Nonproliferation and Arms Control (NPAC).—Supports activities to prevent the proliferation or use of WMD, including dual-use materials, equipment, technology, and expertise, by state and non-state actors. The NPAC program strengthens the nonproliferation and arms control regimes by developing and implementing programs and strategies to: strengthen international nuclear safeguards; control the spread of dual-use WMD material, equipment, technology, and expertise; verify nuclear reductions and compliance with nonproliferation and arms control treaties and agreements; and develop programs and strategies to address nonproliferation and arms control challenges and opportunities.

Defense Nuclear Nonproliferation Research and Development (DNN R&D).—Drives the innovation of unilateral and multi-lateral technical capabilities to detect, identify, and characterize: 1) foreign nuclear weapons programs, 2) illicit diversion of special nuclear materials, and 3) nuclear detonations. To meet national and Departmental nuclear security requirements, DNN R&D leverages the unique facilities and scientific skills of the Department of Energy, academia, and industry for the performance of research, conduct of technology demonstrations, development of prototypes for integration into operational systems, and the conduct of certain counterterrorism R&D activities.

Nonproliferation Construction.—Consolidates construction costs for DNN programs previously contained within each program budget. Construction covers Total Project Costs (TPC), which include Other Project Costs (OPC) and Total Estimated Costs (TEC). Currently, the MOX Fuel Fabrication Facility (MFFF) is the only project in this program. However, beginning in FY 2017 the MOX project will be terminated. The Department

will complete pre-conceptual design for the dilute and dispose (D&D) option to establish Critical Decision-0 (CD-0), Approve Mission Need, and begin conceptual design in late FY 2017.

Nuclear Counterterrorism and Incident Response (NCTIR).—Strategically manages and deploys expert scientific teams and equipment to provide a technically trained, rapid response to nuclear or radiological incidents and accidents worldwide. NCTIR evaluates and assesses nuclear or radiological threats and leverages that knowledge to provide interagency policy and contingency planning, training and support to national counterterrorism and counterproliferation capabilities. Finally, NCTIR also executes the DOE's emergency management and Operations Support program that manages the Emergency Operations Centers, Emergency Communications Network and Continuity of Operations (COOP) activities.

Object Classification (in millions of dollars)

Identification code 089-0309-0-1-053	2015 actual	2016 est.	2017 est.
Direct obligations:			
25.1 Advisory and assistance services	82	95	89
25.2 Other services from non-Federal sources	145	169	157
25.3 Other goods and services from Federal sources	6	7	6
25.4 Operation and maintenance of facilities	1,046	1,219	1,131
25.5 Research and development contracts	2	2	2
31.0 Equipment	48	56	52
32.0 Land and structures	348	405	376
41.0 Grants, subsidies, and contributions	8	9	9
99.0 Direct obligations	1,685	1,962	1,822
99.0 Reimbursable obligations	6		
99.9 Total new obligations	1,691	1,962	1,822

CERRO GRANDE FIRE ACTIVITIES

Program and Financing (in millions of dollars)

Identification code 089-0312-0-1-053	2015 actual	2016 est.	2017 est.
Budgetary resources:			
Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	3	3	3
1930 Total budgetary resources available	3	3	3
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	3	3	3
4180 Budget authority, net (total)			
4190 Outlays, net (total)			

Cerro Grande Fire Activities.—Emergency funding was provided in 2000 and 2001 for restoration activities at the Los Alamos National Laboratory in New Mexico after the Cerro Grande Fire in May 2000.

ENVIRONMENTAL AND OTHER DEFENSE ACTIVITIES

Federal Funds

DEFENSE ENVIRONMENTAL CLEANUP

For Department of Energy expenses, including the purchase, construction, and acquisition of plant and capital equipment and other expenses necessary for atomic energy defense environmental cleanup activities in carrying out the purposes of the Department of Energy Organization Act (42 U.S.C. 7101 et seq.), including the acquisition or condemnation of any real property or any facility or for plant or facility acquisition, construction, or expansion, and the purchase of not to exceed one fire apparatus pumper truck, [and one armored vehicle] *one aerial lift truck, one refuse truck, and one semi-truck* for replacement only, [\$5,289,742,000] \$5,382,050,000, to remain available until expended, of which \$155,100,000 shall be transferred to the "Uranium Enrichment Decontamination and Decommissioning Fund": Provided, That of such amount, [\$281,951,000] \$290,050,000 shall be available until September 30, [2017] 2018, for program direction. (Energy and Water Development and Related Agencies Appropriations Act, 2016.)

Program and Financing (in millions of dollars)

Identification code 089-0251-0-1-053	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0001 Closure Sites	5	5	9
0002 Hanford Site	938	923	636
0003 River Protection - Tank Farm	523	649	646
0004 River Protection - Waste Treatment Plant	667	690	693
0005 River Protection - LAWPS	23	75	73
0006 Idaho	380	396	338
0007 NNSA Sites	250	251	72
0008 Oak Ridge	221	239	164
0009 Savannah River	1,135	1,208	1,099
0010 Waste Isolation Pilot Plant	302	300	244
0011 Program Support	14	15	15
0012 Safeguards & Security	240	237	256
0013 Technology Development & Demonstration	16	20	30
0014 Program Direction	291	282	290
0015 UED&D Fund Contribution	463		155
0016 Infrastructure			473
0017 Los Alamos			189
0900 Total new obligations	5,468	5,290	5,382
Budgetary resources:			
Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	60	47	59
1021 Recoveries of prior year unpaid obligations	2	12	12
1050 Unobligated balance (total)	62	59	71
Budget authority:			
Appropriations, discretionary:			
1100 Appropriation	5,474	5,290	5,382
1131 Unobligated balance of appropriations permanently reduced	-21		
1160 Appropriation, discretionary (total)	5,453	5,290	5,382
1930 Total budgetary resources available	5,515	5,349	5,453
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	47	59	71
Change in obligated balance:			
Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	2,022	1,984	1,800
3010 Obligations incurred, unexpired accounts	5,468	5,290	5,382
3020 Outlays (gross)	-5,499	-5,462	-5,408
3040 Recoveries of prior year unpaid obligations, unexpired	-2	-12	-12
3041 Recoveries of prior year unpaid obligations, expired	-5		
3050 Unpaid obligations, end of year	1,984	1,800	1,762
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	2,022	1,984	1,800
3200 Obligated balance, end of year	1,984	1,800	1,762
Budget authority and outlays, net:			
Discretionary:			
4000 Budget authority, gross	5,453	5,290	5,382
Outlays, gross:			
4010 Outlays from new discretionary authority	3,730	3,703	3,814
4011 Outlays from discretionary balances	1,769	1,759	1,594
4020 Outlays, gross (total)	5,499	5,462	5,408
Offsets against gross budget authority and outlays:			
Offsetting collections (collected) from:			
4030 Federal sources	-1		
Additional offsets against gross budget authority only:			
4052 Offsetting collections credited to expired accounts	1		
4070 Budget authority, net (discretionary)	5,453	5,290	5,382
4080 Outlays, net (discretionary)	5,498	5,462	5,408
4180 Budget authority, net (total)	5,453	5,290	5,382
4190 Outlays, net (total)	5,498	5,462	5,408

The Defense Environmental Cleanup program is responsible for protecting human health and the environment by identifying and reducing risks, as well as managing waste and facilities, at sites where the Department carried out defense-related nuclear research and production activities. Those activities resulted in radioactive, hazardous, and mixed-waste contamination requiring remediation, stabilization, decontamination and decommissioning, or some other type of cleanup action. The budget displays the cleanup program by site and activity.

DEFENSE ENVIRONMENTAL CLEANUP—Continued

Closure Sites.—Funds post-closure administration costs after the physical completion of cleanup, including costs for contract closeout and litigation support.

Hanford Site.—Funds cleanup and environmental restoration to protect the Columbia River and surrounding communities. The Hanford site cleanup is managed by two Environmental Management (EM) site offices: the Richland Operations Office and the Office of River Protection.

The Richland Office is responsible for cleanup activities on most of the geographic area making up the Hanford site. The primary cleanup focus is decontamination and decommissioning legacy facilities and characterizing and treating contaminated groundwater.

The Office of River Protection is responsible for the safe storage, retrieval, treatment, immobilization, and disposal of 56 million gallons of radioactive waste stored in 177 underground tanks. It is also responsible for related operation, maintenance, engineering, and construction activities, including those connected to the Waste Treatment and Immobilization Plant being built to solidify the liquid tank waste in a glass form that can be safely stored.

Idaho.—Funds retrieval, treatment, and disposition of nuclear and hazardous wastes and spent nuclear fuel, and legacy site cleanup activities..

NNSA Sites.—Funds the safe and efficient cleanup of the environmental legacy past operations at National Nuclear Security Administration (NNSA) sites including Nevada National Security Site, Sandia National Laboratories, Lawrence Livermore National Laboratory, and the Separations Process Research Unit. The cleanup strategy follows a risk-informed approach that focuses first on those soil and groundwater contaminant plumes and sources that are the greatest contributors to risk. The overall goal is first to ensure that risks to the public and workers are controlled, then to clean up soil and groundwater using a risk-informed methodology. NNSA is responsible for long-term stewardship of its sites after physical cleanup is completed.

Los Alamos.—Funds the safe and compliant cleanup of legacy contamination resulting from the Los Alamos National Laboratory's national security mission. Key activities include safe storage and processing of legacy transuranic wastes and remediation of contaminated groundwater. Los Alamos legacy cleanup is managed by the newly formed EM Los Alamos field office.

Oak Ridge.—Funds defense-related cleanup of the three facilities that make up the Oak Ridge Reservation: the East Tennessee Technology Park, the Oak Ridge National Laboratory, and the Y-12 Plant. The overall cleanup strategy is based on surface water considerations, encompassing five distinct watersheds that feed the adjacent Clinch River.

Savannah River Site.—Funds the safe stabilization, treatment, and disposition of legacy nuclear materials, spent nuclear fuel, and waste at the Savannah River site. Key activities include operating the Defense Waste Processing Facility, which is solidifying the high activity liquid waste contained in underground storage tanks, and the construction of the Salt Waste Processing Facility, which will separate various tank waste components and treat and dispose the low activity liquid waste stream.

Waste Isolation Pilot Plant.—Funds the world's first permitted deep geologic repository for the permanent disposal of radioactive waste, and the Nation's only disposal site for defense-generated transuranic waste. The Waste Isolation Pilot Plant, managed by the Carlsbad Field Office, is an operating facility, supporting the disposal of transuranic waste from waste generator and storage sites across the DOE complex. The Waste Isolation Pilot Plant is crucial to the Department of Energy (DOE) completing its cleanup and closure mission.

Program Direction.—Funds the Federal workforce responsible for the overall direction and administrative support of the EM program, including both Headquarters and field personnel.

Program Support.—Funds management and direction for various cross-cutting EM and DOE initiatives, intergovernmental activities, and analyses and integration activities across DOE in a consistent, responsible, and efficient manner.

Safeguards and Security.—Funds activities to protect against unauthorized access, theft, diversion, loss of custody or destruction of DOE assets, and hostile acts that could cause adverse impacts to fundamental national security or the health and safety of DOE and contractor employees, the public or the environment.

Technology Development and Deployment.—Funds projects managed through Headquarters to address the immediate, near- and long-term technology needs identified by the EM sites, enabling them to accelerate their cleanup schedules, treat orphaned wastes, improve worker safety, and provide technical foundations for the sites' cleanup decisions. These projects focus on maturing and deploying the technologies necessary to accelerate tank waste processing, treatment, and waste loading.

Infrastructure.—Funds the maintenance, repair, and recapitalization of general-purpose infrastructure to support the cleanup mission.

Object Classification (in millions of dollars)

Identification code 089–0251–0–1–053	2015 actual	2016 est.	2017 est.
Direct obligations:			
Personnel compensation:			
11.1 Full-time permanent	158	153	156
11.3 Other than full-time permanent	3	3	3
11.5 Other personnel compensation	2	2	2
11.9 Total personnel compensation	163	158	161
12.1 Civilian personnel benefits	51	49	50
21.0 Travel and transportation of persons	6	6	6
22.0 Transportation of things	1	1	1
23.1 Rental payments to GSA	11	11	11
23.2 Rental payments to others	1	1	1
23.3 Communications, utilities, and miscellaneous charges	15	15	15
25.1 Advisory and assistance services	1,075	1,040	1,058
25.2 Other services from non-Federal sources	261	252	257
25.3 Other goods and services from Federal sources	49	47	48
25.4 Operation and maintenance of facilities	2,755	2,665	2,711
25.5 Research and development contracts	2	2	2
25.6 Medical care	15	15	15
25.7 Operation and maintenance of equipment	1	1	1
26.0 Supplies and materials	3	3	3
31.0 Equipment	54	52	53
32.0 Land and structures	939	908	924
41.0 Grants, subsidies, and contributions	66	64	65
99.9 Total new obligations	5,468	5,290	5,382

Employment Summary

Identification code 089–0251–0–1–053	2015 actual	2016 est.	2017 est.
1001 Direct civilian full-time equivalent employment	1,389	1,490	1,460

OTHER DEFENSE ACTIVITIES

For Department of Energy expenses, including the purchase, construction, and acquisition of plant and capital equipment and other expenses, necessary for atomic energy defense, other defense activities, and classified activities, in carrying out the purposes of the Department of Energy Organization Act (42 U.S.C. 7101 et seq.), including the acquisition or condemnation of any real property or any facility or for plant or facility acquisition, construction, or expansion, **[\$776,425,000]** \$791,552,000, to remain available until expended: *Provided*, That of such amount, **[\$249,137,000]** \$258,061,000 shall be available until September 30, **[2017]** 2018, for program direction. (*Energy and Water Development and Related Agencies Appropriations Act, 2016.*)

Program and Financing (in millions of dollars)

Identification code 089–0243–0–1–999	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0008 Environment, Health, Safety, and Security Mission Support	182	183	197
0009 Independent Enterprise Assessments	71	76	76
0015 Specialized security activities	202	236	238
0020 Legacy management	172	171	154
0030 Defense related administrative support	120	130	120
0060 Hearings and Appeals	4	5	6

0100	Subtotal, Direct program activities	751	801	791
0799	Total direct obligations	751	801	791
0810	Other Defense Activities (Reimbursable)	1,466	1,528	1,528
0819	Reimbursable program activities, subtotal	1,466	1,528	1,528
0900	Total new obligations	2,217	2,329	2,319
Budgetary resources:				
Unobligated balance:				
1000	Unobligated balance brought forward, Oct 1	19	25	.....
1021	Recoveries of prior year unpaid obligations	2	.....	.....
1050	Unobligated balance (total)	21	25	.....
Budget authority:				
Appropriations, discretionary:				
1100	Appropriation	754	776	792
1131	Unobligated balance of appropriations permanently reduced	-1	.....	.....
1160	Appropriation, discretionary (total)	753	776	792
Spending authority from offsetting collections, discretionary:				
1700	Collected	531	1,528	1,559
1701	Change in uncollected payments, Federal sources	937	.....	.....
1750	Spending auth from offsetting collections, disc (total)	1,468	1,528	1,559
1900	Budget authority (total)	2,221	2,304	2,351
1930	Total budgetary resources available	2,242	2,329	2,351
Memorandum (non-add) entries:				
1941	Unexpired unobligated balance, end of year	25	.....	32
Change in obligated balance:				
Unpaid obligations:				
3000	Unpaid obligations, brought forward, Oct 1	460	1,311	1,254
3010	Obligations incurred, unexpired accounts	2,217	2,329	2,319
3020	Outlays (gross)	-1,363	-2,386	-2,559
3040	Recoveries of prior year unpaid obligations, unexpired	-2	.....	.....
3041	Recoveries of prior year unpaid obligations, expired	-1	.....	.....
3050	Unpaid obligations, end of year	1,311	1,254	1,014
Uncollected payments:				
3060	Uncollected pymts, Fed sources, brought forward, Oct 1	-92	-1,029	-1,029
3070	Change in uncollected pymts, Fed sources, unexpired	-937	.....	.....
3090	Uncollected pymts, Fed sources, end of year	-1,029	-1,029	-1,029
Memorandum (non-add) entries:				
3100	Obligated balance, start of year	368	282	225
3200	Obligated balance, end of year	282	225	-15
Budget authority and outlays, net:				
Discretionary:				
4000	Budget authority, gross	2,221	2,304	2,351
Outlays, gross:				
4010	Outlays from new discretionary authority	1,002	1,499	1,529
4011	Outlays from discretionary balances	361	887	1,030
4020	Outlays, gross (total)	1,363	2,386	2,559
Offsets against gross budget authority and outlays:				
Offsetting collections (collected) from:				
4030	Federal sources	-466	-1,500	-1,530
4033	Non-Federal sources	-65	-28	-29
4040	Offsets against gross budget authority and outlays (total)	-531	-1,528	-1,559
Additional offsets against gross budget authority only:				
4050	Change in uncollected pymts, Fed sources, unexpired	-937	.....	.....
4070	Budget authority, net (discretionary)	753	776	792
4080	Outlays, net (discretionary)	832	858	1,000
4180	Budget authority, net (total)	753	776	792
4190	Outlays, net (total)	832	858	1,000

Environment, Health, Safety and Security Mission Support.—The program supports the Department's health, safety, environment, and security programs to enhance productivity while maintaining the highest standards of safe operation, protection of national assets, and environmental sustainability. As the Department's "environment, health, safety and security advocate," the program works closely with DOE line managers who are ultimately responsible for ensuring that the Department's work is managed and performed in a manner that protects workers and the public as well as the Department's material and information assets. The program functions include: policy and guidance development and technical assistance; analysis of health, safety, environment, and security performance; nuclear safety; domestic and international health studies; medical screening programs for former workers; Energy Employee Occupational Illness Compensation

Program Act support; quality assurance programs; interface with the Defense Nuclear Facilities Safety Board; national security information programs; and security for the Department's facilities and personnel in the National Capital Area.

Enterprise Assessments.—The program supports the Department's independent analysis of security, cyber security, emergency management, and environment, safety and health performance; enforcement of worker safety and health, nuclear safety; and classified information security regulations; and implementation of safety and security professional development and training programs.

Specialized Security Activities.—The program supports national security related analyses requiring highly specialized skills and capabilities.

Legacy Management.—The program supports long-term stewardship activities (e.g., groundwater monitoring, disposal cell maintenance, records management, and management of natural resources) at sites where active remediation has been completed. In addition, Legacy Management funds the pensions and/or post-retirement benefits for former contractor employees.

Hearings and Appeals.—The Office of Hearings and Appeals adjudicates personnel security cases, as well as whistleblower reprisal complaints filed by DOE contractor employees. The office is the appeal authority in various other areas, including Freedom of Information Act and Privacy Act appeals. In addition, the office decides requests for exception from DOE orders, rules, regulations, and is responsible for the DOE's alternative dispute resolution function.

All Other.—Obligations are included for defense-related administrative support.

Object Classification (in millions of dollars)

Identification code 089-0243-0-1-999	2015 actual	2016 est.	2017 est.	
Direct obligations:				
Personnel compensation:				
11.1	Full-time permanent	101	103	100
11.3	Other than full-time permanent	2	2	2
11.5	Other personnel compensation	2	2	2
11.9	Total personnel compensation	105	107	104
12.1	Civilian personnel benefits	32	33	32
21.0	Travel and transportation of persons	5	5	5
23.1	Rental payments to GSA	2	2	2
23.2	Rental payments to others	1	1	1
23.3	Communications, utilities, and miscellaneous charges	1	1	1
25.1	Advisory and assistance services	238	245	245
25.2	Other services from non-Federal sources	109	133	138
25.3	Other goods and services from Federal sources	43	43	43
25.4	Operation and maintenance of facilities	153	169	158
26.0	Supplies and materials	1	1	1
31.0	Equipment	12	12	12
41.0	Grants, subsidies, and contributions	49	49	49
99.0	Direct obligations	751	801	791
99.0	Reimbursable obligations	1,466	1,528	1,528
99.9	Total new obligations	2,217	2,329	2,319

Employment Summary

Identification code 089-0243-0-1-999	2015 actual	2016 est.	2017 est.	
1001	Direct civilian full-time equivalent employment	809	963	976

DEFENSE NUCLEAR WASTE DISPOSAL

Program and Financing (in millions of dollars)

Identification code 089-0244-0-1-053	2015 actual	2016 est.	2017 est.	
Budgetary resources:				
Unobligated balance:				
1000	Unobligated balance brought forward, Oct 1	6	6	6
1930	Total budgetary resources available	6	6	6

DEFENSE NUCLEAR WASTE DISPOSAL—Continued
Program and Financing—Continued

Identification code 089-0244-0-1-053	2015 actual	2016 est.	2017 est.
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	6	6	6
Change in obligated balance:			
Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	14	11	5
3020 Outlays (gross)	-3	-6	-4
3050 Unpaid obligations, end of year	11	5	1
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	14	11	5
3200 Obligated balance, end of year	11	5	1
Budget authority and outlays, net:			
Discretionary:			
Outlays, gross:			
4011 Outlays from discretionary balances	3	6	4
4180 Budget authority, net (total)			
4190 Outlays, net (total)	3	6	4

In FY 2010, the Department closed the Yucca Mountain Project and the Office of Civilian Radioactive Waste Management. Residual obligations and outlays in this account are associated with Yucca Mountain project closeout activities and remaining legacy activities such as accounting.

ENERGY PROGRAMS

Federal Funds

SCIENCE

For Department of Energy expenses including the purchase, construction, and acquisition of plant and capital equipment, and other expenses necessary for science activities in carrying out the purposes of the Department of Energy Organization Act (42 U.S.C. 7101 et seq.), including the acquisition or condemnation of any real property or facility or for plant or facility acquisition, construction, or expansion, and purchase of not more than 17 passenger motor vehicles for replacement only, including one ambulance and one bus, **[\$5,350,200,000] \$5,572,069,000**, to remain available until expended: *Provided*, That of such amount, **[\$185,000,000] \$204,481,000** shall be available until September 30, **[2017] 2018**, for program direction: *Provided further*, That of such amount, not more than \$115,000,000 shall be made available for the in-kind contributions and related support activities of ITER: *Provided further*, That not later than May 2, 2016, the Secretary of Energy shall submit to the Committees on Appropriations of both Houses of Congress a report recommending either that the United States remain a partner in the ITER project after October 2017 or terminate participation, which shall include, as applicable, an estimate of either the full cost, by fiscal year, of all future Federal funding requirements for construction, operation, and maintenance of ITER or the cost of termination. (*Energy and Water Development and Related Agencies Appropriations Act, 2016.*)

Program and Financing (in millions of dollars)

Identification code 089-0222-0-1-251	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0001 Basic Energy Sciences	1,685	1,849	1,937
0002 Advanced Scientific Computing Research	525	621	663
0003 Biological and Environmental Research	575	609	662
0004 High Energy Physics	746	795	818
0005 Nuclear Physics	581	617	636
0006 Fusion Energy Sciences	458	438	398
0007 Science Laboratories Infrastructure	54	114	130
0008 Science Program Direction	184	185	204
0009 Workforce Development for Teachers and Scientists	20	20	21
0010 Safeguards and Security	95	103	103
0011 Small Business Innovation Research	182		
0012 Small Business Technology Transfer	25		
0799 Total direct obligations	5,130	5,351	5,572
0801 Science (Reimbursable)	520	520	520
0900 Total new obligations	5,650	5,871	6,092

Budgetary resources:

Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	27	39	35
1021 Recoveries of prior year unpaid obligations	12		
1050 Unobligated balance (total)	39	39	35
Budget authority:			
Appropriations, discretionary:			
1100 Appropriation	5,071	5,350	5,572
1121 Appropriations transferred from other acct [089-0213]	12		
1121 Appropriations transferred from other acct [089-0321]	28		
1121 Appropriations transferred from other acct [089-0309]	7		
1121 Appropriations transferred from other acct [089-0318]	3		
1121 Appropriations transferred from other acct [089-0319]	14		
1131 Unobligated balance of appropriations permanently reduced	-3	-3	
1160 Appropriation, discretionary (total)	5,132	5,347	5,572
Spending authority from offsetting collections, discretionary:			
1700 Collected	536	520	520
1701 Change in uncollected payments, Federal sources	-18		
1750 Spending auth from offsetting collections, disc (total)	518	520	520
1900 Budget authority (total)	5,650	5,867	6,092
1930 Total budgetary resources available	5,689	5,906	6,127
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	39	35	35

Change in obligated balance:

Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	4,219	4,386	4,372
3010 Obligations incurred, unexpired accounts	5,650	5,871	6,092
3020 Outlays (gross)	-5,469	-5,885	-6,445
3040 Recoveries of prior year unpaid obligations, unexpired	-12		
3041 Recoveries of prior year unpaid obligations, expired	-2		
3050 Unpaid obligations, end of year	4,386	4,372	4,019
Uncollected payments:			
3060 Uncollected pymts, Fed sources, brought forward, Oct 1	-429	-411	-411
3070 Change in uncollected pymts, Fed sources, unexpired	18		
3090 Uncollected pymts, Fed sources, end of year	-411	-411	-411
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	3,790	3,975	3,961
3200 Obligated balance, end of year	3,975	3,961	3,608

Budget authority and outlays, net:

Discretionary:			
4000 Budget authority, gross	5,650	5,867	6,092
Outlays, gross:			
4010 Outlays from new discretionary authority	2,059	3,621	3,752
4011 Outlays from discretionary balances	3,410	2,264	2,693
4020 Outlays, gross (total)	5,469	5,885	6,445
Offsets against gross budget authority and outlays:			
Offsetting collections (collected) from:			
4030 Federal sources	-336	-250	-250
4033 Non-Federal sources	-200	-270	-270
4040 Offsets against gross budget authority and outlays (total)	-536	-520	-520
Additional offsets against gross budget authority only:			
4050 Change in uncollected pymts, Fed sources, unexpired	18		
4070 Budget authority, net (discretionary)	5,132	5,347	5,572
4080 Outlays, net (discretionary)	4,933	5,365	5,925
4180 Budget authority, net (total)	5,132	5,347	5,572
4190 Outlays, net (total)	4,933	5,365	5,925

Summary of Budget Authority and Outlays (in millions of dollars)

	2015 actual	2016 est.	2017 est.
Enacted/requested:			
Budget Authority	5,132	5,347	5,572
Outlays	4,933	5,365	5,925
Legislative proposal, subject to PAYGO:			
Budget Authority			100
Outlays			45
Total:			
Budget Authority	5,132	5,347	5,672
Outlays	4,933	5,365	5,970

Advanced Scientific Computing Research.—The Advanced Scientific Computing Research (ASCR) program supports research in applied mathematics and computer science; delivers the most advanced computational scientific applications in partnership with disciplinary science; advances computing and networking capabilities; and develops future generations

of computing hardware and tools for science, in partnership with the research community and U.S. industry. The strategy to accomplish this has two thrusts: developing and maintaining world-class computing and network facilities for science; and advancing research in applied mathematics, computer science and advanced networking. The program supports the development, maintenance, and operation of large high performance computing and network facilities, including the Leadership Computing Facilities at Oak Ridge and Argonne National Laboratories, the National Energy Research Scientific Computing Facility at Lawrence Berkeley National Laboratory, and the Energy Sciences Network.

The National Strategic Computing Initiative (NSCI) established by executive order in July 2015 to ensure a coordinated Federal strategy in HPC research, development, and deployment will be implemented by DOE, the Department of Defense, and the National Science Foundation. Specifically, the DOE Office of Science and the DOE National Nuclear Security Administration (NNSA) are responsible for the execution of a joint program focused on advanced simulation through a capable exascale computing program, with an emphasis on sustained performance on science and national security mission applications and increased convergence between exascale and large-data analytic computing. The Department of Energy will meet its NSCI assignment through the Exascale Computing Initiative (ECI), which began in FY 2016. The ECI, a partnership between Office of Science and NNSA, will accelerate research and development (R&D) to overcome key exascale challenges in parallelism, energy efficiency, and reliability, leading to deployment of exascale systems in the mid-2020s. Acceleration or advancement is defined as a hundred-fold increase in sustained performance over today's computing capabilities, enabling applications to address next-generation science, engineering, and data problems.

Basic Energy Sciences.—The Basic Energy Sciences (BES) program supports fundamental research to understand, predict, and ultimately control matter and energy at the electronic, atomic, and molecular levels in order to provide the foundations for new energy technologies and to support DOE missions in energy, environment, and national security. Key to exploiting such discoveries is the ability to create new materials using sophisticated synthesis and processing techniques, precisely define the atomic arrangements in matter, and control physical and chemical transformations. The energy systems of the future—whether they tap sunlight, store electricity, or make fuel by splitting water or reducing carbon dioxide—will revolve around materials and chemical changes that convert energy from one form to another.

The research disciplines that BES supports—condensed matter and materials physics, chemistry, geosciences, and aspects of physical biosciences—are those that discover new materials and design new chemical processes that touch virtually every important aspect of energy resources, production, conversion, transmission, storage, efficiency, and waste mitigation. BES research provides a knowledge base to help understand, predict, and ultimately control the natural world and helps build the foundation for achieving a secure and sustainable energy future. BES also supports world-class, open-access scientific user facilities consisting of a complementary set of intense x-ray sources, neutron sources, and research centers for nanoscale science. BES facilities probe materials with ultrahigh spatial, temporal, and energy resolutions to investigate the critical functions of matter—transport, reactivity, fields, excitations, and motion—and answer some of the most challenging grand science questions. BES-supported activities are entering a new era in which materials can be built with atom-by-atom precision and computational models can predict the behavior of materials before they exist.

In FY 2017, BES will support optimal operations at all of its scientific user facilities, which will enable additional studies in clean energy research, and will develop next generation tools and technologies at DOE x-ray light sources and Nanoscale Science Research Centers to enable advances in brain imaging and sensing. In addition, BES is a partner in three Department-wide, crosscutting activities: Subsurface Technology and Engineering RD&D (SubTER), the ECI, and Advanced Materials for Energy Innovation.

Biological and Environmental Research.—The Biological and Environmental Research (BER) program supports fundamental research and provides scientific user facilities to achieve a predictive understanding of complex biological, climatic, and environmental systems for a secure and sustainable energy future.

The program seeks to understand the biological, biogeochemical, and physical principles needed to predict a continuum of processes occurring at the molecular and genomics-controlled smallest scales to environmental and Earth system change at the largest scales. Starting with the genetic potential encoded by organisms' genomes, BER research seeks to define the principles that guide the translation of the genetic code into functional proteins and the metabolic and regulatory networks underlying the systems biology of plants and microbes as they respond to and modify their environments. This predictive understanding can enable more confident redesign of microbes and plants for sustainable biofuels production, improved carbon storage, and controlled biological transformation of materials such as nutrients and contaminants in the environment. BER research also advances understanding of how the Earth's dynamic, physical, and biogeochemical systems (the atmosphere, land, oceans, sea ice, and subsurface) interact and cause future climate and environmental change, to provide information that will inform plans for future energy and resource needs.

Investments in Biological Systems Science will provide a fundamental understanding in sustainable bioenergy production and a predictive understanding of carbon, nutrient, and contaminant transformation in support of DOE's environmental missions. These investments are aligned with national priorities in Clean Energy and Innovation in life sciences. Genomic Sciences research activities continue with core research at the DOE Bioenergy Research Centers (BRCs) and within the broader subprogram to provide a scientific basis for sustainable and cost effective bioenergy production. Climate and Environmental Research activities will focus on scientific analysis of the sensitivity and uncertainty of climate predictions to physical and biogeochemical processes, with emphasis on Arctic and Tropical environments as part of the Next Generation Ecosystem Experiments (NGEEs). These investments reflect national priorities in Global Climate Change, Information Technology and High Performance Computing, Ocean and Arctic Issues, and R&D for informed policy-making and management. As part of the ECI, BER will be responsible for determining the scope and management of Climate Modeling programs, which demand access to extreme scale computational capabilities.

Fusion Energy Sciences.—The Fusion Energy Sciences (FES) program mission is to expand the fundamental understanding of matter at very high temperatures and densities and to build the scientific foundation needed to develop a fusion energy source. This is accomplished through the study of plasma, the fourth state of matter, and how it interacts with its surroundings.

The next frontier for the major international fusion programs is the study of the burning plasma state, in which the fusion process itself provides the dominant heat source for sustaining the plasma temperature. Production of strongly self-heated fusion plasma will allow the discovery and study of a number of new scientific phenomena relevant to fusion energy. These include the effects of highly energetic fusion -produced alpha particles on plasma stability and confinement; the strongly non-linear coupling that will occur among fusion alpha particles, pressure-driven self-generated current, turbulent transport, and boundary-plasma behavior; the properties of materials in the presence of high heat and particle fluxes and neutron irradiation; and the self-organized nature of plasma profiles over long time scales. To support the program mission and its major focus, the U.S. fusion program has four elements: Burning Plasma Science: Foundations; Long Pulse; High Power; and Discovery Plasma Science. To achieve these research goals, FES invests in experimental facilities of various scales, international partnerships leveraging U.S. expertise, large-scale numerical simulations based on experimentally validated theoretical models, development of advanced fusion-relevant materials, and invention of new measurement techniques. The knowledge base being established through FES research supports U.S. goals for future scientific exploration on ITER.

SCIENCE—Continued

High Energy Physics.—The High Energy Physics (HEP) program mission is to understand how the universe works at its most fundamental level by discovering the elementary constituents of matter and energy, probing the interactions among them, and exploring the basic nature of space and time. The High Energy Physics Program offers research opportunities for individual investigators and small-scale collaborations, as well as very large international collaborations. A world-wide program of particle physics research is underway to discover what lies beyond the Standard Model. Five intertwined science drivers of particle physics provide compelling lines of inquiry that show great promise for discovery: use the Higgs Boson as a new tool for discovery; pursue the physics associated with neutrino mass; identify the new physics of dark matter; understand cosmic acceleration, dark energy, and inflation; and explore new particles, interactions and physical principles. The program enables scientific discovery through a strategy organized along three frontiers of particle physics: 1) The Energy Frontier, where researchers accelerate particles to the highest energies ever made by humans and collide them to produce and study the fundamental constituents of matter. This requires some of the largest machines ever built. 2) The Intensity Frontier, where researchers use a combination of intense particle beams and highly sensitive detectors to make extremely precise measurements of particle properties, study some of the rarest particle interactions predicted by the Standard Model of particle physics, and search for new physics. 3) The Cosmic Frontier, where researchers seek to reveal the nature of dark matter and dark energy by using naturally occurring particles to explore new phenomena. The highest-energy particles ever observed have come from cosmic sources, and the ancient light from distant galaxies allows the distribution of dark matter to be mapped and perhaps the nature of dark energy to be unraveled. Investments in Theoretical and Computational Physics, which provides the framework to explain experimental observations and gain a deeper understanding of nature, and Advanced Technology R&D, which fosters fundamental research into particle acceleration and detection techniques and instrumentation, support these three frontiers.

The FY 2017 Budget Request continues implementation of the recommendations contained in the report by the Particle Physics Project Prioritization Panel (P5), which was convened by the High Energy Physics Advisory Panel (HEPAP) in September 2013 in response to a charge from the DOE and the National Science Foundation to develop a ten-year strategic plan for U.S. high energy physics in the context of a 20-year global vision. The Request supports full operation of existing major HEP facilities and experiments; the planned construction funding profile for the Long Baseline Neutrino Facility/Deep Underground Neutrino Experiment (LBNF/DUNE), and the Muon to Electron Conversion Experiment (Mu2e); and fabrication for recent major items of equipment (MIEs) for the Large Underground Xenon (LUX)-ZonEd Proportional scintillation in LIquid Noble gases (ZEPLIN) experiment (LZ), and the Super Cryogenic Dark Matter Search at Sudbury Neutrino Observatory Laboratory (SuperCDMS-SNOLab) experiment. The Request includes capital equipment funding to continue support of the planned funding profiles for the camera for the Large Synoptic Survey Telescope (LSSTcam) project, the Dark Energy Spectroscopic Instrument (DESI) project, the Muon g-2 Experiment, and the U.S. contributions to the LHC ATLAS (A Toroidal LHC Apparatus) Detector, and CMS (Compact Muon Solenoid) Detector upgrades. The Muon g-2 Experiment and LHC detector upgrades complete their funding profiles in FY 2017. Many of the advanced technologies and research tools originally developed for high energy physics have also proven widely applicable to other sciences as well as industry, medicine, and national security.

Nuclear Physics.—The Nuclear Physics (NP) program mission is to discover, explore, and understand all forms of nuclear matter. Although the fundamental particles that compose nuclear matter—quarks and gluons—are themselves relatively well understood, exactly how they interact and combine to form the different types of matter observed in the universe today and during its evolution remains largely unknown. Nuclear physicists

seek to understand not just the familiar forms of matter we see around us, but also exotic forms such as those which existed in the first moments after the Big Bang and that exist today inside neutron stars, and to understand why matter takes on the specific forms now observed in nature. The NP program addresses three tightly interrelated scientific thrusts: Quantum Chromodynamics; Nuclei and Nuclear Astrophysics; and Fundamental Symmetries.

The FY 2017 Request provides enhanced support for university and laboratory research. The Request also supports the initiation of the Gamma-Ray Energy Tracking Array (GRETA), a premiere gamma-ray tracking device that will exploit world-leading capabilities of the Facility for Rare Isotope Beams (FRIB). Funding increases for operations at Continuous Electron Beam Accelerator Facility (CEBAF) to support initiation of the full scientific program with the recently upgraded 12 GeV machine and new scientific equipment in the experimental halls. Operations of the Relativistic Heavy Ion Collider (RHIC) facility are also increased. Operations of the ATLAS facility continue to exploit the capabilities of the Californium Rare Ion Breeder Upgrade (CARIBU) as well as newly completed instrumentation. Support for the Isotope Development and Production for Research and Applications (DOE Isotope Program) maintains mission readiness for the production of stable and radioactive isotopes that are in short supply for research and a wide array of applications. Research investments in this subprogram are increased to develop new cutting-edge approaches for important isotopes that are not currently available to the public in sufficient quantities by establishing a full-scale production capability for actinium-225, to enable clinical trials for cancer therapy. Following several years of research supported by the Isotope Program, funding is requested for a Stable Isotope Production Facility (SIPF) to enable the production of a broad range of enriched stable isotopes, a capability that has not been available in the U.S. for almost 20 years. Finally, construction continues according to the baselined profile for the FRIB project, which will provide intense beams of rare isotopes for a wide variety of studies in nuclear structure, nuclear astrophysics, and fundamental symmetries.

Science Laboratories Infrastructure.—The Science Laboratories Infrastructure (SLI) program supports scientific and technological innovation at the Office of Science (SC) laboratories by funding and sustaining mission-ready infrastructure and fostering safe and environmentally responsible operations. The program provides state-of-the-art facilities and infrastructure that are flexible, reliable, and sustainable in support of scientific discovery. The SLI program also funds Payments in Lieu of Taxes to local communities around the Argonne, Brookhaven, and Oak Ridge National Laboratories.

Safeguards and Security.—The Safeguards and Security (S&S) program is designed to ensure appropriate security measures are in place to support the SC mission requirement of open scientific research and to protect critical assets within SC laboratories. This is accomplished by providing physical controls that will mitigate possible risks to the laboratories' employees, nuclear and special materials, classified and sensitive information, and facilities. The S&S program also provides funding for cyber security for the laboratories' information technology systems to protect electronic data while enabling the SC mission.

Workforce Development for Teachers and Scientists.—The Workforce Development for Teachers and Scientists (WDTS) program mission is to help ensure that DOE has a sustained pipeline of science, technology, engineering, and mathematics (STEM) workers. This is accomplished through support of undergraduate internships, graduate thesis research, and visiting faculty programs at the DOE laboratories; the Albert Einstein Distinguished Educator Fellowship for K-12 STEM teachers, administered by WDTS for DOE and for a number of other federal agencies; and annual, nationwide, middle- and high-school science competitions culminating in the National Science Bowl in Washington, D.C. These investments help develop the next generation of scientists and engineers to support the DOE mission, administer programs, and conduct research.

Program Direction.— Science Program Direction supports a highly skilled Federal workforce to develop and oversee SC investments in re-

search and scientific user facilities SC investments deliver scientific discoveries and major scientific tools that transform our understanding of nature and advance the energy, economic, and national security of the United States. In addition, SC provides public access to DOE scientific findings to further leverage the Federal science investment and advance the scientific enterprise. SC requires highly skilled scientific and technical program and project managers, as well as experts in areas such as acquisition, finance, legal, construction, and infrastructure management, human resources, and environmental, safety, and health oversight. SC plans, executes, and manages basic science research programs that address critical national needs. Oversight of DOE's basic research portfolio, which includes grants and contracts supporting nearly 23,000 researchers located at 300 universities and other institutions and 17 national laboratories, as well as supervision of major construction projects, is a Federal responsibility.

4100	Outlays, gross:		
4180	Outlays from new mandatory authority		45
4180	Budget authority, net (total)		100
4190	Outlays, net (total)		45

ADVANCED RESEARCH PROJECTS AGENCY—ENERGY

For Department of Energy expenses necessary in carrying out the activities authorized by section 5012 of the America COMPETES Act (Public Law 110-69), **[\$291,000,000] \$350,000,000**, to remain available until expended: *Provided*, That of such amount, **[\$29,250,000] \$32,000,000** shall be available until September 30, **[2017] 2018**, for program direction. *(Energy and Water Development and Related Agencies Appropriations Act, 2016.)*

Program and Financing (in millions of dollars)

Object Classification (in millions of dollars)		2015 actual	2016 est.	2017 est.
Identification code 089-0222-0-1-251				
11.1	Direct obligations: Personnel compensation: Full-time permanent	106	111	116
11.9	Total personnel compensation	106	111	116
12.1	Civilian personnel benefits	31	32	33
21.0	Travel and transportation of persons	4	4	4
23.1	Rental payments to GSA	1	1	1
23.2	Rental payments to others	2	2	2
23.3	Communications, utilities, and miscellaneous charges	4	4	4
25.1	Advisory and assistance services	19	20	21
25.2	Other services from non-Federal sources	60	63	66
25.3	Other goods and services from Federal sources	17	18	19
25.4	Operation and maintenance of facilities	3,148	3,285	3,420
25.5	Research and development contracts	192	200	208
26.0	Supplies and materials	2	2	2
31.0	Equipment	160	167	174
32.0	Land and structures	518	540	562
41.0	Grants, subsidies, and contributions	866	903	940
99.0	Direct obligations	5,130	5,352	5,572
99.0	Reimbursable obligations	520	520	520
99.5	Adjustment for rounding		-1	
99.9	Total new obligations	5,650	5,871	6,092

Employment Summary

Identification code 089-0222-0-1-251		2015 actual	2016 est.	2017 est.
1001	Direct civilian full-time equivalent employment	902	945	955
2001	Reimbursable civilian full-time equivalent employment	1		

SCIENCE

(Legislative proposal, subject to PAYGO)

Program and Financing (in millions of dollars)

Identification code 089-0222-4-1-251		2015 actual	2016 est.	2017 est.
Obligations by program activity:				
0001	Grants			100
0900	Total new obligations (object class 41.0)			100
Budgetary resources:				
Budget authority:				
Appropriations, mandatory:				
1200	Appropriation			100
1930	Total budgetary resources available			100
Change in obligated balance:				
Unpaid obligations:				
3010	Obligations incurred, unexpired accounts			100
3020	Outlays (gross)			-45
3050	Unpaid obligations, end of year			55
Memorandum (non-add) entries:				
3200	Obligated balance, end of year			55
Budget authority and outlays, net:				
Mandatory:				
4090	Budget authority, gross			100

Identification code 089-0337-0-1-270		2015 actual	2016 est.	2017 est.
Obligations by program activity:				
0001	ARPA-E Projects	222	262	318
0002	Program Direction	31	29	32
0799	Total direct obligations	253	291	350
0801	Advanced Research Projects Agency - Energy (Reimbursable)	3	3	3
0900	Total new obligations	256	294	353
Budgetary resources:				
Unobligated balance:				
1000	Unobligated balance brought forward, Oct 1	210	244	242
1021	Recoveries of prior year unpaid obligations	7		
1050	Unobligated balance (total)	217	244	242
Budget authority:				
Appropriations, discretionary:				
1100	Appropriation	280	291	350
Spending authority from offsetting collections, discretionary:				
1700	Collected	2	1	
1701	Change in uncollected payments, Federal sources	1		
1750	Spending auth from offsetting collections, disc (total)	3	1	
1900	Budget authority (total)	283	292	350
1930	Total budgetary resources available	500	536	592
Memorandum (non-add) entries:				
1941	Unexpired unobligated balance, end of year	244	242	239

Change in obligated balance:

Unpaid obligations:				
3000	Unpaid obligations, brought forward, Oct 1	433	437	348
3010	Obligations incurred, unexpired accounts	256	294	353
3020	Outlays (gross)	-244	-383	-296
3040	Recoveries of prior year unpaid obligations, unexpired	-7		
3041	Recoveries of prior year unpaid obligations, expired	-1		
3050	Unpaid obligations, end of year	437	348	405
Uncollected payments:				
3060	Uncollected pymts, Fed sources, brought forward, Oct 1	-3	-4	-4
3070	Change in uncollected pymts, Fed sources, unexpired	-1		
3090	Uncollected pymts, Fed sources, end of year	-4	-4	-4
Memorandum (non-add) entries:				
3100	Obligated balance, start of year	430	433	344
3200	Obligated balance, end of year	433	344	401

Budget authority and outlays, net:

Discretionary:				
4000	Budget authority, gross	283	292	350
Outlays, gross:				
4010	Outlays from new discretionary authority	14	16	18
4011	Outlays from discretionary balances	230	367	278
4020	Outlays, gross (total)	244	383	296
Offsets against gross budget authority and outlays:				
Offsetting collections (collected) from:				
4030	Federal sources	-2	-1	
Additional offsets against gross budget authority only:				
4050	Change in uncollected pymts, Fed sources, unexpired	-1		
4060	Additional offsets against budget authority only (total)	-1		
4070	Budget authority, net (discretionary)	280	291	350
4080	Outlays, net (discretionary)	242	382	296
4180	Budget authority, net (total)	280	291	350

ADVANCED RESEARCH PROJECTS AGENCY—ENERGY—Continued
Program and Financing—Continued

Identification code 089-0337-0-1-270	2015 actual	2016 est.	2017 est.
4190 Outlays, net (total)	242	382	296

Summary of Budget Authority and Outlays (in millions of dollars)

	2015 actual	2016 est.	2017 est.
Enacted/requested:			
Budget Authority	280	291	350
Outlays	242	382	296
Legislative proposal, subject to PAYGO:			
Budget Authority			150
Outlays			8
Total:			
Budget Authority	280	291	500
Outlays	242	382	304

The U.S. Department of Energy's Advanced Research Projects Agency-Energy (ARPA-E) was established by the America COMPETES Act of 2007 (Public Law 110-69), as amended. The mission of ARPA-E is to enhance the economic and energy security of the United States through the development of energy technologies that reduce imports of energy from foreign sources, increase energy efficiency, and reduce energy-related emissions, including greenhouse gases. ARPA-E will ensure that the United States maintains a technological lead in developing and deploying advanced energy technologies. ARPA-E will identify and promote revolutionary advances in energy-related applied sciences, translating scientific discoveries and cutting-edge inventions into technological innovations. It will also accelerate transformational technological advances in areas where industry by itself is not likely to invest due to technical and financial uncertainty. The role of ARPA-E is not to duplicate DOE's basic research and applied programs but to focus on novel early-stage energy research and development with technology applications that can be meaningfully advanced with a small investment over a defined period of time.

Object Classification (in millions of dollars)

Identification code 089-0337-0-1-270	2015 actual	2016 est.	2017 est.
11.1 Direct obligations: Personnel compensation: Full-time permanent	5	6	6
11.9 Total personnel compensation	5	6	6
12.1 Civilian personnel benefits	2	2	2
21.0 Travel and transportation of persons	2	2	2
25.1 Advisory and assistance services	17	20	24
25.3 Other goods and services from Federal sources	5	6	7
25.4 Operation and maintenance of facilities	16	18	22
25.5 Research and development contracts	206	237	287
99.0 Direct obligations	253	291	350
99.0 Reimbursable obligations	3	3	3
99.9 Total new obligations	256	294	353

Employment Summary

Identification code 089-0337-0-1-270	2015 actual	2016 est.	2017 est.
1001 Direct civilian full-time equivalent employment	42	56	56

ADVANCED RESEARCH PROJECTS AGENCY—ENERGY
(Legislative proposal, subject to PAYGO)

Program and Financing (in millions of dollars)

Identification code 089-0337-4-1-270	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0001 ARPA-E Projects			135
0002 Program Direction			15
0900 Total new obligations			150

Budgetary resources:

Budget authority:			
Appropriations, mandatory:			
1200 Appropriation			150
1930 Total budgetary resources available			150

Change in obligated balance:

Unpaid obligations:			
3010 Obligations incurred, unexpired accounts			150
3020 Outlays (gross)			-8
3050 Unpaid obligations, end of year			142
Memorandum (non-add) entries:			
3200 Obligated balance, end of year			142

Budget authority and outlays, net:

Mandatory:			
4090 Budget authority, gross			150
Outlays, gross:			
4100 Outlays from new mandatory authority			8
4180 Budget authority, net (total)			150
4190 Outlays, net (total)			8

Object Classification (in millions of dollars)

Identification code 089-0337-4-1-270	2015 actual	2016 est.	2017 est.
11.1 Direct obligations: Personnel compensation: Full-time permanent			1
11.9 Total personnel compensation			1
12.1 Civilian personnel benefits			1
21.0 Travel and transportation of persons			1
25.1 Advisory and assistance services			10
25.3 Other goods and services from Federal sources			3
25.4 Operation and maintenance of facilities			9
25.5 Research and development contracts			125
99.9 Total new obligations			150

Employment Summary

Identification code 089-0337-4-1-270	2015 actual	2016 est.	2017 est.
1001 Direct civilian full-time equivalent employment			10

ENERGY TRANSFORMATION ACCELERATION FUND, RECOVERY ACT

Program and Financing (in millions of dollars)

Identification code 089-0336-0-1-270	2015 actual	2016 est.	2017 est.
Change in obligated balance:			
Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	6		
3020 Outlays (gross)	-4		
3041 Recoveries of prior year unpaid obligations, expired	-2		
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	6		

Budget authority and outlays, net:

Discretionary:			
Outlays, gross:			
4011 Outlays from discretionary balances	4		
4180 Budget authority, net (total)			
4190 Outlays, net (total)	4		

ENERGY SUPPLY AND CONSERVATION

Program and Financing (in millions of dollars)

Identification code 089-0224-0-1-999	2015 actual	2016 est.	2017 est.
Budgetary resources:			
Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	7	7	7
1050 Unobligated balance (total)	7	7	7
1930 Total budgetary resources available	7	7	7

Memorandum (non-add) entries:				
1941	Unexpired unobligated balance, end of year	7	7	7
Change in obligated balance:				
Uncollected payments:				
3060	Obligated balance transferred to other accts	-2	-2	-2
Memorandum (non-add) entries:				
3090	Uncollected pymts, Fed sources, end of year	-2	-2	-2
3100	Obligated balance, start of year	-2	-2	-2
3200	Obligated balance, end of year	-2	-2	-2
4180	Budget authority, net (total)			
4190	Outlays, net (total)			

NUCLEAR ENERGY

For Department of Energy expenses including the purchase, construction, and acquisition of plant and capital equipment, and other expenses necessary for nuclear energy activities in carrying out the purposes of the Department of Energy Organization Act (42 U.S.C. 7101 et seq.), including the acquisition or condemnation of any real property or any facility or for plant or facility acquisition, construction, or expansion, **[\$986,161,000]** and the purchase of no more than three emergency service vehicles for replacement only, \$993,896,000, to remain available until expended, of which \$61,040,000 shall be derived from the Nuclear Waste Fund: Provided, That of such amount, **[\$80,000,000]** \$88,700,000 shall be available until September 30, **[2017]** 2018, for program direction **[including official reception and representation expenses not to exceed \$10,000]**. (Energy and Water Development and Related Agencies Appropriations Act, 2016.)

Program and Financing (in millions of dollars)

Identification code 089-0319-0-1-999	2015 actual	2016 est.	2017 est.	
Obligations by program activity:				
0032	Reactor Concepts RD&D	125	142	109
0041	Fuel Cycle R&D	197	204	250
0042	Integrated University Program	5	5	
0043	Nuclear Energy Enabling Technologies R&D	98	111	89
0091	Research and Development programs, subtotal	425	462	448
0301	Radiological Facilities Management	20	25	7
0401	Idaho Facilities Management	206	222	227
0450	Idaho National Laboratory safeguards and security	104	126	129
0451	International Nuclear Safety	3		
0491	Infrastructure programs, subtotal	313	348	356
0501	Small Modular Reactor Licensing Technical Support Program	64	63	89
0502	Supercritical Transformational Electric Power Generation		5	
0551	Program Direction	83	80	89
0552	International Nuclear Energy Cooperation	3	3	5
0591	Other direct program activities, subtotal	150	151	183
0799	Total direct obligations	908	986	994
0801	Nuclear Energy (Reimbursable)	128	109	109
0900	Total new obligations	1,036	1,095	1,103
Budgetary resources:				
Unobligated balance:				
1000	Unobligated balance brought forward, Oct 1	108	32	43
1021	Recoveries of prior year unpaid obligations	8		
1050	Unobligated balance (total)	116	32	43
Budget authority:				
Appropriations, discretionary:				
1100	Appropriation	914	986	994
1120	Appropriations transferred to other accts [089-0222]	-14		
1121	Appropriations transferred from other acct [072-1037]	2		
1131	Unobligated balance of appropriations permanently reduced	-80		
1160	Appropriation, discretionary (total)	822	986	994
Spending authority from offsetting collections, discretionary:				
1700	Collected	108	120	120
1701	Change in uncollected payments, Federal sources	22		
1750	Spending auth from offsetting collections, disc (total)	130	120	120
1900	Budget authority (total)	952	1,106	1,114
1930	Total budgetary resources available	1,068	1,138	1,157
Memorandum (non-add) entries:				
1941	Unexpired unobligated balance, end of year	32	43	54

Change in obligated balance:				
Unpaid obligations:				
3000	Unpaid obligations, brought forward, Oct 1	657	706	742
3010	Obligations incurred, unexpired accounts	1,036	1,095	1,103
3020	Outlays (gross)	-979	-1,059	-1,190
3040	Recoveries of prior year unpaid obligations, unexpired	-8		
3050	Unpaid obligations, end of year	706	742	655
Uncollected payments:				
3060	Uncollected pymts, Fed sources, brought forward, Oct 1	-47	-69	-69
3070	Change in uncollected pymts, Fed sources, unexpired	-22		
3090	Uncollected pymts, Fed sources, end of year	-69	-69	-69
Memorandum (non-add) entries:				
3100	Obligated balance, start of year	610	637	673
3200	Obligated balance, end of year	637	673	586

Budget authority and outlays, net:				
Discretionary:				
4000	Budget authority, gross	952	1,106	1,114
Outlays, gross:				
4010	Outlays from new discretionary authority	466	613	649
4011	Outlays from discretionary balances	513	446	541
4020	Outlays, gross (total)	979	1,059	1,190
Offsets against gross budget authority and outlays:				
Offsetting collections (collected) from:				
4030	Federal sources	-88	-120	-120
4033	Non-Federal sources	-20		
4040	Offsets against gross budget authority and outlays (total)	-108	-120	-120
Additional offsets against gross budget authority only:				
4050	Change in uncollected pymts, Fed sources, unexpired	-22		
4070	Budget authority, net (discretionary)	822	986	994
4080	Outlays, net (discretionary)	871	939	1,070
4180	Budget authority, net (total)	822	986	994
4190	Outlays, net (total)	871	939	1,070

The Office of Nuclear Energy funds a range of research and development activities as well as supports the Nation's nuclear facilities. The FY 2017 Budget continues programmatic support for advanced reactor R&D activities; fuel cycle R&D, including work on storage, transportation, disposal, and process development activities that support the Administration's Strategy for the Management and Disposal of Used Nuclear Fuel and High Level Radioactive Waste; the safe, environmentally compliant, and cost-effective operation of the Department's facilities vital to nuclear energy R&D activities.

Small Modular Reactor Licensing Technical Support (SMR LTS).— This program supports first-of-a-kind costs associated with design certification and licensing activities for small modular reactor technologies, and site licensing activities for SMRs through cost-shared arrangements with industry partners. FY 2017 will be the final year of the SMR LTS program.

Reactor Concepts Research, Development and Demonstration.— This program develops new and advanced reactor designs and technologies and conducts research and development (R&D) on advanced technologies that improve the reliability, sustain the safety, and extend the life of the current light water reactor (LWR) fleet.

Fuel Cycle Research and Development.— This program conducts generic R&D and generic non-R&D activities related to used nuclear fuel (UNF) and nuclear waste management and disposal issues; and conducts R&D on advanced fuel cycle technologies that have the potential to improve resource utilization and energy generation, reduce waste generation, enhance safety, and limit proliferation risk.

Nuclear Energy Enabling Technologies.— This program conducts R&D and strategic infrastructure investments to develop innovative and crosscutting nuclear energy technologies, including a strong investment in modeling and simulation tools and providing access to unique nuclear energy research capabilities through the Nuclear Science User Facilities (NSUF).

Radiological Facilities Management.— This program supports the continued operation of U.S. university research reactors by providing university research reactor fuel services, as well as maintenance of, and safety upgrades to, fuel fabrication equipment and facilities.

Idaho Facilities Management.— This program manages the planning, acquisition, operation, maintenance, and disposition of the Office of Nuc-

NUCLEAR ENERGY—Continued

lear Energy (NE)-owned facilities and capabilities at the Idaho National Laboratory (INL), maintains Department of Energy mission-supporting facilities and capabilities at the INL in a safe, compliant status to support the Department's nuclear energy research, testing of naval reactor fuels and reactor core components, and a diverse range of national security technology programs that support the National Nuclear Security Administration (NNSA) and other federal agencies such as the Department of Homeland Security in the areas of critical infrastructure protection, nuclear nonproliferation, and incident response.

Idaho Sitewide Safeguards and Security.— This program supports the INL complex nuclear facility infrastructure and enables R&D in support of multiple program missions.

International Nuclear Energy Cooperation.— This program supports the Department's international activities related to civil nuclear energy, including analysis, development, coordination and implementation of international civil nuclear energy policy and integration of the Office of Nuclear Energy's (NE) international nuclear technical activities.

Program Direction.— This program provides the federal staffing resources and associated costs required to support the overall direction and execution of the Office of Nuclear Energy (NE) programs.

Object Classification (in millions of dollars)

Identification code 089-0319-0-1-999	2015 actual	2016 est.	2017 est.
Direct obligations:			
Personnel compensation:			
11.1 Full-time permanent	43	47	50
11.3 Other than full-time permanent	1	1	1
11.5 Other personnel compensation	1	1	1
11.9 Total personnel compensation	45	49	52
12.1 Civilian personnel benefits	14	15	15
21.0 Travel and transportation of persons	2	2	2
25.1 Advisory and assistance services	9	10	10
25.2 Other services from non-Federal sources	110	119	120
25.3 Other goods and services from Federal sources	16	17	17
25.4 Operation and maintenance of facilities	620	673	643
25.7 Operation and maintenance of equipment	1	1	1
31.0 Equipment	21	23	23
32.0 Land and structures	12	13	13
41.0 Grants, subsidies, and contributions	59	64	98
99.0 Direct obligations	909	986	994
99.0 Reimbursable obligations	127	109	109
99.9 Total new obligations	1,036	1,095	1,103

Employment Summary

Identification code 089-0319-0-1-999	2015 actual	2016 est.	2017 est.
1001 Direct civilian full-time equivalent employment	373	372	394
2001 Reimbursable civilian full-time equivalent employment	5		

NUCLEAR ENERGY

(Legislative proposal, subject to PAYGO)

In January 2013 the Administration released its Strategy for the Management and Disposal of Used Nuclear Fuel and High Level Radioactive Waste. This Strategy lays out a broad outline for a stable, integrated system capable of transporting, storing, and disposing of high-level nuclear waste from civilian nuclear power generation, defense, national security and other activities. In March 2015 the President made the determination that a separate repository for defense waste is required. The Administration is working with Congress to build and implement this new program for managing both commercial and defense high-level nuclear waste and believes that providing adequate and timely funding is critical to success.

Currently approximately 70,000 metric tons heavy metal (MTHM) of used nuclear fuel are stored at 72 commercial sites around the country with almost 2,000 MTHM added to that amount every year. As a result of litigation by contract holders, the government was found in partial breach of contract, and is now liable for damages to some utilities to cover the costs

of that on-site, at-reactor storage. The FY 2017 Budget continues to reflect a more complete estimate of those liability payments in the baseline. Please see additional discussion of the cost of the government's liability in the Budget Process chapter in the Analytical Perspectives volume.

To support the nuclear waste management program over the long term, reform of the current funding arrangement is necessary and the Administration believes the funding system should consist of the following elements: ongoing discretionary appropriations, access to annual fee collections provided in legislation either through their reclassification from mandatory to discretionary or as a direct mandatory appropriation, and eventual access to the balance or "corpus" of the Nuclear Waste Fund. The FY 2017 Budget includes a proposal to implement such reform. Discretionary appropriations are included for this new program for the duration of the effort. These funds would be used to fund expenses that are regular and recurring, such as program management costs, including administrative expenses, salaries and benefits, studies, and regulatory interactions. Mandatory appropriations, in addition to the discretionary funding, are proposed to be provided annually beginning in 2018 to fund the balance of the annual program costs for managing commercial used nuclear fuel. The Department of Energy is currently exploring options for managing defense high-level waste with the goal of a separate, permanent repository. The FY 2017 Budget includes defense discretionary funding for the management of defense high-level waste.

The program envisioned in the FY 2017 Budget is a very long term, flexible, multi-faceted approach to dispose of the nation's commercial and defense waste. The estimated programmatic cost of implementing the Administration's strategy for commercial used nuclear fuel over the first 10 years is approximately \$4.5 billion. As part of this program, the Budget assumes the construction and operation of a pilot interim waste storage facility within the next 10 years as well as notable progress on both full-scale interim storage and long-term permanent geologic disposal. The deployment of pilot interim storage within the next 10 years allows the government to begin picking up waste, thus enabling the collection of one-time fees owed by certain generators that will offset some of this spending. Over the 10-year budget window, the projected net mandatory cost would be in the range of \$700 million. 10-year funding for the management of defense high-level waste is being estimated as the program develops.

The sooner that legislation enables progress on implementing a nuclear waste management program, the lower the ultimate cost will be to the taxpayers. This proposal is intended to limit, and then end, liability costs by making it possible for the government to begin performing on its contractual obligations.

ELECTRICITY DELIVERY AND ENERGY RELIABILITY

For Department of Energy expenses including the purchase, construction, and acquisition of plant and capital equipment, and other expenses necessary for electricity delivery and energy reliability activities in carrying out the purposes of the Department of Energy Organization Act (42 U.S.C. 7101 et seq.), including the acquisition or condemnation of any real property or any facility or for plant or facility acquisition, construction, or expansion, **[\$206,000,000]** \$262,300,000, to remain available until expended: *Provided*, That of such amount, **[\$28,000,000]** \$29,000,000 shall be available until September 30, **[2017]** 2018, for program direction. (*Energy and Water Development and Related Agencies Appropriations Act, 2016.*)

Program and Financing (in millions of dollars)

Identification code 089-0318-0-1-271	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0011 Clean Energy Transmission and Reliability	30	41	30
0012 Smart Grid R&D	17	35	30
0013 Cybersecurity for Energy Delivery Systems	45	63	46
0014 Energy Storage	11	21	43
0015 Transformer Resilience and Advanced Components		5	15
0017 State Energy Assurance			15
0018 State Distribution-Level Reform Program			15
0019 Grid Institute			14
0020 Infrastructure Security and Energy Restoration	5	12	18

0030	National Electricity Delivery	6	7	7
0040	Program Direction	29	29	29
0799	Total direct obligations	143	213	262
0801	Reimbursable work	3	6	6
0809	Reimbursable program activities, subtotal	3	6	6
0900	Total new obligations	146	219	268
Budgetary resources:				
Unobligated balance:				
1000	Unobligated balance brought forward, Oct 1	24	26	19
1021	Recoveries of prior year unpaid obligations	9		
1050	Unobligated balance (total)	33	26	19
Budget authority:				
Appropriations, discretionary:				
1100	Appropriation	147	206	262
1120	Appropriations transferred to other accts [089-0222]	-3		
1160	Appropriation, discretionary (total)	144	206	262
Spending authority from offsetting collections, discretionary:				
1700	Collected	3	3	3
1701	Change in uncollected payments, Federal sources	-8	3	3
1750	Spending auth from offsetting collections, disc (total)	-5	6	6
1900	Budget authority (total)	139	212	268
1930	Total budgetary resources available	172	238	287
Memorandum (non-add) entries:				
1941	Unexpired unobligated balance, end of year	26	19	19
Change in obligated balance:				
Unpaid obligations:				
3000	Unpaid obligations, brought forward, Oct 1	412	170	133
3010	Obligations incurred, unexpired accounts	146	219	268
3020	Outlays (gross)	-329	-256	-280
3040	Recoveries of prior year unpaid obligations, unexpired	-9		
3041	Recoveries of prior year unpaid obligations, expired	-50		
3050	Unpaid obligations, end of year	170	133	121
Uncollected payments:				
3060	Uncollected pymts, Fed sources, brought forward, Oct 1	-10	-2	-5
3070	Change in uncollected pymts, Fed sources, unexpired	8	-3	-3
3090	Uncollected pymts, Fed sources, end of year	-2	-5	-8
Memorandum (non-add) entries:				
3100	Obligated balance, start of year	402	168	128
3200	Obligated balance, end of year	168	128	113
Budget authority and outlays, net:				
Discretionary:				
4000	Budget authority, gross	139	212	268
Outlays, gross:				
4010	Outlays from new discretionary authority	30	130	163
4011	Outlays from discretionary balances	299	126	117
4020	Outlays, gross (total)	329	256	280
Offsets against gross budget authority and outlays:				
Offsetting collections (collected) from:				
4030	Federal sources	-2	-3	-3
4033	Non-Federal sources	-1		
4040	Offsets against gross budget authority and outlays (total)	-3	-3	-3
Additional offsets against gross budget authority only:				
4050	Change in uncollected pymts, Fed sources, unexpired	8	-3	-3
4070	Budget authority, net (discretionary)	144	206	262
4080	Outlays, net (discretionary)	326	253	277
4180	Budget authority, net (total)	144	206	262
4190	Outlays, net (total)	326	253	277

The mission of the Office of Electricity Delivery and Energy Reliability (OE) is to drive electric grid modernization and resiliency in energy infrastructure. OE leads the Department of Energy's efforts to strengthen, transform, and improve energy infrastructure so that consumers have access to reliable, secure, and clean sources of energy. OE also leads the Grid Modernization Initiative, which is targeted at coordinating, integrating and executing grid related activities across the Department in response to the Quadrennial Energy Review and Quadrennial Technology Review. OE programs include:

Clean Energy Transmission and Reliability (CETR).—The CETR program helps improve the reliability and resiliency of the U.S. transmission system through research and development (R&D) focused on measurement and

control of the electricity system and risk assessment to address challenges across integrated energy systems.

Smart Grid.—The Smart Grid program strengthens distribution system modernization by accommodating greater numbers of distributed energy resources (solar photovoltaics, combined heat and power, energy storage, electric vehicles, etc.), enabling higher levels of demand-side management and control practices, and enhancing reliability and resiliency during both normal operations and extreme weather events.

Cybersecurity for Energy Delivery System (CEDS).—The CEDS program supports research on cutting edge cybersecurity solutions, information sharing to enhance situational awareness, implementing tools to aid industry to improve their cybersecurity posture, and building an effective, timely, and coordinated cyber incident management capability in the energy sector.

Energy Storage.—The Energy Storage program conducts research, development, and demonstrations to enhance the stability, reliability, and flexibility of the electric grid by accelerating the development and deployment of advanced grid-scale energy storage in the electric system.

Transformer Resilience and Advanced Components (TRAC).—The TRAC program addresses challenges facing transformers and other critical components, such as geomagnetic disturbances and electromagnetic pulses, in support of grid modernization. Activities will increase the resilience of aging grid assets, identify requirements for next-generation "grid hardware," and accelerate the development, demonstration, and deployment of advanced components.

Grid Institute.—The Grid Institute program supports funding for a competitively selected Institute as a part of the President's vision for a larger multi-agency National Network for Manufacturing Innovation (NNMI). This Institute will focus on technologies related to industrial metals for grid application, and advances will be broadly applicable in multiple industries and markets.

National Electricity Delivery (NED).—The NED program provides technical assistance to states, regional entities, and tribes to help them develop and improve their programs, policies, and laws that facilitate the development of reliable and affordable electricity infrastructure. The program implements the electricity grid modernization requirements contained in the Energy Policy Act of 2005 and the Energy Independence and Security Act of 2007, and authorizes the export of electric energy and processes permits for the construction of transmission infrastructure across international borders.

State Distribution-Level Reform Program.—The State Distribution-Level Reform Program is a new activity in FY 2017 that will competitively award cooperative agreements to states to utilize a grid architecture approach to address their system challenges. The states are well positioned to play important leadership roles, and could benefit from the assistance that the proposed program could provide.

Infrastructure Security and Energy Restoration (ISER).—The ISER program leads efforts for securing the U.S. energy infrastructure against all hazards, reducing the impact of disruptive events, and responding to and facilitating recovery from energy disruptions, in collaboration with industry and State and local governments.

State Energy Assurance.—The State Energy Assurance program is a new activity in FY 2017 that will provide grants to states, localities, and tribal governments in support of energy assurance.

Program Direction.—Program Direction provides for the costs associated with the Federal workforce and contractor services that support OE's mission. These costs include salaries, benefits, travel, training, building occupancy, IT systems, and other related expenses.

Object Classification (in millions of dollars)

Identification code 089-0318-0-1-271	2015 actual	2016 est.	2017 est.	
Direct obligations:				
Personnel compensation:				
11.1	Full-time permanent	11	16	16
11.3	Other than full-time permanent	1	1	1

ELECTRICITY DELIVERY AND ENERGY RELIABILITY—Continued
Object Classification—Continued

Identification code 089-0318-0-1-271	2015 actual	2016 est.	2017 est.
11.9 Total personnel compensation	12	17	17
12.1 Civilian personnel benefits	4	6	7
21.0 Travel and transportation of persons	1	1	2
25.1 Advisory and assistance services	17	25	32
25.2 Other services from non-Federal sources	3	4	5
25.3 Other goods and services from Federal sources	3	4	5
25.4 Operation and maintenance of facilities	53	81	98
25.5 Research and development contracts	49	74	94
32.0 Land and structures	1	1	2
99.0 Direct obligations	143	213	262
99.0 Reimbursable obligations	3	6	6
99.9 Total new obligations	146	219	268

Employment Summary

Identification code 089-0318-0-1-271	2015 actual	2016 est.	2017 est.
1001 Direct civilian full-time equivalent employment	95	118	118
2001 Reimbursable civilian full-time equivalent employment	1		

ENERGY EFFICIENCY AND RENEWABLE ENERGY

[(INCLUDING TRANSFER OF FUNDS)]

For Department of Energy expenses including the purchase, construction, and acquisition of plant and capital equipment, and other expenses necessary for energy efficiency and renewable energy activities in carrying out the purposes of the Department of Energy Organization Act (42 U.S.C. 7101 et seq.), including the acquisition or condemnation of any real property or any facility or for plant or facility acquisition, construction, or expansion, [\$2,073,000,000] \$2,898,400,000, to remain available until expended: *Provided*, That of such amount, [\$155,000,000] \$170,900,000 shall be available until September 30, [2017] 2018, for program direction [*Provided further*, That of the amount provided under this heading, the Secretary may transfer up to \$45,000,000 to the Defense Production Act Fund for activities of the Department of Energy pursuant to the Defense Production Act of 1950 (50 U.S.C. App. 2061, et seq.)]. (*Energy and Water Development and Related Agencies Appropriations Act, 2016.*)

Program and Financing (in millions of dollars)

Identification code 089-0321-0-1-270	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0001 Vehicle Technologies	220	310	468
0002 Bioenergy Technologies	176	257	279
0003 Hydrogen & Fuel Cell Technologies	80	101	105
0091 Sustainable Transportation, subtotal	476	668	852
0101 Solar Energy	194	282	285
0102 Wind Energy	69	137	156
0103 Water Power	50	84	80
0104 Geothermal Technologies	30	75	100
0191 Renewable Electricity, subtotal	343	578	621
0201 Advanced Manufacturing	202	280	261
0202 Building Technologies	171	202	289
0203 Weatherization & Intergovernmental Activities	255	269	326
0204 Federal Energy Management Program	25	28	43
0291 Energy Efficiency, subtotal	653	779	919
0301 Program Direction & Support	177	155	171
0302 Strategic Programs	22	21	28
0303 Facilities & Infrastructure	56	62	92
0391 EERE Corporate Support, subtotal	255	238	291
0401 Regional Energy Innovation Partnerships			110
0402 Next-Generation Innovation			60
0403 Small Business Partnerships			20
0404 Energy Technology Innovation Accelerators			25
0491 Crosscutting Innovation Initiatives, Subtotal			215
0799 Total direct obligations	1,727	2,263	2,898
0810 Energy Efficiency and Renewable Energy (Reimbursable)	150	201	201

0900 Total new obligations	1,877	2,464	3,099
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Budgetary resources:

Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	408	656	462
1011 Unobligated balance transfer from other acct [072-1037]	1		
1021 Recoveries of prior year unpaid obligations	130		
1050 Unobligated balance (total)	539	656	462
Budget authority:			
Appropriations, discretionary:			
1100 Appropriation	1,937	2,073	2,898
1120 Appropriations transferred to other accts [089-0222]	-28		
1120 Appropriations transferred to other accts [097-0360]	-45		
1131 Unobligated balance of appropriations permanently reduced	-23	-4	
1160 Appropriation, discretionary (total)	1,841	2,069	2,898
Spending authority from offsetting collections, discretionary:			
1700 Collected	181	201	201
1701 Change in uncollected payments, Federal sources	-28		
1750 Spending auth from offsetting collections, disc (total)	153	201	201
1900 Budget authority (total)	1,994	2,270	3,099
1930 Total budgetary resources available	2,533	2,926	3,561
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	656	462	462

Change in obligated balance:

Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	2,989	2,108	2,248
3010 Obligations incurred, unexpired accounts	1,877	2,464	3,099
3020 Outlays (gross)	-2,061	-2,324	-2,505
3040 Recoveries of prior year unpaid obligations, unexpired	-130		
3041 Recoveries of prior year unpaid obligations, expired	-567		
3050 Unpaid obligations, end of year	2,108	2,248	2,842
Uncollected payments:			
3060 Uncollected pymts, Fed sources, brought forward, Oct 1	-133	-105	-105
3070 Change in uncollected pymts, Fed sources, unexpired	28		
3090 Uncollected pymts, Fed sources, end of year	-105	-105	-105
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	2,856	2,003	2,143
3200 Obligated balance, end of year	2,003	2,143	2,737

Budget authority and outlays, net:

Discretionary:			
4000 Budget authority, gross	1,994	2,270	3,099
Outlays, gross:			
4010 Outlays from new discretionary authority	476	762	987
4011 Outlays from discretionary balances	1,585	1,562	1,518
4020 Outlays, gross (total)	2,061	2,324	2,505
Offsets against gross budget authority and outlays:			
Offsetting collections (collected) from:			
4030 Federal sources	-111	-100	-100
4033 Non-Federal sources	-73	-101	-101
4040 Offsets against gross budget authority and outlays (total)	-184	-201	-201
Additional offsets against gross budget authority only:			
4050 Change in uncollected pymts, Fed sources, unexpired	28		
4052 Offsetting collections credited to expired accounts	3		
4060 Additional offsets against budget authority only (total)	31		
4070 Budget authority, net (discretionary)	1,841	2,069	2,898
4080 Outlays, net (discretionary)	1,877	2,123	2,304
4180 Budget authority, net (total)	1,841	2,069	2,898
4190 Outlays, net (total)	1,877	2,123	2,304

The Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE) is the U.S. Government's primary clean energy technology organization. EERE works with many of America's best innovators and businesses to support high-impact applied research, development, demonstration, and deployment (RDD&D) activities in sustainable transportation, renewable power, and end-use energy efficiency. EERE implements a range of strategies aimed at reducing our reliance on oil, saving families and businesses money, creating jobs, and reducing pollution. We work to ensure that the clean energy technologies of today and tomorrow are not only invented in America, but also manufactured in America.

Sustainable Transportation:

Vehicle Technologies.—This program conducts research and development (R&D) to achieve technology breakthroughs that enable the U.S. to greatly

reduce petroleum consumption and greenhouse gas emissions from light-duty and heavy-duty vehicles. The program focuses on advancing a suite of technologies including batteries and electric drivetrains, lightweight materials, advanced combustion engines, and non-petroleum fuels and lubricants. The program also supports early demonstration, field validation, and community-scale deployment of advanced vehicle technologies.

Bioenergy Technologies.—This program funds research, development and demonstration (RD&D) to advance biofuels technologies capable of producing biofuels, bioproducts, and biopower that will help enable a more sustainable transportation sector. The program focuses on biomass feedstock logistics, conversion technologies, and validation of commercial-scale integrated biorefineries. This work is closely coordinated with the Departments of Agriculture and Defense.

Hydrogen and Fuel Cell Technologies.—This program supports RD&D to achieve transformative advances in affordable, high efficiency and low emissions hydrogen and fuel cell technologies with the greatest potential to reduce petroleum consumption, greenhouse gas emissions, and criteria air pollutants. The program focuses on automotive fuel cells and hydrogen fuel technologies with crosscutting activities to overcome economic and institutional barriers to their commercial deployment.

Renewable Power:

Solar Energy.—This program supports solar energy RD&D at universities and the National Laboratories in collaboration with industry to enable cost-competitive and reliable domestic solar energy options manufactured in the United States that enhance our economy, reduce our reliance on fossil fuels, and support a resilient electric grid. The program's main goal under the SunShot Initiative is to make solar energy cost-competitive with other sources of electricity, across the nation and without subsidies, by 2020. To achieve this goal the program focuses on photovoltaic and concentrated solar power technology development, systems integration, balance of system and soft cost reductions, and innovations in manufacturing competitiveness.

Wind Energy.—This program develops technology in partnership with industry, academia, and the National Laboratories to improve the reliability and affordability of land-based and offshore wind energy systems. The program supports advanced turbine component research and design, wind resource assessments and modeling, advanced turbine and wind plant system modeling and optimization, and improved approaches to systems interconnection and integration with the electric transmission grid. These efforts also help reduce barriers to technology acceptance, create domestic manufacturing opportunities, and enable increased market penetration of this variable resource.

Water Power.—This program conducts RD&D to enable improved, cost-effective, and environmentally responsible renewable power generation from innovative water power technologies. The program supports a diverse array of water power technologies and tools to significantly improve the energy and environmental performance of producing electricity from waves, tides, ocean currents and rivers. The program also supports resource assessments, cost assessments, environmental studies, and advanced modeling aimed at reducing the market barriers to deployment.

Geothermal Technologies.—This program conducts RD&D in partnership with industry, academia, and the National Laboratories to improve the discovery, access, and use of new geothermal resources for cost-effective base load renewable electricity generation. The program concentrates on innovative technologies for discovering and developing enhanced geothermal systems (EGS), with complementary work on hydrothermal systems and low-temperature/co-produced resources. The competitively selected Frontier Observatory for Research in Geothermal Energy (FORGE) is a dedicated, DOE-managed, industry/stakeholder operated site for EGS field testing with laboratory accuracy, which will enable transformative, high-impact technologies and techniques to be rapidly demonstrated and improved by increasing technology sharing and leverage with the private sector.

Energy Efficiency:

Advanced Manufacturing.—This program supports RD&D focused on advanced manufacturing innovations applicable to clean energy products and industrial energy productivity as well as cross-cutting manufacturing process technologies and advanced industrial materials that could increase manufacturing productivity and reduce the costs. Program activities include R&D projects, industrial technical assistance, and managing Clean Energy Manufacturing Innovation Institutes, which are part of a larger inter-agency network aimed at bringing together universities, companies, and government to co-invest in solving industry-relevant manufacturing challenges. The program seeks to develop and assist in the demonstration of materials and processes that reduce energy intensity and the life-cycle energy consumption of manufactured products and promote continuous improvement in energy efficiency among existing facilities and manufacturers.

Building Technologies.—This program develops, demonstrates, and promotes the integration of energy efficient practices and technologies in residential and commercial buildings. The program accelerates the availability of technologies and practices through high impact R&D; promotes model building efficiency codes and the promulgation of national lighting and appliance standards; and addresses barriers through integration activities such as Better Buildings, Building America, and the ENERGY STAR partnership with the Environmental Protection Agency (EPA).

Federal Energy Management Program.—This program provides technical expertise, training, resources, and contracting support to help Federal agencies meet relevant energy, water, greenhouse gas, transportation, and sustainable buildings goals as defined in statute and Executive Orders.

Weatherization and Intergovernmental.—This program supports the deployment of clean energy technologies and practices in partnership with State, local, and U.S. territory governments. The State Energy Program provides technical and financial resources to States to help them achieve their energy efficiency and renewable energy goals. Funding also supports local government energy program and project planning, development, and implementation through technical assistance and grants awarded on a competitive basis. The Weatherization Assistance Program lowers energy use and costs for low income families by supporting energy-efficient home retrofits through State-managed networks of local weatherization providers.

Crosscutting Innovation Initiatives:

Regional Energy Innovation Centers.—This program supports regionally-focused sustainable transportation, renewable power, and energy efficiency RD&D and innovation ecosystem development initiatives.

Next Generation Innovation.—This program funds initial private-sector commercialization of high-promise, emerging early-stage technology concepts across the sustainable transportation, renewable energy, and energy efficiency portfolios.

Small Business Partnerships.—This program will enable National Laboratories to partner with small businesses to address their critical clean energy RD&D challenges and opportunities in the sustainable transportation, renewable power, and energy efficiency space.

Energy Technology Innovation Accelerators.—This program will enable participating National Laboratories to provide clean energy entrepreneurs with seed funding, technical support, and access to Lab researchers and capabilities.

Corporate Programs:

Program Direction.—This activity enables EERE to maintain and support a world-class Federal workforce to accomplish its mission to create and sustain American leadership in the global transition to a clean energy economy through high-impact research, development, and demonstration, and deployment market barriers activities to make clean energy as affordable and convenient as traditional forms of energy and through breaking down barriers to market entry.

Strategic Programs.—The mission of the Office of Strategic Programs is to increase the effectiveness and impact of all EERE activities by funding and guiding EERE cross-cutting activities, analysis, and support functions. The office focuses on accelerating development, commercialization, and adoption of energy efficiency and renewable energy technologies through

ENERGY EFFICIENCY AND RENEWABLE ENERGY—Continued

strategic partnerships to support the transition of EERE technologies to market; communications and engagement with energy stakeholders; development and catalysis of international markets for U.S. clean energy companies; and analytic support for decision making and management of the EERE portfolio.

Facilities and Infrastructure.—This activity supports EERE's clean energy RD&D by providing funding for general plant projects, maintenance and repair, general purpose equipment, upgrades to accommodate new research requirements, and safeguards and security operations at the National Renewable Energy Laboratory (NREL). Facilities and Infrastructure also supports the operation of the NREL Energy Systems Integration Facility as a DOE Technology User Facility. This facility provides component and system testing and grid simulation capability to DOE programs and the private sector, helping to integrate clean energy technologies seamlessly into electrical grid infrastructure and utility operations at the speed and scale required to meet national goals.

Object Classification (in millions of dollars)

Identification code 089-0321-0-1-270	2015 actual	2016 est.	2017 est.
Direct obligations:			
Personnel compensation:			
11.1 Full-time permanent	70	92	92
11.3 Other than full-time permanent	5	7	7
11.5 Other personnel compensation	1	1	1
11.9 Total personnel compensation	76	100	100
12.1 Civilian personnel benefits	22	29	38
21.0 Travel and transportation of persons	5	7	9
23.1 Rental payments to GSA	1	1	1
23.3 Communications, utilities, and miscellaneous charges	8	10	13
25.1 Advisory and assistance services	78	102	131
25.2 Other services from non-Federal sources	60	79	102
25.3 Other goods and services from Federal sources	37	48	62
25.4 Operation and maintenance of facilities	732	959	1,241
25.5 Research and development contracts	129	169	219
26.0 Supplies and materials	1	1	1
31.0 Equipment	2	3	4
41.0 Grants, subsidies, and contributions	576	755	977
99.0 Direct obligations	1,727	2,263	2,898
99.0 Reimbursable obligations	150	201	201
99.9 Total new obligations	1,877	2,464	3,099

Employment Summary

Identification code 089-0321-0-1-270	2015 actual	2016 est.	2017 est.
1001 Direct civilian full-time equivalent employment	615	719	697

21ST CENTURY CLEAN TRANSPORTATION PLAN INVESTMENTS, DOE

As part of the 21st Century Clean Transportation Plan, the Department of Energy will:

Scale-up clean transportation R&D through initiatives to accelerate cutting the cost of battery technology; advance the next generation of low carbon biofuels, in particular for intermodal freight and fleets; and establish a smart mobility research center to investigate systems level energy implications of vehicle connectivity and automation;

Launch the Clean Fleets Competition program which will use challenge grants to drive cleaner State, Tribal, and local government vehicle fleets, in particular, those for first responders; and

Ensure all Americans have access to at least one alternative fuel by 2020 by providing funding for the development of regional low-carbon fueling infrastructure including electric vehicles, advanced biofuels, fuel cells, and others low-carbon options. In addition, DOE will launch an Electric Vehicle Accelerator Communities program with the goal of de-

ploying 10,000 new grid connected solar powered fast charging stations by 2025 through public-private partnerships.

21ST CENTURY CLEAN TRANSPORTATION PLAN INVESTMENTS, DOE

(Legislative proposal, subject to PAYGO)

Program and Financing (in millions of dollars)

Identification code 089-5673-4-2-990	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0001 Clean Transportation R&D			200
0002 Next Generation Biofuels R&D			100
0003 Smart Mobility Research Center			200
0004 Clean Fleets Competition - Municipalities and First-Responders			85
0005 Low-Carbon Fueling Infrastructure Deployment			750
0900 Total new obligations			1,335
Budgetary resources:			
Budget authority:			
Appropriations, mandatory:			
1201 Appropriation (special or trust fund)			1,335
1930 Total budgetary resources available			1,335
Change in obligated balance:			
Unpaid obligations:			
3010 Obligations incurred, unexpired accounts			1,335
3020 Outlays (gross)			-400
3050 Unpaid obligations, end of year			935
Memorandum (non-add) entries:			
3200 Obligated balance, end of year			935
Budget authority and outlays, net:			
Mandatory:			
4090 Budget authority, gross			1,335
Outlays, gross:			
4100 Outlays from new mandatory authority			400
4180 Budget authority, net (total)			1,335
4190 Outlays, net (total)			400

Object Classification (in millions of dollars)

Identification code 089-5673-4-2-990	2015 actual	2016 est.	2017 est.
Direct obligations:			
25.4 Operation and maintenance of facilities			200
25.5 Research and development contracts			300
41.0 Grants, subsidies, and contributions			835
99.9 Total new obligations			1,335

OFFICE OF TECHNOLOGY TRANSITIONS

For Department of Energy expenses necessary for technology transitions and commercialization activities in carrying out the purposes of the Department of Energy Organization Act (42 U.S.C. 7101 et seq.), section 1001 of the Energy Policy Act of 2005 (42 U.S.C. 16391), and the Stephenson-Wylder Technology Innovation Act of 1980 (15 U.S.C. 3701 et seq.), \$8,400,000, to remain available until September 30, 2018.

Program and Financing (in millions of dollars)

Identification code 089-0346-0-1-271	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0010 Office of Technology Transitions			8
Budgetary resources:			
Budget authority:			
Appropriations, discretionary:			
1100 Appropriation			8
1930 Total budgetary resources available			8
Change in obligated balance:			
Unpaid obligations:			
3010 Obligations incurred, unexpired accounts			8

3020	Outlays (gross)			-6
3050	Unpaid obligations, end of year			2
	Memorandum (non-add) entries:			
3200	Obligated balance, end of year			2
Budget authority and outlays, net:				
Discretionary:				
4000	Budget authority, gross			8
Outlays, gross:				
4010	Outlays from new discretionary authority			6
4180	Budget authority, net (total)			8
4190	Outlays, net (total)			6

Office of Technology Transitions (OTT).— The Office of Technology Transitions' function is to help expand the commercial impact of the Department of Energy's portfolio of research, development, demonstration and deployment activities. The office is led by the statutory 'Technology Transfer Coordinator' for the Department and serves a corporate role to coordinate, develop, and implement strategies to transition technologies to the market. The office works with the National Laboratories and other stakeholders to identify high value technological innovations and discoveries, and to inject resources to move them rapidly to commercialization thus enhancing U.S. competitiveness and energy technological leadership. The office implements the Clean Energy Investment Center and manages the Technology Commercialization Fund.

Object Classification (in millions of dollars)

Identification code 089-0346-0-1-271	2015 actual	2016 est.	2017 est.
11.1	Direct obligations: Personnel compensation: Full-time permanent		1
11.9	Total personnel compensation		1
12.1	Civilian personnel benefits		1
25.1	Advisory and assistance services		1
25.2	Other services from non-Federal sources		3
25.4	Operation and maintenance of facilities		1
99.0	Direct obligations		7
99.5	Adjustment for rounding		1
99.9	Total new obligations		8

Employment Summary

Identification code 089-0346-0-1-271	2015 actual	2016 est.	2017 est.
1001	Direct civilian full-time equivalent employment		11

OFFICE OF INDIAN ENERGY

For necessary expenses for Indian Energy activities in carrying out the purposes of the Department of Energy Organization Act (42 U.S.C 7101 et seq.), \$22,930,000, to remain available until expended: Provided, That, of the amount appropriated under this heading, \$4,800,000 shall be available until September 30, 2018, for program direction.

Program and Financing (in millions of dollars)

Identification code 089-0342-0-1-271	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0001	Office of Indian Energy (Direct)		23
Budgetary resources:			
Budget authority:			
Appropriations, discretionary:			
1100	Appropriation		23
1930	Total budgetary resources available		23
Change in obligated balance:			
Unpaid obligations:			
3010	Obligations incurred, unexpired accounts		23
3020	Outlays (gross)		-12
3050	Unpaid obligations, end of year		11

3200	Memorandum (non-add) entries:			
	Obligated balance, end of year			11
Budget authority and outlays, net:				
Discretionary:				
4000	Budget authority, gross			23
Outlays, gross:				
4010	Outlays from new discretionary authority			12
4180	Budget authority, net (total)			23
4190	Outlays, net (total)			12

Office of Indian Energy Policy and Programs (OIE).—The Office is charged to direct, foster, coordinate, and implement energy planning, education, management, and competitive grant programs that assist Tribes with clean energy development and infrastructure, capacity building, energy costs, and electrification of Indian lands and homes. OIE coordinates programmatic activity across the Department related to development of clean energy resources on Indian lands, and works with other federal government agencies, Indian Tribes, and Tribal organizations to promote Indian energy policies and initiatives.

Object Classification (in millions of dollars)

Identification code 089-0342-0-1-271	2015 actual	2016 est.	2017 est.
Direct obligations:			
11.1	Personnel compensation: Full-time permanent		2
41.0	Grants, subsidies, and contributions		21
99.9	Total new obligations		23

Employment Summary

Identification code 089-0342-0-1-271	2015 actual	2016 est.	2017 est.
1001	Direct civilian full-time equivalent employment		15

NON-DEFENSE ENVIRONMENTAL CLEANUP

For Department of Energy expenses, including the purchase, construction, and acquisition of plant and capital equipment and other expenses necessary for non-defense environmental cleanup activities in carrying out the purposes of the Department of Energy Organization Act (42 U.S.C. 7101 et seq.), including the acquisition or condemnation of any real property or any facility or for plant or facility acquisition, construction, or expansion, **[\$255,000,000] \$218,400,000**, to remain available until expended. (*Energy and Water Development and Related Agencies Appropriations Act, 2016.*)

Program and Financing (in millions of dollars)

Identification code 089-0315-0-1-271	2015 actual	2016 est.	2017 est.	
Obligations by program activity:				
0002	Fast Flux Test Facility	3	3	2
0003	Gaseous Diffusion Plants	102	104	90
0004	Small Sites	82	88	52
0005	West Valley Demonstration Project	59	59	62
0006	Infrastructure			12
0007	Mercury Storage Facility		1	
0799	Total direct obligations	246	255	218
0801	Non-defense Environmental Cleanup (Reimbursable)	33	29	29
0900	Total new obligations	279	284	247
Budgetary resources:				
Unobligated balance:				
1000	Unobligated balance brought forward, Oct 1	1	1	1
1050	Unobligated balance (total)	1	1	1
Budget authority:				
Appropriations, discretionary:				
1100	Appropriation	246	255	218
Spending authority from offsetting collections, discretionary:				
1700	Collected	33	29	29
1900	Budget authority (total)	279	284	247
1930	Total budgetary resources available	280	285	248

NON-DEFENSE ENVIRONMENTAL CLEANUP—Continued
Program and Financing—Continued

Identification code 089-0315-0-1-271	2015 actual	2016 est.	2017 est.
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	1	1	1
Change in obligated balance:			
Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	139	152	107
3010 Obligations incurred, unexpired accounts	279	284	247
3020 Outlays (gross)	-265	-329	-277
3041 Recoveries of prior year unpaid obligations, expired	-1		
3050 Unpaid obligations, end of year	152	107	77
Uncollected payments:			
3060 Uncollected pymts, Fed sources, brought forward, Oct 1	-1	-1	-1
3090 Uncollected pymts, Fed sources, end of year	-1	-1	-1
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	138	151	106
3200 Obligated balance, end of year	151	106	76
Budget authority and outlays, net:			
Discretionary:			
4000 Budget authority, gross	279	284	247
Outlays, gross:			
4010 Outlays from new discretionary authority	169	207	182
4011 Outlays from discretionary balances	96	122	95
4020 Outlays, gross (total)	265	329	277
Offsets against gross budget authority and outlays:			
Offsetting collections (collected) from:			
4030 Federal sources	-2		
4033 Non-Federal sources	-32	-29	-29
4040 Offsets against gross budget authority and outlays (total)	-34	-29	-29
Additional offsets against gross budget authority only:			
4052 Offsetting collections credited to expired accounts	1		
4070 Budget authority, net (discretionary)	246	255	218
4080 Outlays, net (discretionary)	231	300	248
4180 Budget authority, net (total)	246	255	218
4190 Outlays, net (total)	231	300	248

The Non-Defense Environmental Cleanup program includes funds to manage and clean up sites used for civilian energy research and non-defense related activities. These activities resulted in radioactive, hazardous, and mixed waste contamination that requires remediation, stabilization, or some other type of corrective action, as well as the decontamination and decommissioning of former research and production buildings and supporting infrastructure. The budget displays the cleanup program by site and activity.

West Valley Demonstration Project.—Funds waste disposition, building decontamination, and removal of non-essential facilities in the near-term.

Gaseous Diffusion Plants.—Funds surveillance and maintenance of the former Uranium Program facilities and manages legacy polychlorinated biphenyl contamination. The program also includes the operation of two depleted uranium hexafluoride conversion facilities at Paducah, Kentucky, and Portsmouth, Ohio, which are converting the depleted uranium hexafluoride into a more stable form for reuse or disposition.

Fast Flux Test Facility.—Funds the long-term surveillance and maintenance and eventual decontamination and decommissioning of the Fast Flux Test Facility, constructed and operated from the 1960s through 1980s.

Small Sites.—Funds cleanup, closure, and post-closure environmental activities at a number of geographic sites across the nation, including the Energy Technology Engineering Center and Moab, as well as non-defense activities at Idaho and Oak Ridge. Some sites are associated with other Department of Energy programs, particularly the Office of Science, and will have continuing missions after EM completes the cleanup. Others will transition to the Office of Legacy Management or private-sector entities for post-closure activities.

Infrastructure.—Funds the maintenance, repair, and recapitalization of general-purpose infrastructure to support the cleanup mission.

Object Classification (in millions of dollars)

Identification code 089-0315-0-1-271	2015 actual	2016 est.	2017 est.
Direct obligations:			
25.1 Advisory and assistance services	9	9	8
25.2 Other services from non-Federal sources	10	10	9
25.3 Other goods and services from Federal sources	3	3	2
25.4 Operation and maintenance of facilities	212	220	188
32.0 Land and structures	11	12	10
41.0 Grants, subsidies, and contributions	1	1	1
99.0 Direct obligations	246	255	218
99.0 Reimbursable obligations	33	29	29
99.9 Total new obligations	279	284	247

FOSSIL ENERGY RESEARCH AND DEVELOPMENT

(INCLUDING USE OF PRIOR YEAR BALANCES)

For Department of Energy expenses necessary in carrying out fossil energy research and development activities, under the authority of the Department of Energy Organization Act (42 U.S.C. 7101 et seq.), including the acquisition of interest, including defeasible and equitable interests in any real property or any facility or for plant or facility acquisition or expansion, and for conducting inquiries, technological investigations and research concerning the extraction, processing, use, and disposal of mineral substances without objectionable social and environmental costs (30 U.S.C. 3, 1602, and 1603), **[\$632,000,000] \$600,000,000**, to remain available until expended, of which \$240,000,000 shall be from prior year unobligated balances previously appropriated: *Provided*, That of **[such amount \$114,202,000] the amount made available under this heading in this Act, \$60,998,000** shall be available until September 30, **[2017] 2018**, for program direction: *Provided further*, That of the \$600,000,000 provided under this heading, \$360,000,000 is appropriated from the general fund and \$240,000,000 is derived from funds appropriated in prior Acts under the headings "Fossil Energy Research and Development" and "Clean Coal Technology" for prior solicitations under the Clean Coal Power Initiative from projects selected under such solicitations that have not reached financial close prior to the date of enactment of this Act: *Provided further*, That such funds appropriated in prior Acts shall be deobligated, if necessary, and shall be made available for activities under this heading without regard to the provisions in the Act in which the funds were originally appropriated: *Provided further*, That no amounts may be repurposed pursuant to this paragraph from amounts that were designated by the Congress as an emergency requirement pursuant to a concurrent resolution on the budget or the Balanced Budget and Emergency Deficit Control Act of 1985. (Energy and Water Development and Related Agencies Appropriations Act, 2016.)

Program and Financing (in millions of dollars)

Identification code 089-0213-0-1-271	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0002 Carbon Capture	85	101	170
0003 Carbon Storage	107	106	91
0004 Advanced Energy Systems	101	105	48
0005 Cross-Cutting Research	47	50	59
0007 Program Direction			61
0012 Program Direction - Management	125	114	
0013 Program Direction - NETL R&D	40	53	
0014 Plant and Capital Equipment	16	16	
0016 Environmental Restoration	6	8	
0017 Special Recruitment Program	1	1	
0019 Fuel Supply Impact Mitigation			27
0020 Natural gas technologies	25	43	
0021 Unconventional FE Technologies	9	20	
0022 STEP (Supercritical CO2)	10	15	
0024 NETL Research and Operations			76
0025 NETL Infrastructure			68
0799 Total direct obligations	572	632	600
0801 Fossil Energy Research and Development (Reimbursable)	2	2	2
0900 Total new obligations	574	634	602
Budgetary resources:			
Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	52	35	275
1021 Recoveries of prior year unpaid obligations	6	240	
1050 Unobligated balance (total)	58	275	275

Budget authority:			
Appropriations, discretionary:			
1100	Appropriation	571	632 360
1120	Appropriations transferred to other acts (089–0222)	–12	.....
1131	Unobligated balance of appropriations permanently reduced	–10	.....
1160	Appropriation, discretionary (total)	549	632 360
Spending authority from offsetting collections, discretionary:			
1700	Collected	2	2 2
1900	Budget authority (total)	551	634 362
1930	Total budgetary resources available	609	909 637
Memorandum (non-add) entries:			
1941	Unexpired unobligated balance, end of year	35	275 35

Change in obligated balance:			
Unpaid obligations:			
3000	Unpaid obligations, brought forward, Oct 1	2,738	1,178 930
3010	Obligations incurred, unexpired accounts	574	634 602
3020	Outlays (gross)	–805	–642 –729
3040	Recoveries of prior year unpaid obligations, unexpired	–6	–240
3041	Recoveries of prior year unpaid obligations, expired	–1,323	.....
3050	Unpaid obligations, end of year	1,178	930 803
Uncollected payments:			
3060	Uncollected pymts, Fed sources, brought forward, Oct 1	–2	–2 –2
3090	Uncollected pymts, Fed sources, end of year	–2	–2 –2
Memorandum (non-add) entries:			
3100	Obligated balance, start of year	2,736	1,176 928
3200	Obligated balance, end of year	1,176	928 801

Budget authority and outlays, net:			
Discretionary:			
4000	Budget authority, gross	551	634 362
Outlays, gross:			
4010	Outlays from new discretionary authority	159	254 145
4011	Outlays from discretionary balances	646	388 584
4020	Outlays, gross (total)	805	642 729
Offsets against gross budget authority and outlays:			
Offsetting collections (collected) from:			
4030	Federal sources	–1	.....
4033	Non-Federal sources	–4	–2 –2
4040	Offsets against gross budget authority and outlays (total)	–5	–2 –2
Additional offsets against gross budget authority only:			
4052	Offsetting collections credited to expired accounts	3	.....
4070	Budget authority, net (discretionary)	549	632 360
4080	Outlays, net (discretionary)	800	640 727
4180	Budget authority, net (total)	549	632 360
4190	Outlays, net (total)	800	640 727

The Fossil Energy Research and Development (FER&D) program supports research that will improve the Nation's ability to use fossil energy resources cleanly, affordably, and efficiently. The program funds research and development with academia, national laboratories, and the private sector to advance the technology base used to develop new products and processes. FER&D supports activities ranging from early concept research in universities and national laboratories to applied R&D and proof-of-concept projects with private-sector firms.

Research, Development & Demonstration.—Program activities, including National Energy Technology Laboratory (NETL) R&D, focus on: 1) CO2 capture technology applicable to both new and existing fossil-fueled facilities including pre-combustion capture, post-combustion capture, advanced combustion technologies such as oxy-combustion, and natural gas carbon capture; 2) CO2 storage, with emphasis on field tests, modeling, simulation, and CO2 monitoring, verification, accounting, and assessment; 3) advanced fossil-fueled power systems that support Carbon Capture and Storage (CCS), including Integrated Gasification Combined Cycle (IGCC) and advanced turbines; and 4) cross-cutting research to bridge fundamental science and applied engineering development. The Department will continue to work with the private sector and academia to conduct and direct research toward overcoming critical challenges to reducing greenhouse gas emissions from fossil energy power generation in the United States. The program will also continue collaborative research and development work with the Environmental Protection Agency and the Department of the Interior to ensure that unconventional oil and gas development is conducted in a

manner that is environmentally sound and protective of human health and safety. In addition, FER&D will conduct work focused on characterizing gas hydrates and will develop technologies to monitor, quantify, and reduce emissions from midstream natural gas infrastructure. NETL Research and Operations includes funding for scientists, engineers and project managers conducting both in-house and collaborative research. NETL Infrastructure includes funding to support the upkeep of a laboratory footprint in three geographic locations — Morgantown, WV; Pittsburgh, PA; and Albany, OR. This includes infrastructure repairs and improvements for both site-wide/general purpose facilities and laboratory/research facilities, including Joule, the fossil energy high performance computer.

Program Direction and Management Support. This program provides funding for all headquarters and field personnel and other operating expenses in FER&D. In addition, it provides support for day-to-day project management functions and operating expenses for NETL. Also included is the Import/Export Authorization program, which will continue regulatory reviews and oversight of the transmission of natural gas across the U.S. borders.

Object Classification (in millions of dollars)

Identification code 089–0213–0–1–271	2015 actual	2016 est.	2017 est.
Direct obligations:			
Personnel compensation:			
11.1	Full-time permanent	62	69 70
11.3	Other than full-time permanent	1	1 1
11.5	Other personnel compensation	1	1 1
11.9	Total personnel compensation	64	71 72
12.1	Civilian personnel benefits	20	22 21
21.0	Travel and transportation of persons	4	4 4
23.3	Communications, utilities, and miscellaneous charges	7	8 8
25.1	Advisory and assistance services	115	127 120
25.2	Other services from non-Federal sources	10	11 10
25.3	Other goods and services from Federal sources	11	12 11
25.4	Operation and maintenance of facilities	56	62 58
25.5	Research and development contracts	268	297 278
25.7	Operation and maintenance of equipment	4	4 4
26.0	Supplies and materials	1	1 1
31.0	Equipment	4	4 4
32.0	Land and structures	7	8 8
41.0	Grants, subsidies, and contributions	1	1 1
99.0	Direct obligations	572	632 600
99.0	Reimbursable obligations	2	2 2
99.9	Total new obligations	574	634 602

Employment Summary

Identification code 089–0213–0–1–271	2015 actual	2016 est.	2017 est.
1001	Direct civilian full-time equivalent employment	582	641 658

NAVAL PETROLEUM AND OIL SHALE RESERVES

For Department of Energy expenses necessary to carry out naval petroleum and oil shale reserve activities, **[\$17,500,000]** \$14,950,000, to remain available until expended: *Provided*, That notwithstanding any other provision of law, unobligated funds remaining from prior years shall be available for all naval petroleum and oil shale reserve activities. (*Energy and Water Development and Related Agencies Appropriations Act, 2016.*)

Program and Financing (in millions of dollars)

Identification code 089–0219–0–1–271	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0001	Production and Operations	4	17 13
0002	Naval Petroleum and Oil Shale Reserves Program Direction	2	21 2
0900	Total new obligations	6	38 15
Budgetary resources:			
Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	7	22 2

NAVAL PETROLEUM AND OIL SHALE RESERVES—Continued
Program and Financing—Continued

Identification code 089-0219-0-1-271	2015 actual	2016 est.	2017 est.
Budget authority:			
Appropriations, discretionary:			
1100 Appropriation	20	18	15
Spending authority from offsetting collections, discretionary:			
1700 Collected	1		
1900 Budget authority (total)	21	18	15
1930 Total budgetary resources available	28	40	17
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	22	2	2
Change in obligated balance:			
Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	19	10	11
3010 Obligations incurred, unexpired accounts	6	38	15
3020 Outlays (gross)	-15	-37	-20
3050 Unpaid obligations, end of year	10	11	6
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	19	10	11
3200 Obligated balance, end of year	10	11	6
Budget authority and outlays, net:			
Discretionary:			
4000 Budget authority, gross	21	18	15
Outlays, gross:			
4010 Outlays from new discretionary authority	1	11	9
4011 Outlays from discretionary balances	14	26	11
4020 Outlays, gross (total)	15	37	20
Offsets against gross budget authority and outlays:			
Offsetting collections (collected) from:			
4030 Federal sources	-1		
4180 Budget authority, net (total)	20	18	15
4190 Outlays, net (total)	14	37	20

Following the sale of the government's interests in Naval Petroleum Reserve 1 (NPR-1) in California (Elk Hills), post-sale environmental assessment/remediation activities continue to be required by the legally binding agreements under the Corrective Action Consent Agreement with the State of California Department of Toxic Substances Control (DTSC). Program activities encompass execution of a technical baseline, interim measures, environmental sampling and analysis, corrective measures, waste removal and disposal, and confirmatory sampling. In FY 2017, these activities will continue to serve as the basis for requests to DTSC to release DOE from further corrective action for 131 areas of concern at NPR-1.

The account also funds activities at Naval Petroleum Reserve 3 (NPR-3) in Wyoming (Teapot Dome), a stripper well oil field. On January 30, 2015, the Department finalized the sale of the Teapot Dome Oilfield. The Department will oversee post-sale remediation activities and ground water sampling for the closure of the landfill in compliance with National Environmental Policy Act and Wyoming Department of Environmental Quality requirements.

Object Classification (in millions of dollars)

Identification code 089-0219-0-1-271	2015 actual	2016 est.	2017 est.
Direct obligations:			
11.1 Personnel compensation: Full-time permanent	1	1	
12.1 Civilian personnel benefits		1	
25.1 Advisory and assistance services	1	14	6
25.2 Other services from non-Federal sources	3	6	3
25.4 Operation and maintenance of facilities	1	16	6
99.9 Total new obligations	6	38	15

Employment Summary

Identification code 089-0219-0-1-271	2015 actual	2016 est.	2017 est.
1001 Direct civilian full-time equivalent employment	7	8	4

STRATEGIC PETROLEUM RESERVE

For Department of Energy expenses necessary for Strategic Petroleum Reserve facility development and operations and program management activities pursuant to the Energy Policy and Conservation Act (42 U.S.C. 6201 et seq.), **[\$212,000,000]** \$257,000,000, to remain available until expended. (*Energy and Water Development and Related Agencies Appropriations Act, 2016.*)

Program and Financing (in millions of dollars)

Identification code 089-0218-0-1-274	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0001 SPR Management	23	25	29
0002 SPR Storage Facilities Development	179	187	228
0900 Total new obligations	202	212	257
Budgetary resources:			
Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	7	5	5
1050 Unobligated balance (total)	7	5	5
Budget authority:			
Appropriations, discretionary:			
1100 Appropriation	200	212	257
1930 Total budgetary resources available	207	217	262
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	5	5	5
Change in obligated balance:			
Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	86	107	93
3010 Obligations incurred, unexpired accounts	202	212	257
3020 Outlays (gross)	-181	-226	-218
3050 Unpaid obligations, end of year	107	93	132
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	86	107	93
3200 Obligated balance, end of year	107	93	132
Budget authority and outlays, net:			
Discretionary:			
4000 Budget authority, gross	200	212	257
Outlays, gross:			
4010 Outlays from new discretionary authority	103	117	141
4011 Outlays from discretionary balances	78	109	77
4020 Outlays, gross (total)	181	226	218
4180 Budget authority, net (total)	200	212	257
4190 Outlays, net (total)	181	226	218

The Strategic Petroleum Reserve (SPR) provides strategic and economic security against foreign and domestic disruptions in oil supplies via an emergency stockpile of crude oil. The program fulfills U.S. obligations under the International Energy Program, which avails the U.S. of International Energy Agency assistance through its coordinated energy emergency response plans, and provides a deterrent against energy supply disruptions. This level of funding in FY 2017 will provide for the management, operations, maintenance, and security of the Government's four storage sites and infrastructure, and maintains SPR readiness and capability to respond to energy supply disruptions. The program will continue to address cavern testing and remediation; degasification of crude oil inventory to ensure its availability; increased support for major maintenance requirements to address an aging infrastructure, and includes the addition of a custody transfer flow metering skid for Big Hill site's distribution flexibility and reliability.

Object Classification (in millions of dollars)

Identification code 089-0218-0-1-274	2015 actual	2016 est.	2017 est.
Direct obligations:			
11.1 Personnel compensation: Full-time permanent	11	12	14
12.1 Civilian personnel benefits	3	3	4
21.0 Travel and transportation of persons	1	1	1
23.2 Rental payments to others	2	2	3
23.3 Communications, utilities, and miscellaneous charges	3	3	4
25.1 Advisory and assistance services	1	1	1
25.2 Other services from non-Federal sources	20	21	25
25.4 Operation and maintenance of facilities	161	169	205

99.9	Total new obligations	202	212	257
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Employment Summary

Identification code 089-0218-0-1-274	2015 actual	2016 est.	2017 est.
1001 Direct civilian full-time equivalent employment	110	126	126
2001 Reimbursable civilian full-time equivalent employment	1		

SPR PETROLEUM ACCOUNT

Program and Financing (in millions of dollars)

Identification code 089-0233-0-1-274	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0001 SPR Petroleum Account (Direct)	240		
0900 Total new obligations (object class 26.0)	240		
Budgetary resources:			
Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	251	14	14
1021 Recoveries of prior year unpaid obligations	3		
1050 Unobligated balance (total)	254	14	14
1930 Total budgetary resources available	254	14	14
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	14	14	14
Change in obligated balance:			
Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	109	85	49
3010 Obligations incurred, unexpired accounts	240		
3020 Outlays (gross)	-261	-36	-29
3040 Recoveries of prior year unpaid obligations, unexpired	-3		
3050 Unpaid obligations, end of year	85	49	20
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	109	85	49
3200 Obligated balance, end of year	85	49	20
Budget authority and outlays, net:			
Mandatory:			
Outlays, gross:			
4101 Outlays from mandatory balances	261	36	29
4180 Budget authority, net (total)			
4190 Outlays, net (total)	261	36	29

The SPR Petroleum Account was established in the Treasury pursuant to the provisions of the Omnibus Budget Reconciliation Act of 1981 (P.L. 97-35). This account funds all Strategic Petroleum Reserve petroleum inventory acquisitions, associated transportation costs, U.S. Customs duties, terminal throughput charges and other related miscellaneous costs. During an emergency drawdown and sale, the SPR Petroleum Account is the source of funding for the incremental costs of withdrawing oil from the storage caverns and transporting it to the point where purchasers take title. In 2014, the SPR performed an operational Test Sale resulting in \$468,564,599 in receipts. The Northeast Gasoline Supply Reserve was established in the SPR Petroleum Account and funds all aspects of the gasoline reserve. A portion of the test sale receipts (\$235,587,000) were the source for all Gasoline Reserve requirements. Balances will fund activities in FY 2016 and FY 2017.

ENERGY INFORMATION ADMINISTRATION

For Department of Energy expenses necessary in carrying out the activities of the Energy Information Administration, **【\$122,000,000】** \$131,125,000, to remain available until expended. (*Energy and Water Development and Related Agencies Appropriations Act, 2016.*)

Program and Financing (in millions of dollars)

Identification code 089-0216-0-1-276	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0001 Obligations by Program Activity	117	122	131
Budgetary resources:			
Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	2	2	2
Budget authority:			
Appropriations, discretionary:			
1100 Appropriation	117	122	131
1930 Total budgetary resources available	119	124	133
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	2	2	2
Change in obligated balance:			
Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	31	37	48
3010 Obligations incurred, unexpired accounts	117	122	131
3020 Outlays (gross)	-111	-111	-129
3050 Unpaid obligations, end of year	37	48	50
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	31	37	48
3200 Obligated balance, end of year	37	48	50
Budget authority and outlays, net:			
Discretionary:			
4000 Budget authority, gross	117	122	131
Outlays, gross:			
4010 Outlays from new discretionary authority	81	85	92
4011 Outlays from discretionary balances	30	26	37
4020 Outlays, gross (total)	111	111	129
4180 Budget authority, net (total)	117	122	131
4190 Outlays, net (total)	111	111	129

The U.S. Energy Information Administration (EIA) is the statistical and analytical agency within the U.S. Department of Energy. EIA collects, analyzes, and disseminates independent and impartial energy information to promote sound policymaking, efficient markets, and public understanding of energy and its interaction with the economy and the environment. As the Nation's premier source of energy information, EIA conducts a data collection program covering the full spectrum of energy sources, end uses, and energy flows; generates short- and long-term domestic and international energy projections; and performs timely, informative energy analyses. The FY 2017 Budget Request enables EIA to continue its core data collection, analysis, and dissemination activities, while also pursuing four strategic initiatives to provide the public more detailed, timely, and accurate data and analysis in the areas of commercial building efficiency, regional petroleum markets, international trends, and vehicle transportation. EIA will revamp petroleum data and analysis to provide more regional detail, which will better address many policymaker questions and market issues. In addition, EIA will build upon new methodologies from its residential building data collection to realize efficiencies in its commercial building survey and will continue to evolve its energy consumption program by beginning to test methods for tenant-level energy data collections. EIA will continue to collaborate with counterparts in Canada and Mexico to improve the quality and transparency of North American energy data and infrastructure mapping capabilities, in order to better understand domestic energy markets within the context of the world energy system, particularly export scenarios for crude oil, petroleum products, and liquefied natural gas. Finally, EIA will explore options and partnerships to collect and analyze data on personal vehicle transportation related to macroeconomic, demographic, and behavioral changes, which will help in developing projections of motor fuel demand, and also will be highly useful to policymakers who assess, plan, and fund energy infrastructure needs.

ENERGY INFORMATION ADMINISTRATION—Continued

Object Classification (in millions of dollars)

Identification code 089-0216-0-1-276	2015 actual	2016 est.	2017 est.
Direct obligations:			
Personnel compensation:			
11.1 Full-time permanent	39	41	44
11.3 Other than full-time permanent	1	1	1
11.9 Total personnel compensation	40	42	45
12.1 Civilian personnel benefits	11	11	12
23.3 Communications, utilities, and miscellaneous charges	7	7	8
25.1 Advisory and assistance services	43	46	49
25.2 Other services from non-Federal sources	1	1	1
25.3 Purchases of goods and services from Government accounts	9	9	10
25.4 Operation and maintenance of facilities	1	1	1
25.5 Research and development contracts	1	1	1
25.7 Operation and maintenance of equipment	1	1	1
31.0 Equipment	3	3	3
99.9 Total new obligations	117	122	131

Employment Summary

Identification code 089-0216-0-1-276	2015 actual	2016 est.	2017 est.
1001 Direct civilian full-time equivalent employment	329	375	375

FEDERAL ENERGY REGULATORY COMMISSION

SALARIES AND EXPENSES

For expenses necessary for the Federal Energy Regulatory Commission to carry out the provisions of the Department of Energy Organization Act (42 U.S.C. 7101 et seq.), including services as authorized by 5 U.S.C. 3109, official reception and representation expenses not to exceed \$3,000, and the hire of passenger motor vehicles, **[\$319,800,000] \$346,800,000**, to remain available until expended: *Provided*, That notwithstanding any other provision of law, not to exceed **[\$319,800,000] \$346,800,000** of revenues from fees and annual charges, and other services and collections in fiscal year **[2016] 2017** shall be retained and used for expenses necessary in this account, and shall remain available until expended: *Provided further*, That the sum herein appropriated from the general fund shall be reduced as revenues are received during fiscal year **[2016] 2017** so as to result in a final fiscal year **[2016] 2017** appropriation from the general fund estimated at not more than \$0. (*Energy and Water Development and Related Agencies Appropriations Act, 2016.*)

Program and Financing (in millions of dollars)

Identification code 089-0212-0-1-276	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0801 Ensure Just and Reasonable Rates, Terms & Conditions	147	153	160
0802 Promote Safe, Reliable, Secure & Efficient Infrastructure	110	117	123
0803 Mission Support through Organizational Excellence	58	61	64
0900 Total new obligations	315	331	347
Budgetary resources:			
Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	28	18	7
1021 Recoveries of prior year unpaid obligations	1		
1050 Unobligated balance (total)	29	18	7
Budget authority:			
Spending authority from offsetting collections, discretionary:			
1700 Collected	304	320	347
1930 Total budgetary resources available	333	338	354
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	18	7	7
Change in obligated balance:			
Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	39	54	43
3010 Obligations incurred, unexpired accounts	315	331	347
3020 Outlays (gross)	-299	-342	-344
3040 Recoveries of prior year unpaid obligations, unexpired	-1		
3050 Unpaid obligations, end of year	54	43	46
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	39	54	43

3200 Obligated balance, end of year	54	43	46
Budget authority and outlays, net:			
Discretionary:			
4000 Budget authority, gross	304	320	347
Outlays, gross:			
4010 Outlays from new discretionary authority	279	288	312
4011 Outlays from discretionary balances	20	54	32
4020 Outlays, gross (total)	299	342	344
Offsets against gross budget authority and outlays:			
Offsetting collections (collected) from:			
4034 Offsetting governmental collections	-304	-320	-347
4180 Budget authority, net (total)			
4190 Outlays, net (total)	-5	22	-3
Memorandum (non-add) entries:			
5090 Unexpired unavailable balance, SOY: Offsetting collections	15	15	15
5092 Unexpired unavailable balance, EOY: Offsetting collections	15	15	15

The Federal Energy Regulatory Commission (Commission) regulates and oversees key interstate aspects of the electric power (including hydro-power), natural gas and oil pipeline industries. The Commission assists consumers in obtaining reliable, efficient and sustainable energy services at a reasonable cost through appropriate regulatory and market means. Regulated entities pay fees and charges sufficient to recover the Commission's full cost of operations.

Ensure Just and Reasonable Rates, Terms, and Conditions.—One of the Commission's fundamental statutory responsibilities is to ensure that rates, terms and conditions for wholesale sales and transmission of electric energy and for transportation of natural gas are just and reasonable and not unduly discriminatory or preferential. To fulfill this responsibility, the Commission uses a combination of market and regulatory means, complemented by oversight and enforcement measures. For example, the Commission seeks to improve the competitiveness of organized wholesale electric markets, which in turn encourages new entry by supply-side and demand-side resources, spurs innovation and deployment of new technologies, improves operating performance, and exerts downward pressure on costs. The Commission will continue to pursue market reforms to allow all resources to compete in jurisdictional markets on a level playing field. Another example of the Commission's use of market and regulatory means in support of this goal is found in the Commission's requirements for public utility transmission providers to participate in an open and transparent regional transmission planning process and to allocate appropriately the costs of new transmission facilities stemming from such a process. In addition, the Commission approves cost-based, and where appropriate, market-based rates for the interstate transportation of natural gas and oil on jurisdictional pipelines, and for the interstate transmission and wholesale sales of electric energy. The Commission also prevents the accumulation and exercise of market power by reviewing merger and other transactions in the electric industry to ensure that these proposals will not harm the public interest. The Commission accepts tariff provisions, as appropriate, to allow natural gas and oil pipelines and public utilities to modify their services to meet their customers' needs. Oversight and enforcement are essential complements to the Commission's approach to ensure that rates, terms and conditions of service are just and reasonable and not unduly discriminatory or preferential. The Commission will review internal compliance programs as part of its compliance audits, issue publicly available audit reports, and engage in formal and informal outreach efforts to promote effective compliance programs. Audits are planned and prioritized using a risk-based approach in order to maximize the impact of the Commission's resources. The Commission also conducts public and non-public investigations of possible violations of the statutes, regulations, rules, orders, and tariffs administered by the Commission. When violations of sufficient seriousness are discovered, the Commission attempts to resolve the investigation through settlement with appropriate sanctions and future compliance improvements before initiating further enforcement proceedings.

Promote Safe, Reliable, Secure, and Efficient Infrastructure.—The Commission plays an important role in the development of energy infra-

structure that operates efficiently, safely and reliably. One aspect of the Commission's role in energy infrastructure development stems from siting authority that includes licensing non-federal hydropower projects, certifying interstate natural gas pipelines and storage projects, authorizing liquefied natural gas (LNG) facilities, and, in certain circumstances, permitting electric transmission lines. Throughout all of these processes, the Commission's goal is to expedite application processing without compromising environmental responsibilities or public participation. The Commission encourages, and sometimes requires, project proponents to engage in early involvement with state and federal agencies, Indian tribes, affected landowners and the public. Another aspect of the Commission's role in energy infrastructure development stems from the Commission's responsibility for the safety of LNG and non-federal hydropower facilities throughout the entire life cycle of a project: design review, construction and operation. To meet this mandate, FERC primarily relies on physical inspections of the facilities. The Commission is incorporating risk-informed decision making into its dam safety program. By doing so, the Commission is focusing its resources on those structures that pose the greatest risk. The Commission also has an important role in protecting the reliability of the Nation's electric transmission grid. A Commission-certified Electric Reliability Organization (ERO) develops and enforces mandatory reliability standards, subject to the Commission's oversight and approval. The Reliability Standards development process uses an open and inclusive process that employs extensive negotiation, consultation and coordination among many stakeholders. Regional Entities may also develop regional Reliability Standards or regional modifications to a national Reliability Standard. In all such cases, the Commission must either accept or remand these filings. The Commission may also, upon its own motion or upon complaint, order the ERO to submit a proposed reliability standard or a modification of an existing reliability standard that addresses a specific reliability matter. Once proposed standards are filed, it is important that the Commission respond in a timely manner so that mandatory and enforceable standards affecting reliability can be implemented in a timely manner. In addition, the Commission will provide leadership, expertise and assistance in identifying, communicating and seeking comprehensive solutions to significant potential cyber and physical security risks to the energy infrastructure under the Commission's jurisdiction.

Mission Support through Organizational Excellence.—The public interest is best served when the Commission operates in an efficient, responsive and transparent manner. The Commission achieves this operational state by maintaining processes and providing services in accordance with governing statutes, authoritative guidance, and prevailing best practices. Facilitating understanding of how the Commission carries out its responsibilities and maintaining public trust in the Commission are important components of the Commission's commitment to organizational excellence. Trust and understanding increase acceptance of FERC decisions and reduces the potential for contentiousness toward FERC rules and regulations. Through the use of the Commission's eLibrary and eSubscriptions web pages, the public can obtain extensive information concerning documents both submitted to and issued by the Commission. The Commission also manages several social media sites to promote transparency and open communication. More generally, the Commission prioritizes resource allocations and makes prudent investments in relation to specific program activities or challenges. In meeting this commitment, the Commission is making new investments in its human capital, information technology resources, and physical infrastructure. Because Commission employees are directly responsible for achieving FERC's mission, the Commission allocates over two-thirds of its budget to directly cover the compensation costs of its employees on an annual basis. Given this significant investment, the Commission places extremely high value on its employees and is focused on ensuring their success. The Commission continues to focus its human capital efforts on the competencies and positions most affected by the potential loss of approximately 30 percent of its staff to retirement by FY 2018. The Commission will focus on the execution of its hiring processes to ensure it maxim-

izes allocated financial resources in a timely fashion. At the same time, the headquarters building is currently undergoing a complex multi-year renovation effort to realize mandated space savings with a target of completion during FY 2020. In FY 2016, the Commission is expecting to fund \$10.4 million of the project using prior year unobligated budget authority. The FY 2017 request includes increases of approximately \$16.3 million to continue the modernization effort.

Object Classification (in millions of dollars)

Identification code 089-0212-0-1-276	2015 actual	2016 est.	2017 est.
Reimbursable obligations:			
Personnel compensation:			
11.1 Full-time permanent	165	172	176
11.3 Other than full-time permanent	5	5	5
11.5 Other personnel compensation	2	2	2
11.9 Total personnel compensation	172	179	183
12.1 Civilian personnel benefits	53	54	57
21.0 Travel and transportation of persons	3	3	3
23.1 Rental payments to GSA	23	32	31
23.2 Rental payments to others	1	1	1
23.3 Communications, utilities, and miscellaneous charges	2	2	2
24.0 Printing and reproduction	2	2	2
25.1 Advisory and assistance services	8	9	11
25.2 Other services from non-Federal sources	8	8	9
25.3 Other goods and services from Federal sources	2	1	2
25.4 Operation and maintenance of facilities	2	2	2
25.7 Operation and maintenance of equipment	36	24	22
26.0 Supplies and materials	2	3	3
31.0 Equipment	1	4	6
32.0 Land and structures		7	13
99.9 Total new obligations	315	331	347

Employment Summary

Identification code 089-0212-0-1-276	2015 actual	2016 est.	2017 est.
2001 Reimbursable civilian full-time equivalent employment	1,456	1,480	1,480

CLEAN COAL TECHNOLOGY

Program and Financing (in millions of dollars)

Identification code 089-0235-0-1-271	2015 actual	2016 est.	2017 est.
Budgetary resources:			
Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	7	5	1
1029 Other balances withdrawn to Treasury		-4	
1050 Unobligated balance (total)	7	1	1
Budget authority:			
Appropriations, discretionary:			
1131 Unobligated balance of appropriations permanently reduced	-3		
Spending authority from offsetting collections, discretionary:			
1700 Collected	1		
1900 Budget authority (total)	-2		
1930 Total budgetary resources available	5	1	1
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	5	1	1
Budget authority and outlays, net:			
Discretionary:			
4000 Budget authority, gross	-2		
Offsets against gross budget authority and outlays:			
Offsetting collections (collected) from:			
4033 Non-Federal sources	-1		
4180 Budget authority, net (total)	-3		
4190 Outlays, net (total)	-1		

The Clean Coal Technology Program was established in the 1980s to perform commercial-scale demonstrations of advanced coal-based technologies. All projects have concluded and only closeout activities remain.

ULTRA-DEEPWATER AND UNCONVENTIONAL NATURAL GAS AND OTHER PETROLEUM RESEARCH FUND

Program and Financing (in millions of dollars)

Identification code 089-5523-0-2-271	2015 actual	2016 est.	2017 est.
Budgetary resources:			
Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	1	1	1
1050 Unobligated balance (total)	1	1	1
1930 Total budgetary resources available	1	1	1
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	1	1	1
Change in obligated balance:			
Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	97	48	8
3020 Outlays (gross)	-49	-40	-8
3050 Unpaid obligations, end of year	48	8	
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	97	48	8
3200 Obligated balance, end of year	48	8	
Budget authority and outlays, net:			
Mandatory:			
Outlays, gross:			
4101 Outlays from mandatory balances	49	40	8
4180 Budget authority, net (total)			
4190 Outlays, net (total)	49	40	8

The Energy Policy Act of 2005 (Public Law 109-58) created a mandatory Ultra-Deepwater and Unconventional Natural Gas and Other Petroleum Research program beginning in 2007. Subtitle J of Title IX of the Energy Policy Act of 2005 (42 U.S.C. 16371 et seq.) was repealed and all unobligated balances in this account were rescinded by the Bipartisan Budget Control Act of FY 2013.

ELK HILLS SCHOOL LANDS FUND

Special and Trust Fund Receipts (in millions of dollars)

Identification code 089-5428-0-2-271	2015 actual	2016 est.	2017 est.
0100 Balance, start of year	15		
0198 Rounding adjustment	1		
0199 Balance, start of year	16		
2000 Total: Balances and receipts	16		
Appropriations:			
Current law:			
2101 Elk Hills School Lands Fund	-16		
5099 Balance, end of year			

Program and Financing (in millions of dollars)

Identification code 089-5428-0-2-271	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0001 Elk Hills School Lands Fund (Direct)	16		
0900 Total new obligations (object class 41.0)	16		
Budgetary resources:			
Budget authority:			
Appropriations, discretionary:			
1101 Appropriation (special or trust fund)	16		
1930 Total budgetary resources available	16		
Change in obligated balance:			
Unpaid obligations:			
3010 Obligations incurred, unexpired accounts	16		
3020 Outlays (gross)	-16		
Budget authority and outlays, net:			
Discretionary:			
4000 Budget authority, gross	16		

Outlays, gross:			
4010 Outlays from new discretionary authority	16		
4180 Budget authority, net (total)	16		
4190 Outlays, net (total)	16		

The Elk Hills School Lands Fund provided a source of compensation for the California State Teachers' Retirement System as a result of a settlement with the State of California with respect to its longstanding claim to title of two sections of land within NPR-1. In 2011, the Department and the State of California agreed on the final, last payment of \$15,579,815. The final payment was appropriated and paid in FY 2015.

PAYMENTS TO STATES UNDER FEDERAL POWER ACT

Special and Trust Fund Receipts (in millions of dollars)

Identification code 089-5105-0-2-806	2015 actual	2016 est.	2017 est.
0100 Balance, start of year			
Receipts:			
Current law:			
1110 Licenses under Federal Power Act from Public Lands and National Forests, Payment to States (37 1/2%)	4	4	5
2000 Total: Balances and receipts	4	4	5
Appropriations:			
Current law:			
2101 Payments to States under Federal Power Act	-4	-4	-5
5099 Balance, end of year			

Program and Financing (in millions of dollars)

Identification code 089-5105-0-2-806	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0001 Payments to States under Federal Power Act (Direct)	4	4	5
0900 Total new obligations (object class 41.0)	4	4	5

Budgetary resources:

Budget authority:			
Appropriations, mandatory:			
1201 Appropriation (special or trust fund)	4	4	5
1930 Total budgetary resources available	4	4	5

Change in obligated balance:

Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	4	4	
3010 Obligations incurred, unexpired accounts	4	4	5
3020 Outlays (gross)	-4	-8	-5
3050 Unpaid obligations, end of year	4		
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	4	4	
3200 Obligated balance, end of year	4		

Budget authority and outlays, net:

Mandatory:			
4090 Budget authority, gross	4	4	5
Outlays, gross:			
4100 Outlays from new mandatory authority		4	5
4101 Outlays from mandatory balances	4	4	
4110 Outlays, gross (total)	4	8	5
4180 Budget authority, net (total)	4	4	5
4190 Outlays, net (total)	4	8	5

The States are paid 37.5 percent of the receipts from licenses for occupancy and use of national forests and public lands within their boundaries issued by the Federal Energy Regulatory Commission (16 U.S.C. 810).

NORTHEAST HOME HEATING OIL RESERVE

For Department of Energy expenses necessary for Northeast Home Heating Oil Reserve storage, operation, and management activities pursuant to the Energy Policy and Conservation Act (42 U.S.C. 6201 et seq.), **[\$7,600,000]** \$6,500,000, to remain available until expended. (Energy and Water Development and Related Agencies Appropriations Act, 2016.)

Special and Trust Fund Receipts (in millions of dollars)

Identification code 089-5369-0-2-274	2015 actual	2016 est.	2017 est.
0100 Balance, start of year	1	1	1
2000 Total: Balances and receipts	1	1	1
5099 Balance, end of year	1	1	1

Program and Financing (in millions of dollars)

Identification code 089-5369-0-2-274	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0001 NEHOR	4	8	7
0900 Total new obligations (object class 25.2)	4	8	7

Budgetary resources:

Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	12	10	10
1001 Discretionary unobligated balance brought fwd, Oct 1		10	
Budget authority:			
Appropriations, discretionary:			
1100 Appropriation	8	8	7
1131 Unobligated balance of appropriations permanently reduced	-6		
1160 Appropriation, discretionary (total)	2	8	7
1930 Total budgetary resources available	14	18	17
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	10	10	10

Change in obligated balance:

Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	7	4	6
3010 Obligations incurred, unexpired accounts	4	8	7
3020 Outlays (gross)	-7	-6	-11
3050 Unpaid obligations, end of year	4	6	2
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	7	4	6
3200 Obligated balance, end of year	4	6	2

Budget authority and outlays, net:

Discretionary:			
4000 Budget authority, gross	2	8	7
Outlays, gross:			
4010 Outlays from new discretionary authority		6	6
4011 Outlays from discretionary balances	7		5
4020 Outlays, gross (total)	7	6	11
4180 Budget authority, net (total)	2	8	7
4190 Outlays, net (total)	7	6	11

The Northeast Home Heating Oil Reserve provides an emergency supply of home heating oil for the Northeast States during times of inventory shortages and significant threats to immediate supply. The FY 2017 Budget continues to maintain a 1 million barrel inventory of ultra-low sulfur distillate, stored in Northeast commercial storage terminals (Groton, CT and Revere, MA), to provide a short-term emergency supplement to the Northeast systems' commercial supply of heating oil.

NUCLEAR WASTE DISPOSAL

Special and Trust Fund Receipts (in millions of dollars)

Identification code 089-5227-0-2-271	2015 actual	2016 est.	2017 est.
0100 Balance, start of year	32,413	33,836	35,671
0198 Unappropriated special fund receipt adjustment	-3		
0199 Balance, start of year	32,410	33,836	35,671
Receipts:			
Current law:			
1130 Nuclear Waste Disposal Fund		386	388
1140 Earnings on Investments, Nuclear Waste Disposal Fund	1,429	1,453	1,513
1199 Total current law receipts	1,429	1,839	1,901
1999 Total receipts	1,429	1,839	1,901
2000 Total: Balances and receipts	33,839	35,675	37,572

Appropriations:			
Current law:			
2101 Salaries and Expenses	-3	-4	-4
5099 Balance, end of year	33,836	35,671	37,568

Program and Financing (in millions of dollars)

Identification code 089-5227-0-2-271	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0001 Repository	1		
0900 Total new obligations (object class 25.1)	1		

Budgetary resources:

Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	11	13	13
1021 Recoveries of prior year unpaid obligations	3		
1050 Unobligated balance (total)	14	13	13
1930 Total budgetary resources available	14	13	13
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	13	13	13

Change in obligated balance:

Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	11	7	5
3010 Obligations incurred, unexpired accounts	1		
3020 Outlays (gross)	-2	-2	-2
3040 Recoveries of prior year unpaid obligations, unexpired	-3		
3050 Unpaid obligations, end of year	7	5	3
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	11	7	5
3200 Obligated balance, end of year	7	5	3

Budget authority and outlays, net:

Discretionary:			
Outlays, gross:			
4011 Outlays from discretionary balances	2	2	2
4180 Budget authority, net (total)			
4190 Outlays, net (total)	2	2	2

Memorandum (non-add) entries:

5000 Total investments, SOY: Federal securities: Par value	51,527	51,812	52,265
5001 Total investments, EOY: Federal securities: Par value	51,812	52,265	52,327

A new nuclear waste management approach was outlined in the Administration's January 2013 *Strategy for the Management and Disposal of Used Nuclear Fuel and High Level Radioactive Waste* and the FY 2017 Budget reflects this new Strategy. The Budget includes a proposal to implement funding reforms needed to support the new approach, which includes the collection of one-time fees anticipated to begin in the 2026 timeframe. Additional discussion of the proposal can be found in the narrative for the Department of Energy's Nuclear Energy account.

In FY 2010, the Department closed the Yucca Mountain Project and the Office of Civilian Radioactive Waste Management. Residual obligations and outlays in the Nuclear Waste Disposal account are associated with Yucca project closeout activities and remaining legacy activities such as accounting.

URANIUM SUPPLY AND ENRICHMENT ACTIVITIES

The unappropriated receipts currently in the Uranium Supply and Enrichment Activities account shall be transferred to and merged with the Uranium Enrichment Decontamination and Decommissioning Fund and shall be available only to the extent provided in advance in appropriations Acts.

Special and Trust Fund Receipts (in millions of dollars)

Identification code 089-5226-0-2-271	2015 actual	2016 est.	2017 est.
0100 Balance, start of year		861	861
0198 Unappropriated receipt adjustment	861		
0199 Balance, start of year	861	861	861
2000 Total: Balances and receipts	861	861	861

URANIUM SUPPLY AND ENRICHMENT ACTIVITIES—Continued
Special and Trust Fund Receipts—Continued

Identification code 089-5226-0-2-271	2015 actual	2016 est.	2017 est.
Appropriations:			
Current law:			
2101 Uranium Supply and Enrichment Activities			-861
5099 Balance, end of year	861	861	

Program and Financing (in millions of dollars)

Identification code 089-5226-0-2-271	2015 actual	2016 est.	2017 est.
Budgetary resources:			
Budget authority:			
Appropriations, discretionary:			
1101 Appropriation (special or trust fund)			861
1120 Appropriations transferred to other acct [089-5231]			-861
4180 Budget authority, net (total)			
4190 Outlays, net (total)			

This account funded operations of the Department's uranium enrichment facilities for commercial sales prior to 1992. These facilities are now shut down and are significantly contaminated by decades of operations for defense and non-defense activities. Under the Energy Policy Act of 1992, the Uranium Enrichment Decontamination and Decommissioning (UED&D) Fund pays, subject to appropriation, the decontamination and decommissioning costs of the Department's gaseous diffusion plants in Tennessee, Ohio, and Kentucky. The Administration proposes to transfer the amount remaining in this account to the UED&D Fund due to higher-than-expected cleanup costs. Funding so transferred will be precluded from obligation until appropriated for the authorized purpose of the UED&D Fund.

URANIUM ENRICHMENT DECONTAMINATION AND DECOMMISSIONING FUND

For Department of Energy expenses necessary in carrying out uranium enrichment facility decontamination and decommissioning, remedial actions, and other activities of title II of the Atomic Energy Act of 1954, and title X, subtitle A, of the Energy Policy Act of 1992, \$673,749,000, to be derived from the Uranium Enrichment Decontamination and Decommissioning Fund, to remain available until expended, of which \$32,959,000 shall be available in accordance with title X, subtitle A, of the Energy Policy Act of 1992. (Energy and Water Development and Related Agencies Appropriations Act, 2016.)

Special and Trust Fund Receipts (in millions of dollars)

Identification code 089-5231-0-2-271	2015 actual	2016 est.	2017 est.
0100 Balance, start of year	3,008	2,884	2,306
Receipts:			
Current law:			
1140 Earnings on Investments, Decontamination and Decommissioning Fund	38	96	92
1140 General Fund Payment - Defense, Decontamination and Decommissioning Fund	463		155
1199 Total current law receipts	501	96	247
Proposed:			
1210 Assessments, Decontamination and Decommissioning Fund			208
1240 Earnings on Investments, Decontamination and Decommissioning Fund			16
1299 Total proposed receipts			224
1999 Total receipts	501	96	471
2000 Total: Balances and receipts	3,509	2,980	2,777
Appropriations:			
Current law:			
2101 Uranium Enrichment Decontamination and Decommissioning Fund	-625	-674	
2134 Uranium Enrichment Decontamination and Decommissioning Fund			861
2199 Total current law appropriations	-625	-674	861
2999 Total appropriations	-625	-674	861

5099 Balance, end of year	2,884	2,306	3,638
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Program and Financing (in millions of dollars)

Identification code 089-5231-0-2-271	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0001 Oak Ridge	170	195	
0002 Paducah	265	200	
0003 Portsmouth	215	225	
0004 Pension and Community and Regulatory Support	23	21	
0005 Title X Uranium/Thorium Reimbursement Program	10	33	
0900 Total new obligations	683	674	
Budgetary resources:			
Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	67	9	9
Budget authority:			
Appropriations, discretionary:			
1101 Appropriation (special or trust fund)	625	674	
1121 Appropriations transferred from other acct [089-5226]			861
1134 Appropriations precluded from obligation			-861
1160 Appropriation, discretionary (total)	625	674	
1900 Budget authority (total)	625	674	
1930 Total budgetary resources available	692	683	9
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	9	9	9
Special and non-revolving trust funds:			
1955 Unobligated balances withdrawn and returned to general fund	1		
Change in obligated balance:			
Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	274	324	306
3010 Obligations incurred, unexpired accounts	683	674	
3020 Outlays (gross)	-633	-692	-306
3050 Unpaid obligations, end of year	324	306	
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	274	324	306
3200 Obligated balance, end of year	324	306	
Budget authority and outlays, net:			
Discretionary:			
4000 Budget authority, gross	625	674	
Outlays, gross:			
4010 Outlays from new discretionary authority	375	472	
4011 Outlays from discretionary balances	258	220	306
4020 Outlays, gross (total)	633	692	306
4180 Budget authority, net (total)	625	674	
4190 Outlays, net (total)	633	692	306
Memorandum (non-add) entries:			
5000 Total investments, SOY: Federal securities: Par value	3,344	3,183	2,571
5001 Total investments, EOY: Federal securities: Par value	3,183	2,571	3,263

Decontamination and Decommissioning Activities.—Funds: 1) projects to decontaminate, decommission, and remediate the sites and facilities of the gaseous diffusion plants at Portsmouth, Ohio; Paducah, Kentucky; and East Tennessee Technology Park, Oak Ridge, Tennessee; 2) pensions and post-retirement medical benefits for active and inactive gaseous diffusion plant workers.

Uranium and Thorium Reimbursement Program.—Provides reimbursement to uranium and thorium licensees for the Government's share of cleanup costs pursuant to Title X of the Energy Policy Act of 1992.

Object Classification (in millions of dollars)

Identification code 089-5231-0-2-271	2015 actual	2016 est.	2017 est.
Direct obligations:			
25.1 Advisory and assistance services	13	13	
25.2 Other services from non-Federal sources	49	48	
25.4 Operation and maintenance of facilities	619	611	
41.0 Grants, subsidies, and contributions	2	2	
99.9 Total new obligations	683	674	

URANIUM SALES AND REMEDIATION

99.9 Total new obligations 58 57 57

Program and Financing (in millions of dollars)

Identification code 089-5530-0-2-271	2015 actual	2016 est.	2017 est.
Change in obligated balance:			
Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	2	2	2
3050 Unpaid obligations, end of year	2	2	2
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	2	2	2
3200 Obligated balance, end of year	2	2	2
4180 Budget authority, net (total)			
4190 Outlays, net (total)			

The Energy and Water Development Appropriations Act of 2006 provided the Department of Energy authority to barter, transfer, or sell uranium and to use any proceeds, without fiscal year limitation, to remediate contaminated uranium inventories held by the Secretary of Energy.

ISOTOPE PRODUCTION AND DISTRIBUTION PROGRAM FUND

Program and Financing (in millions of dollars)

Identification code 089-4180-0-3-271	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0801 Isotope Production and Distribution Reimbursable program	58	57	57
Budgetary resources:			
Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	15	9	7
Budget authority:			
Spending authority from offsetting collections, discretionary:			
1700 Collected	52	55	55
1930 Total budgetary resources available	67	64	62
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	9	7	5
Change in obligated balance:			
Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	41	39	32
3010 Obligations incurred, unexpired accounts	58	57	57
3020 Outlays (gross)	-60	-64	-60
3050 Unpaid obligations, end of year	39	32	29
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	41	39	32
3200 Obligated balance, end of year	39	32	29
Budget authority and outlays, net:			
Discretionary:			
4000 Budget authority, gross	52	55	55
Outlays, gross:			
4010 Outlays from new discretionary authority	18	55	55
4011 Outlays from discretionary balances	42	9	5
4020 Outlays, gross (total)	60	64	60
Offsets against gross budget authority and outlays:			
Offsetting collections (collected) from:			
4030 Federal sources	-20	-19	-19
4033 Non-Federal sources	-32	-36	-36
4040 Offsets against gross budget authority and outlays (total)	-52	-55	-55
4080 Outlays, net (discretionary)	8	9	5
4180 Budget authority, net (total)			
4190 Outlays, net (total)	8	9	5

Object Classification (in millions of dollars)

Identification code 089-4180-0-3-271	2015 actual	2016 est.	2017 est.
Reimbursable obligations:			
25.4 Operation and maintenance of facilities	55	54	54
31.0 Equipment	2	2	2
41.0 Grants, subsidies, and contributions	1	1	1

ADVANCED TECHNOLOGY VEHICLES MANUFACTURING LOAN PROGRAM

For Department of Energy administrative expenses necessary in carrying out the Advanced Technology Vehicles Manufacturing Loan Program, **[\$6,000,000]** \$5,000,000, to remain available until September 30, **[2017]** 2018. (Energy and Water Development and Related Agencies Appropriations Act, 2016.)

Program and Financing (in millions of dollars)

Identification code 089-0322-0-1-272	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
Credit program obligations:			
0701 Direct loan subsidy	19	170	119
0706 Interest on reestimates of direct loan subsidy	15		
0709 Administrative expenses	4	6	5
0900 Total new obligations	38	176	124

Budgetary resources:

Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	4,313	4,294	4,124
1001 Discretionary unobligated balance brought fwd, Oct 1	4,313		
1050 Unobligated balance (total)	4,313	4,294	4,124
Budget authority:			
Appropriations, discretionary:			
1100 Appropriation	4	6	5
Appropriations, mandatory:			
1200 Appropriation	15		
1900 Budget authority (total)	19	6	5
1930 Total budgetary resources available	4,332	4,300	4,129
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	4,294	4,124	4,005

Change in obligated balance:

Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	28	47	176
3010 Obligations incurred, unexpired accounts	38	176	124
3020 Outlays (gross)	-19	-47	-75
3050 Unpaid obligations, end of year	47	176	225
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	28	47	176
3200 Obligated balance, end of year	47	176	225

Budget authority and outlays, net:

Discretionary:			
4000 Budget authority, gross	4	6	5
Outlays, gross:			
4010 Outlays from new discretionary authority		4	4
4011 Outlays from discretionary balances	4	43	71
4020 Outlays, gross (total)	4	47	75
Mandatory:			
4090 Budget authority, gross	15		
Outlays, gross:			
4100 Outlays from new mandatory authority	15		
4180 Budget authority, net (total)	19	6	5
4190 Outlays, net (total)	19	47	75

Summary of Loan Levels, Subsidy Budget Authority and Outlays by Program (in millions of dollars)

Identification code 089-0322-0-1-272	2015 actual	2016 est.	2017 est.
Direct loan levels supportable by subsidy budget authority:			
115001 Direct Auto Loans	259	3,400	2,500
Direct loan subsidy (in percent):			
132001 Direct Auto Loans	7.28	5.01	4.75
132999 Weighted average subsidy rate	7.28	5.01	4.75
Direct loan subsidy budget authority:			
133001 Direct Auto Loans	19	170	119
Direct loan subsidy outlays:			
134001 Direct Auto Loans		43	69
Direct loan reestimates:			
135001 Direct Auto Loans	-4	-12	
Administrative expense data:			
3580 Outlays from balances	2		
3590 Outlays from new authority	2		

ADVANCED TECHNOLOGY VEHICLES MANUFACTURING LOAN PROGRAM—Continued

Section 136 of the Energy Independence and Security Act of 2007 established a direct loan program to support the development of advanced technology vehicles and associated components in the United States, known as the Advanced Technology Vehicles Manufacturing Loan Program (ATVM). The 2009 Continuing Resolution (CR), enacted on September 30, 2008, appropriated \$7.5 billion to support a maximum of \$25 billion in loans under the ATVM. The ATVM provides loans to automobile and automobile part manufacturers for the cost of re-equipping, expanding, or establishing manufacturing facilities in the United States to produce advanced technology vehicles or qualified components and for associated engineering integration costs.

The FY 2017 Budget reflects placeholder estimates for direct loan subsidy costs. These estimates are not related to any specific project proposals. DOE will calculate the credit subsidy cost of any direct loan on a case-by-case basis in accordance with Federal Credit Reform Act of 1990 (FCRA) and OMB Circular A-11. For any project, the terms and conditions of the loan, the risks associated with the project, and any other factor that affects the amount and timing of such cash flows will affect the credit subsidy cost calculations.

The Department requests \$5,000,000 in FY 2017 to operate ATVM and support personnel and associated costs. To ensure that the Department meets statutory and regulatory requirements and implements effective management and oversight of its direct loan activities, program funding also will support the procurement of providers of outside expertise in areas such as finance, project engineering, and commercial market assessment. The costs of these outside advisors are paid from the ATVM administrative budget.

As required by the Federal Credit Reform Act of 1990, this account records, for this program, the subsidy costs associated with the direct loans committed in 1992 and beyond (including modifications of direct loans that resulted from obligations or commitments in any year), as well as the administrative expenses of this program. The subsidy amounts are estimated on a present value basis; the administrative expenses are estimated on a cash basis.

Object Classification (in millions of dollars)

Identification code 089-0322-0-1-272	2015 actual	2016 est.	2017 est.
Direct obligations:			
11.1 Personnel compensation: Full-time permanent	1	2	2
25.1 Advisory and assistance services	1	2	1
25.3 Other goods and services from Federal sources	2	2	2
41.0 Grants, subsidies, and contributions	34	170	119
99.9 Total new obligations	38	176	124

Employment Summary

Identification code 089-0322-0-1-272	2015 actual	2016 est.	2017 est.
1001 Direct civilian full-time equivalent employment	7	14	16

ADVANCED TECHNOLOGY VEHICLES MANUFACTURING DIRECT LOAN FINANCING ACCOUNT

Program and Financing (in millions of dollars)

Identification code 089-4579-0-3-272	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
Credit program obligations:			
0710 Direct loan obligations	259	3,400	2,500
0713 Payment of interest to Treasury	1	1	2
0715 Interest paid to FFB	128	129	159
0742 Downward reestimate paid to receipt account	19	11	.....
0743 Interest on downward reestimates .....	.....	1	.....
0900 Total new obligations	407	3,542	2,661

Budgetary resources:

Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	179	182	962
1023 Unobligated balances applied to repay debt	-129	.....	.....
1050 Unobligated balance (total)	50	182	962
Financing authority:			
Borrowing authority, mandatory:			
1400 Borrowing authority	262	3,410	2,505
Spending authority from offsetting collections, mandatory:			
1800 Collected	779	784	848
1801 Change in uncollected payments, Federal sources	19	128	50
1825 Spending authority from offsetting collections applied to repay debt	-521	.....	.....
1850 Spending auth from offsetting collections, mand (total)	277	912	898
1900 Budget authority (total)	539	4,322	3,403
1930 Total budgetary resources available	589	4,504	4,365
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	182	962	1,704

Change in obligated balance:

Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	781	1,040	3,705
3010 Obligations incurred, unexpired accounts	407	3,542	2,661
3020 Outlays (gross)	-148	-877	-1,688
3050 Unpaid obligations, end of year	1,040	3,705	4,678
Uncollected payments:			
3060 Uncollected pymts, Fed sources, brought forward, Oct 1	-24	-43	-171
3070 Change in uncollected pymts, Fed sources, unexpired	-19	-128	-50
3090 Uncollected pymts, Fed sources, end of year	-43	-171	-221
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	757	997	3,534
3200 Obligated balance, end of year	997	3,534	4,457

Financing authority and disbursements, net:

Mandatory:			
4090 Budget authority, gross	539	4,322	3,403
Financing disbursements:			
4110 Outlays, gross (total)	148	877	1,688
Offsets against gross financing authority and disbursements:			
Offsetting collections (collected) from:			
4120 Payment from program account .....	.....	-43	-69
4120 Interest on Reestimate	-15	.....	.....
4122 Interest on uninvested funds	-5	-13	-34
4123 Non-Federal sources (interest)	-109	-98	-110
4123 Non-Federal sources (principal)	-650	-626	-632
4123 Other Income - Fees .....	.....	-4	-3
4130 Offsets against gross budget authority and outlays (total)	-779	-784	-848
Additional offsets against financing authority only (total):			
4140 Change in uncollected pymts, Fed sources, unexpired	-19	-128	-50
4160 Budget authority, net (mandatory)	-259	3,410	2,505
4170 Outlays, net (mandatory)	-631	93	840
4180 Budget authority, net (total)	-259	3,410	2,505
4190 Outlays, net (total)	-631	93	840

Status of Direct Loans (in millions of dollars)

Identification code 089-4579-0-3-272	2015 actual	2016 est.	2017 est.
Position with respect to appropriations act limitation on obligations:			
1121 Limitation available from carry-forward	16,939	16,680	13,280
1143 Unobligated limitation carried forward (PL 110-329) (-)	-16,680	-13,280	-10,780
1150 Total direct loan obligations	259	3,400	2,500
Cumulative balance of direct loans outstanding:			
1210 Outstanding, start of year	5,160	4,510	4,619
1231 Disbursements: Direct loan disbursements .....	.....	735	1,526
1251 Repayments: Repayments and prepayments	-650	-626	-632
1290 Outstanding, end of year	4,510	4,619	5,513

Balance Sheet (in millions of dollars)

Identification code 089-4579-0-3-272	2014 actual	2015 actual
ASSETS:		
Federal assets:		
1101 Fund balances with Treasury	155	139
Investments in US securities:		
1106 Receivables, net	28	9
Net value of assets related to post-1991 direct loans receivable:		
1401 Direct loans receivable, gross	5,160	4,510

1402	Interest receivable	5	4
1405	Allowance for subsidy cost (-)	-128	-102
1499	Net present value of assets related to direct loans	5,037	4,412
1999	Total assets	5,220	4,560
LIABILITIES:			
Federal liabilities:			
2101	Accounts payable	33	20
2103	Debt	5,187	4,540
2999	Total liabilities	5,220	4,560
4999	Total upward reestimate subsidy BA [89-0322]	5,220	4,560

TITLE 17 INNOVATIVE TECHNOLOGY LOAN GUARANTEE PROGRAM

[Such] Subject to section 502 of the Congressional Budget Act of 1974, commitments to guarantee loans under title XVII of the Energy Policy Act of 2005 shall not exceed a total principal amount of \$4,000,000,000 for eligible projects, to remain available until committed: Provided, That such amounts are in addition to those provided in any other Act: Provided further, That such sums as are derived from amounts received from borrowers pursuant to section 1702(b) of the Energy Policy Act of 2005 under this heading in prior Acts, shall be collected in accordance with section 502(7) of the Congressional Budget Act of 1974: Provided, That, for necessary administrative expenses to carry out this Loan Guarantee program, **[\$42,000,000]** \$37,000,000 is appropriated from fees collected in prior years pursuant to section 1702(h) of the Energy Policy Act of 2005 which are not otherwise appropriated, to remain available until September 30, **[2017]** 2018: Provided further, That if the amount in the previous proviso is not available from such fees, an amount for such purposes is also appropriated from the general fund so as to result in a total amount appropriated for such purpose of no more than \$37,000,000: Provided further, That **[\$25,000,000 of the]** fees collected pursuant to such section 1702(h) **[of the Energy Policy Act of 2005]** for fiscal year 2017 shall be credited as offsetting collections **[to this account to cover administrative expenses and shall remain available until expended, so as to result in a final fiscal year 2016 appropriation from the general fund estimated at not more than \$17,000,000: Provided further, That fees collected under section 1702(h) in excess of the amount appropriated for administrative expenses]** under this heading and shall not be available until appropriated: Provided further, That the Department of Energy shall not subordinate any loan obligation to other financing in violation of section 1702 of the Energy Policy Act of 2005 or subordinate any Guaranteed Obligation to any loan or other debt obligations in violation of section 609.10 of title 10, Code of Federal Regulations. (Energy and Water Development and Related Agencies Appropriations Act, 2016.)

Program and Financing (in millions of dollars)

Identification code 089-0208-0-1-271	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
Credit program obligations:			
0701	Direct loan subsidy	28	27
0705	Reestimates of direct loan subsidy	5	4
0706	Interest on reestimates of direct loan subsidy	41	37
0709	Administrative expenses	37	42
0900	Total new obligations	83	111
Budgetary resources:			
Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	629	667
1001	Discretionary unobligated balance brought fwd, Oct 1	128	667
1021	Recoveries of prior year unpaid obligations	31	
1050	Unobligated balance (total)	660	667
Budget authority:			
Appropriations, discretionary:			
1100	Appropriation	31	
Appropriations, mandatory:			
1200	Appropriation	46	41
Spending authority from offsetting collections, discretionary:			
1700	Collected	12	43
1701	Change in uncollected payments, Federal sources	1	-1
1702	Offsetting collections (previously unavailable)		37
1725	Spending authority from offsetting collections precluded from obligation (limitation on obligations)		-27
1750	Spending auth from offsetting collections, disc (total)	13	42
1900	Budget authority (total)	90	83
1930	Total budgetary resources available	750	750

1941	Memorandum (non-add) entries: Unexpired unobligated balance, end of year	667	639	612
Change in obligated balance:				
Unpaid obligations:				
3000	Unpaid obligations, brought forward, Oct 1	128	65	77
3010	Obligations incurred, unexpired accounts	83	111	64
3020	Outlays (gross)	-115	-99	-103
3040	Recoveries of prior year unpaid obligations, unexpired	-31		
3050	Unpaid obligations, end of year	65	77	38
Uncollected payments:				
3060	Uncollected pymts, Fed sources, brought forward, Oct 1		-1	
3070	Change in uncollected pymts, Fed sources, unexpired	-1	1	
3090	Uncollected pymts, Fed sources, end of year	-1		
Memorandum (non-add) entries:				
3100	Obligated balance, start of year	128	64	77
3200	Obligated balance, end of year	64	77	38

Budget authority and outlays, net:

Discretionary:				
4000	Budget authority, gross	44	42	37
Outlays, gross:				
4010	Outlays from new discretionary authority	27	42	37
4011	Outlays from discretionary balances	42	16	66
4020	Outlays, gross (total)	69	58	103
Offsets against gross budget authority and outlays:				
Offsetting collections (collected) from:				
4030	Federal sources	-1	-1	
4033	Non-Federal sources	-11	-42	-27
4040	Offsets against gross budget authority and outlays (total) ...	-12	-43	-27
Additional offsets against gross budget authority only:				
4050	Change in uncollected pymts, Fed sources, unexpired	-1	1	
4070	Budget authority, net (discretionary)	31		10
4080	Outlays, net (discretionary)	57	15	76
Mandatory:				
4090	Budget authority, gross	46	41	
Outlays, gross:				
4100	Outlays from new mandatory authority	46	41	
4180	Budget authority, net (total)	77	41	10
4190	Outlays, net (total)	103	56	76
Memorandum (non-add) entries:				
5090	Unexpired unavailable balance, SOY: Offsetting collections	47	47	47
5092	Unexpired unavailable balance, EOY: Offsetting collections	47	47	37

Summary of Loan Levels, Subsidy Budget Authority and Outlays by Program (in millions of dollars)

Identification code 089-0208-0-1-271	2015 actual	2016 est.	2017 est.
Direct loan levels supportable by subsidy budget authority:			
115001	Section 1703 FFB Loans (Self Pay)	1,691	8,000
115003	Section 1703 FFB Loans (EERE)		200
115999	Total direct loan levels	1,691	8,200
Direct loan subsidy (in percent):			
132001	Section 1703 FFB Loans (Self Pay)	-1.24	0.00
132003	Section 1703 FFB Loans (EERE)		14.06
132999	Weighted average subsidy rate	-1.24	0.34
Direct loan subsidy budget authority:			
133001	Section 1703 FFB Loans (Self Pay)	-21	
133003	Section 1703 FFB Loans (EERE)		28
133999	Total subsidy budget authority	-21	28
Direct loan subsidy outlays:			
134001	Section 1703 FFB Loans (Self Pay)	-64	-48
134002	Section 1705 FFB Loans	19	8
134003	Section 1703 FFB Loans (EERE)		4
134999	Total subsidy outlays	-45	-36
Direct loan reestimates:			
135001	Section 1703 FFB Loans (Self Pay)	5	-14
135002	Section 1705 FFB Loans	-67	15
135999	Total direct loan reestimates	-62	1
Guaranteed loan subsidy outlays:			
234002	Section 1705 Loan Guarantees	13	
234999	Total subsidy outlays	13	
Guaranteed loan reestimates:			
235002	Section 1705 Loan Guarantees	-24	-71
235999	Total guaranteed loan reestimates	-24	-71

TITLE 17 INNOVATIVE TECHNOLOGY LOAN GUARANTEE PROGRAM—Continued
Summary of Loan Levels, Subsidy Budget Authority and Outlays by Program—Continued

Identification code 089-0208-0-1-271	2015 actual	2016 est.	2017 est.
Administrative expense data:			
3590 Outlays from new authority	25		

The Loan Programs Office (LPO) will consider and coordinate Departmental action on all loan guarantee applications submitted to the Department of Energy in compliance with Title XVII of the Energy Policy Act of 2005 (EPA Act of 2005). Section 1703 of that Act authorizes the Department to provide loan guarantees for projects in categories including renewable energy systems, advanced nuclear facilities, coal gasification, carbon sequestration, energy efficiency, and various other types of projects. These projects must avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases; employ new or significantly improved technologies compared to commercial technologies in service in the United States at the time the guarantee is issued; and offer a reasonable prospect of repayment of the principal and interest on the guaranteed obligation. DOE has been implementing Section 1703 of this program under authorizing law that allows borrowers to pay the credit subsidy costs of these loan guarantees ("self-pay" authority).

Section 406 of the American Recovery and Reinvestment Act of 2009, P.L. No. 111-5 (the "Recovery Act"), amended the LGPO's authorizing legislation, by establishing Section 1705, a temporary program for the rapid deployment of renewable energy and electric power transmission projects. For the Section 1705 program, \$2.435 billion (after rescissions and transfers) in appropriated credit subsidy was provided, which allowed the Secretary to make loan guarantees available for the following categories of projects that commenced construction not later than September 30, 2011: renewable energy systems, including incremental hydropower, that generate electricity or thermal energy, and facilities that manufacture related components; electric power transmission systems, including upgrading and reconducting projects; and leading edge biofuel projects that will use technologies performing at the pilot or demonstrations scale that the Secretary determines are likely to become commercial technologies and will produce transportation fuels that substantially reduce life-cycle greenhouse gas emissions compared to other transportation fuels. The authority to enter into loan guarantees under Section 1705 expired on September 30, 2011.

The decision to issue loan guarantees depends on the merits and benefits of particular project proposals and their compliance with statutory and regulatory requirements.

As of January 2016, \$24.9 billion in self-pay loan guarantee authority is available to support projects eligible under Section 1703. In addition, the FY 2011 full-year continuing resolution provided \$170 million in appropriated credit subsidy for Section 1703 loan guarantees for energy efficiency and renewable energy projects. Loan volume utilized may not be reused. The FY 2017 Budget includes a request for \$4,000,000,000 in additional loan authority and reflects estimates based on illustrative examples, unrelated to any specific project.

The Loan Programs Office will ensure all processes and criteria are applied uniformly in accordance with established requirements, procedures and guidelines. The Department requests \$37,000,000 in FY 2017 to operate the Office and support personnel and associated costs. This request is intended to be offset by \$27,000,000 in collections authorized under the EPA Act of 2005. To ensure that the Department meets statutory and regulatory requirements and implements effective management and oversight of its loan guarantee activities, program funding also will support the procurement of outside expertise in areas such as finance, project engineering, and commercial market assessment. The costs of these outside advisors are paid for by applicants to the Section 1703 Loan Guarantee Program.

As required by the Federal Credit Reform Act of 1990, this account records, for this program, the subsidy costs associated with loan guarantees committed in 1992 and beyond (including modifications of direct loans or

loan guarantees that resulted from obligations or commitments in any year), as well as the administrative expenses of this program. The subsidy amounts are estimated on a present value basis; the administrative expenses are estimated on a cash basis.

Object Classification (in millions of dollars)

Identification code 089-0208-0-1-271	2015 actual	2016 est.	2017 est.
Direct obligations:			
Personnel compensation:			
11.1 Full-time permanent	9	10	10
11.3 Other than full-time permanent	1	1	
11.9 Total personnel compensation	10	11	10
12.1 Civilian personnel benefits	3	3	4
25.1 Advisory and assistance services	21	21	22
25.3 Other goods and services from Federal sources	2	2	
41.0 Grants, subsidies, and contributions	46	74	28
99.0 Direct obligations	82	111	64
99.5 Adjustment for rounding	1		
99.9 Total new obligations	83	111	64

Employment Summary

Identification code 089-0208-0-1-271	2015 actual	2016 est.	2017 est.
1001 Direct civilian full-time equivalent employment	83	120	120

TITLE 17 INNOVATIVE TECHNOLOGY DIRECT LOAN FINANCING ACCOUNT

Program and Financing (in millions of dollars)

Identification code 089-4455-0-3-271	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
Credit program obligations:			
0710 Direct loan obligations	1,691	8,200	3,100
0713 Payment of interest to Treasury	5	8	10
0715 Interest paid to FFB	326	363	520
0740 Negative subsidy obligations	21		
0742 Downward reestimate paid to receipt account	107	32	
0743 Interest on downward reestimates	1	8	
0900 Total new obligations	2,151	8,611	3,630
Budgetary resources:			
Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	1,249	1,107	1,669
1021 Recoveries of prior year unpaid obligations	156		
1023 Unobligated balances applied to repay debt	-494	-670	-146
1024 Unobligated balance of borrowing authority withdrawn	-156		
1050 Unobligated balance (total)	755	437	1,523
Financing authority:			
Borrowing authority, mandatory:			
1400 Borrowing authority	1,757	8,295	3,198
Spending authority from offsetting collections, mandatory:			
1800 Collected	1,031	1,687	867
1801 Change in uncollected payments, Federal sources	-44	16	16
1825 Spending authority from offsetting collections applied to repay debt	-241	-155	-18
1850 Spending auth from offsetting collections, mand (total)	746	1,548	865
1900 Budget authority (total)	2,503	9,843	4,063
1930 Total budgetary resources available	3,258	10,280	5,586
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	1,107	1,669	1,956
Change in obligated balance:			
Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	5,127	4,249	9,995
3010 Obligations incurred, unexpired accounts	2,151	8,611	3,630
3020 Outlays (gross)	-2,873	-2,865	-5,972
3040 Recoveries of prior year unpaid obligations, unexpired	-156		
3050 Unpaid obligations, end of year	4,249	9,995	7,653
Uncollected payments:			
3060 Uncollected pymts, Fed sources, brought forward, Oct 1	-91	-47	-63
3070 Change in uncollected pymts, Fed sources, unexpired	44	-16	-16
3090 Uncollected pymts, Fed sources, end of year	-47	-63	-79

Memorandum (non-add) entries:				
3100	Obligated balance, start of year	5,036	4,202	9,932
3200	Obligated balance, end of year	4,202	9,932	7,574

Financing authority and disbursements, net:				
Mandatory:				
4090	Budget authority, gross	2,503	9,843	4,063
Financing disbursements:				
4110	Outlays, gross (total)	2,873	2,865	5,972
Offsets against gross financing authority and disbursements:				
Offsetting collections (collected) from:				
4120	Payment from program account	-19	-12	-38
4120	Upward reestimate	-5	-4	.....
4120	Interest on reestimate	-41	-37	.....
4122	Interest on uninvested funds	-75	-76	-139
4123	Interest payments	-303	-298	-301
4123	Principal payments	-588	-569	-127
4123	Fees .....	.....	-691	-262
4130	Offsets against gross budget authority and outlays (total)	-1,031	-1,687	-867
Additional offsets against financing authority only (total):				
4140	Change in uncollected pymts, Fed sources, unexpired	44	-16	-16
4160	Budget authority, net (mandatory)	1,516	8,140	3,180
4170	Outlays, net (mandatory)	1,842	1,178	5,105
4180	Budget authority, net (total)	1,516	8,140	3,180
4190	Outlays, net (total)	1,842	1,178	5,105

Status of Direct Loans (in millions of dollars)

Identification code 089-4455-0-3-271				
		2015 actual	2016 est.	2017 est.
Position with respect to appropriations act limitation on obligations:				
1121	Limitation available from carry-forward	6,184	8,200	3,100
1143	Unobligated limitation carried forward (PL. xx) (-)	-4,493	.....	.....
1150	Total direct loan obligations	1,691	8,200	3,100
Cumulative balance of direct loans outstanding:				
1210	Outstanding, start of year	9,869	11,630	13,450
1231	Disbursements: Direct loan disbursements	2,370	2,370	2,407
1251	Repayments: Repayments and prepayments	-609	-569	-127
1261	Adjustments: Capitalized interest .....	.....	19	155
1290	Outstanding, end of year	11,630	13,450	15,885

Balance Sheet (in millions of dollars)

Identification code 089-4455-0-3-271				
		2014 actual	2015 actual	
ASSETS:				
Federal assets:				
1101	Fund balances with Treasury	1,159	1,060	
Investments in US securities:				
1106	Receivables, net	127	213	
Net value of assets related to post-1991 direct loans receivable:				
1401	Direct loans receivable, gross	9,869	11,630	
1402	Interest receivable	50	67	
1405	Allowance for subsidy cost (-)	-1,549	-1,597	
1499	Net present value of assets related to direct loans	8,370	10,100	
1999	Total assets	9,656	11,373	
LIABILITIES:				
Federal liabilities:				
2101	Accounts payable	196	168	
2103	Debt	9,460	11,205	
2999	Total liabilities	9,656	11,373	
4999	Total liabilities and net position	9,656	11,373	

ACCELERATING CLEAN ENERGY INNOVATION AT THE DEPARTMENT OF ENERGY

At the 2015 Paris climate summit, the President along with other world leaders announced Mission Innovation, an initiative to dramatically accelerate public and private global clean energy innovation to address global climate change; provide affordable clean energy to consumers, including in the developing world; and create additional commercial opportunities in clean energy. To support this initiative, the U.S. is seeking to double its government-wide clean energy research and development funding over five years, from \$6.4 billion in FY 2016 to \$12.8 billion in FY 2021. The FY 2017 Budget demonstrates the strength of the U.S. commitment to this

pledge by providing \$7.7 billion for a portfolio of investments that spans the full range of clean energy R&D activities, from basic research to demonstration, across 12 agencies. Reaching \$12.8 billion by FY 2021 will require the equivalent of an almost 15 percent year-over-year increase in clean energy R&D funding in each of the five years of the pledge. The FY 2017 Budget goes beyond this with a down payment of a 20 percent increase. The Budget also reflects the required growth in the outyears by including incremental increases in the DOE and the government-wide accounts for accelerating clean energy innovation. Specific government-wide contributions toward the pledge and the allocation of that contribution across all participating agencies will be revisited and established in annual Budgets.

TITLE 17 INNOVATIVE TECHNOLOGY GUARANTEED LOAN FINANCING ACCOUNT

Program and Financing (in millions of dollars)

Identification code 089-4577-0- -271				
		2015 actual	2016 est.	2017 est.
Obligations by program activity:				
Credit program obligations:				
0711	Default claim payments on principal .....	.....	14	9
0712	Default claim payments on interest .....	.....	4	4
0742	Downward reestimate paid to receipt account	21	64	.....
0743	Interest on downward reestimates	3	8	.....
0900	Total new obligations	24	90	13
Budgetary resources:				
Unobligated balance:				
1000	Unobligated balance brought forward, Oct 1	256	233	148
Financing authority:				
Spending authority from offsetting collections, mandatory:				
1800	Collected	19	5	13
1801	Change in uncollected payments, Federal sources	-18	.....	.....
1850	Spending auth from offsetting collections, mand (total)	1	5	13
1930	Total budgetary resources available	257	238	161
Memorandum (non-add) entries:				
1941	Unexpired unobligated balance, end of year	233	148	148
Change in obligated balance:				
Unpaid obligations:				
3010	Obligations incurred, unexpired accounts	24	90	13
3020	Outlays (gross)	-24	-90	-13
Uncollected payments:				
3060	Uncollected pymts, Fed sources, brought forward, Oct 1	-27	-9	-9
3070	Change in uncollected pymts, Fed sources, unexpired	18	.....	.....
3090	Uncollected pymts, Fed sources, end of year	-9	-9	-9
Memorandum (non-add) entries:				
3100	Obligated balance, start of year	-27	-9	-9
3200	Obligated balance, end of year	-9	-9	-9
Financing authority and disbursements, net:				
Mandatory:				
4090	Budget authority, gross	1	5	13
Financing disbursements:				
4110	Outlays, gross (total)	24	90	13
Offsets against gross financing authority and disbursements:				
Offsetting collections (collected) from:				
4120	Payment from program account	-13	.....	.....
4122	Interest on uninvested funds	-6	-5	-4
4123	Principal payments .....	.....	.....	-7
4123	Interest Payments .....	.....	.....	-2
4130	Offsets against gross budget authority and outlays (total)	-19	-5	-13
Additional offsets against financing authority only (total):				
4140	Change in uncollected pymts, Fed sources, unexpired	18	.....	.....
4170	Outlays, net (mandatory)	5	85	.....
4180	Budget authority, net (total) .....	.....	.....	.....
4190	Outlays, net (total)	5	85	.....

Status of Guaranteed Loans (in millions of dollars)

Identification code 089-4577-0- -271				
		2015 actual	2016 est.	2017 est.
Position with respect to appropriations act limitation on commitments:				
2121	Limitation available from carry-forward .....	.....	.....	.....

TITLE 17 INNOVATIVE TECHNOLOGY GUARANTEED LOAN FINANCING
ACCOUNT—Continued

Status of Guaranteed Loans—Continued

Identification code 089-4577-0-271	2015 actual	2016 est.	2017 est.
2143 Uncommitted limitation carried forward			
2150 Total guaranteed loan commitments			
Cumulative balance of guaranteed loans outstanding:			
2210 Outstanding, start of year	3,224	3,086	2,944
2231 Disbursements of new guaranteed loans	266		
2251 Repayments and prepayments	-404	-128	-134
2261 Adjustments: Terminations for default that result in loans receivable		-14	-9
2290 Outstanding, end of year	3,086	2,944	2,801
Memorandum:			
2299 Guaranteed amount of guaranteed loans outstanding, end of year	2,469	2,355	2,241
Addendum:			
Cumulative balance of defaulted guaranteed loans that result in loans receivable:			
2310 Outstanding, start of year	3		18
2331 Disbursements for guaranteed loan claims		14	9
2351 Repayments of loans receivable			-8
2364 Other adjustments, net	-3	4	4
2390 Outstanding, end of year		18	23

Balance Sheet (in millions of dollars)

Identification code 089-4577-0-271	2014 actual	2015 actual
ASSETS:		
Federal assets:		
1101 Fund balances with Treasury	229	225
Investments in US securities:		
1106 Receivables, net		
1501 Net value of assets related to post-1991 acquired defaulted guaranteed loans receivable: Defaulted guaranteed loans receivable, gross	3	
1999 Total assets	232	225
LIABILITIES:		
2101 Federal liabilities: Accounts payable	21	70
2204 Non-Federal liabilities: Liabilities for loan guarantees	211	155
2999 Total liabilities	232	225
4999 Total liabilities and net position	232	225

POWER MARKETING ADMINISTRATION

Federal Funds

OPERATION AND MAINTENANCE, ALASKA POWER ADMINISTRATION

The Alaska Power Administration (APA) was created in 1967 by the Secretary of the Interior to assume the functions of the Bureau of Reclamation in Alaska. These functions include operations, maintenance, transmission, and power marketing of the two Federal hydroelectric projects (Eklutna and Snettisham), and the investigation of future water and power development programs. All Alaska activities of APA, including the Juneau headquarters office, were terminated on September 30, 1998. A fund is maintained to liquidate the remaining obligations of the APA.

OPERATION AND MAINTENANCE, SOUTHEASTERN POWER ADMINISTRATION

For expenses necessary for operation and maintenance of power transmission facilities and for marketing electric power and energy, including transmission wheeling and ancillary services, pursuant to section 5 of the Flood Control Act of 1944 (16 U.S.C. 825s), as applied to the southeastern power area, **[\$6,900,000] \$1,000,000**, including official reception and representation expenses in an amount not to exceed \$1,500, to remain available until expended: *Provided*, That notwithstanding 31 U.S.C. 3302 and section 5 of the Flood Control Act of 1944, up to **[\$6,900,000] \$1,000,000** collected by the Southeastern Power Administration from the sale of

power and related services shall be credited to this account as discretionary offsetting collections, to remain available until expended for the sole purpose of funding the annual expenses of the Southeastern Power Administration: *Provided further*, That the sum herein appropriated for annual expenses shall be reduced as collections are received during the fiscal year so as to result in a final fiscal year **[2016] 2017** appropriation estimated at not more than \$0: *Provided further*, That notwithstanding 31 U.S.C. 3302, up to **[\$66,500,000] \$60,760,000** collected by the Southeastern Power Administration pursuant to the Flood Control Act of 1944 to recover purchase power and wheeling expenses shall be credited to this account as offsetting collections, to remain available until expended for the sole purpose of making purchase power and wheeling expenditures: *Provided further*, That for purposes of this appropriation, annual expenses means expenditures that are generally recovered in the same year that they are incurred (excluding purchase power and wheeling expenses). (*Energy and Water Development and Related Agencies Appropriations Act, 2016.*)

Program and Financing (in millions of dollars)

Identification code 089-0302-0-1-271	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0801 Purchase Power and Wheeling	49	67	61
0802 Annual Expenses and other costs repaid in one year	6	7	6
0900 Total new obligations	55	74	67
Budgetary resources:			
Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	17	14	14
Budget authority:			
Spending authority from offsetting collections, discretionary:			
1700 Collected	52	74	67
1930 Total budgetary resources available	69	88	81
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	14	14	14
Change in obligated balance:			
Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	7	9	9
3010 Obligations incurred, unexpired accounts	55	74	67
3020 Outlays (gross)	-53	-74	-72
3050 Unpaid obligations, end of year	9	9	4
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	7	9	9
3200 Obligated balance, end of year	9	9	4
Budget authority and outlays, net:			
Discretionary:			
4000 Budget authority, gross	52	74	67
Outlays, gross:			
4010 Outlays from new discretionary authority	32	71	64
4011 Outlays from discretionary balances	21	3	8
4020 Outlays, gross (total)	53	74	72
Offsets against gross budget authority and outlays:			
Offsetting collections (collected) from:			
4033 Non-Federal sources	-52	-74	-67
4040 Offsets against gross budget authority and outlays (total)	-52	-74	-67
4180 Budget authority, net (total)			
4190 Outlays, net (total)	1		5

The Southeastern Power Administration (Southeastern) markets power generated at 22 U.S. Army Corps of Engineers' hydroelectric generating plants in an eleven-State area of the Southeast. Power deliveries are made by means of contracting for use of transmission facilities owned by others.

Southeastern sells wholesale power primarily to publicly and cooperatively-owned electric distribution utilities. Southeastern does not own or operate any transmission facilities. Its long-term contracts provide for periodic electric rate adjustments to ensure that the Federal Government recovers the costs of operations and the capital invested in power facilities, with interest, in keeping with statutory requirements. As in past years, the budget continues to provide funding for annual expenses and purchase power and wheeling expenses through discretionary offsetting collections derived from power receipts collected to recover those expenses.

Program Direction.—Provision is made for negotiation and administration of transmission and power contracts, collection of revenues, accounting and budget activities, development of wholesale power rates, amortization

of the Federal power investment, energy efficiency and competitiveness program, investigation and planning of proposed water resources projects, scheduling and dispatch of power generation, scheduling storage and release of water, administration of contractual operation requirements, and determination of methods of operating generating plants individually and in coordination with others to obtain maximum utilization of resources.

Purchase Power and Wheeling.—Provision is made for the payment of wheeling fees and for the purchase of electricity in connection with the disposal of power under contracts with utility companies. Customers are encouraged to use alternative funding mechanisms, including customer advances and net billing to finance these activities. Offsetting collections to fund these ongoing operating services are also available up to \$60.8 million in 2017.

Reimbursable Program.—The Consolidated Appropriations Act, 2008 (P.L. No. 110–161) provided Southeastern with authority to accept advance payment from customers for reimbursable work associated with operations and maintenance activities, consistent with those authorized in section 5 of the Flood Control Act of 1944. Funds received from any State, municipality, corporation, association, firm, district or individual as an advance payment for reimbursable work will be credited to Southeastern's account and remain available until expended.

Object Classification (in millions of dollars)

Identification code 089–0302–0–1–271	2015 actual	2016 est.	2017 est.
Reimbursable obligations:			
11.1 Personnel compensation: Full-time permanent	5	5	5
25.2 Purchase Power and Wheeling	50	69	62
99.0 Reimbursable obligations	55	74	67
99.9 Total new obligations	55	74	67

Employment Summary

Identification code 089–0302–0–1–271	2015 actual	2016 est.	2017 est.
1001 Direct civilian full-time equivalent employment	36	44	44

CONTINUING FUND, SOUTHEASTERN POWER ADMINISTRATION

A continuing fund maintained from receipts from the sale and transmission of electric power in the Southeastern service area is available to defray emergency expenses necessary to ensure continuity of service (16 U.S.C. 825s-2). The fund was last activated in fiscal year 2009 to finance power purchases associated with below normal hydro power generation due to severe drought. Consistent with sound business practices, the Southeastern Power Administration has implemented a policy to recover all emergency costs associated with purchased power and wheeling within one year from the time funds are expended.

OPERATION AND MAINTENANCE, SOUTHWESTERN POWER ADMINISTRATION

For expenses necessary for operation and maintenance of power transmission facilities and for marketing electric power and energy, for construction and acquisition of transmission lines, substations and appurtenant facilities, and for administrative expenses, including official reception and representation expenses in an amount not to exceed \$1,500 in carrying out section 5 of the Flood Control Act of 1944 (16 U.S.C. 825s), as applied to the Southwestern Power Administration, **[\$47,361,000]** \$45,643,000, to remain available until expended: *Provided*, That notwithstanding 31 U.S.C. 3302 and section 5 of the Flood Control Act of 1944 (16 U.S.C. 825s), up to **[\$35,961,000]** \$34,586,000 collected by the Southwestern Power Administration from the sale of power and related services shall be credited to this account as discretionary offsetting collections, to remain available until expended, for the sole purpose of funding the annual expenses of the Southwestern Power Administration: *Provided further*, That the sum herein appropriated for annual expenses shall be reduced as collections are received during the fiscal year so as to result in a final fiscal year **[2016]** 2017 appropriation estimated at not more than **[\$11,400,000]**

\$11,057,000: *Provided further*, That notwithstanding 31 U.S.C. 3302, up to **[\$63,000,000]** \$73,000,000 collected by the Southwestern Power Administration pursuant to the Flood Control Act of 1944 to recover purchase power and wheeling expenses shall be credited to this account as offsetting collections, to remain available until expended for the sole purpose of making purchase power and wheeling expenditures: *Provided further*, That for purposes of this appropriation, annual expenses means expenditures that are generally recovered in the same year that they are incurred (excluding purchase power and wheeling expenses). (*Energy and Water Development and Related Agencies Appropriations Act, 2016.*)

Program and Financing (in millions of dollars)

Identification code 089–0303–0–1–271	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0001 Systems operation and maintenance	4	5	2
0003 Construction	6	4	7
0004 Program direction	2	2	2
0005 Spectrum Relocation	5		
0200 Direct program subtotal	17	11	11
0799 Total direct obligations	17	11	11
0805 Purchase power and wheeling	17	63	73
0810 Other reimbursable activities	4	37	37
0811 Annual Expenses	26	36	35
0899 Total reimbursable obligations	47	136	145
0900 Total new obligations	64	147	156
Budgetary resources:			
Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	64	80	80
Budget authority:			
Appropriations, discretionary:			
1100 Appropriation	11	11	11
Spending authority from offsetting collections, discretionary:			
1700 Collected	69	136	145
1900 Budget authority (total)	80	147	156
1930 Total budgetary resources available	144	227	236
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	80	80	80
Change in obligated balance:			
Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	89	86	34
3010 Obligations incurred, unexpired accounts	64	147	156
3020 Outlays (gross)	-67	-199	-173
3050 Unpaid obligations, end of year	86	34	17
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	89	86	34
3200 Obligated balance, end of year	86	34	17
Budget authority and outlays, net:			
Discretionary:			
4000 Budget authority, gross	80	147	156
Outlays, gross:			
4010 Outlays from new discretionary authority	22	143	152
4011 Outlays from discretionary balances	45	56	21
4020 Outlays, gross (total)	67	199	173
Offsets against gross budget authority and outlays:			
Offsetting collections (collected) from:			
4030 Federal sources		-6	-6
4033 Non-Federal sources	-69	-130	-139
4040 Offsets against gross budget authority and outlays (total)	-69	-136	-145
4070 Budget authority, net (discretionary)	11	11	11
4080 Outlays, net (discretionary)	-2	63	28
4180 Budget authority, net (total)	11	11	11
4190 Outlays, net (total)	-2	63	28

The Southwestern Power Administration (Southwestern) operates in a six-state area marketing and delivering renewable hydroelectric power produced at the U.S. Army Corps of Engineers' dams. Southwestern operates and maintains 1,380 miles of high voltage transmission lines, 25 substations/switching stations, associated power system controls, and communication sites. Southwestern also constructs additions and modifications to existing facilities.

OPERATION AND MAINTENANCE, SOUTHWESTERN POWER ADMINISTRATION—Continued

Southwestern markets and delivers its power at wholesale rates primarily to public bodies and rural electric cooperatives. In compliance with statutory requirements, Southwestern's power sales contracts provide for periodic rate adjustments to ensure that the Federal Government recovers all costs of operations, other costs allocated to power, and the capital investments in power facilities, with interest. Southwestern is also responsible for scheduling and dispatching power and negotiating power sales contracts to meet changing customer load requirements. As in past years, the budget continues to provide funding for annual expenses and purchase power and wheeling expenses through discretionary offsetting collections derived from power receipts collected to recover those expenses.

Program Direction.—Provides compensation and all related expenses for personnel who market, deliver, operate, and maintain Southwestern's high-voltage interconnected power system and associated facilities.

Operations and Maintenance.—Provides essential electrical and communications equipment replacements and upgrades, capitalized moveable equipment, technical services, and supplies and materials necessary for the safe, reliable, and cost effective operation and maintenance of the power system.

Purchase Power and Wheeling.—Provides for the purchase and delivery of energy to meet limited peaking power contractual obligations. Federal power receipts and alternative financing methods, including net billing, bill crediting, and customer advances are used to fund system-purchased power support and other contractual services. Customers will provide other power resources and/or purchases for the remainder of their firm loads.

Construction.—Provides for replacement, addition or upgrade of existing infrastructure to sustain reliable delivery of power to its customers, contain annual maintenance costs, and improve overall efficiency.

Reimbursable Program.—This activity involves services provided by Southwestern to others under various types of reimbursable arrangements.

Object Classification (in millions of dollars)

Identification code 089-0303-0-1-271	2015 actual	2016 est.	2017 est.
Direct obligations:			
11.1 Personnel compensation: Full-time permanent	2	2	2
25.2 Other services from non-Federal sources	11	7	7
26.0 Supplies and materials	1	1	1
31.0 Equipment	3	1	1
99.0 Direct obligations	17	11	11
99.0 Reimbursable obligations	47	136	145
99.9 Total new obligations	64	147	156

Employment Summary

Identification code 089-0303-0-1-271	2015 actual	2016 est.	2017 est.
1001 Direct civilian full-time equivalent employment	15	10	10
2001 Reimbursable civilian full-time equivalent employment	159	184	184

PURCHASE POWER DROUGHT FUND

Special and Trust Fund Receipts (in millions of dollars)

Identification code 089-5597-0-2-271	2015 actual	2016 est.	2017 est.
0100 Balance, start of year			
Receipts:			
Proposed:			
1230 Special Rate Assessment, Purchase Power Emergency Fund			15
2000 Total: Balances and receipts			15
5099 Balance, end of year			15

The Purchase Power Drought Fund would allow Southwestern to pre-collect funds through power rates for use in times of below average water and drought conditions. This fund would supplement Southwestern's current

authorities and would minimize the necessity to invoke the Continuing Fund for the Purchase Power and Wheeling expenses and mitigate the rate volatility associated with such activation.

CONTINUING FUND, SOUTHWESTERN POWER ADMINISTRATION

Program and Financing (in millions of dollars)

Identification code 089-5649-0-2-271	2015 actual	2016 est.	2017 est.
4180 Budget authority, net (total)			
4190 Outlays, net (total)			
Memorandum (non-add) entries:			
5080 Outstanding debt, SOY	-68	-68	-68
5081 Outstanding debt, EOY	-68	-68	-68

A continuing fund, maintained from receipts from the sale and transmission of electric power in the Southwestern service area, is available permanently for emergency expenses necessary to ensure continuity of electric service and continuous operation of the facilities. The fund is also available on an ongoing basis to pay for purchase power and wheeling expenses when the Administrator determines that such expenses are necessary to meet contractual obligations for the sale and delivery of power during periods of below-average generation (16 U.S.C. 825s-1 as amended further by Public Law No. 101-101). The fund was last activated in fiscal year 2009 to repair and replace damaged transmission lines due to an ice storm.

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

For carrying out the functions authorized by title III, section 302(a)(1)(E) of the Act of August 4, 1977 (42 U.S.C. 7152), and other related activities including conservation and renewable resources programs as authorized, **[\$307,714,000]** \$307,144,000, including official reception and representation expenses in an amount not to exceed \$1,500, to remain available until expended, of which **[\$302,000,000]** \$299,742,000 shall be derived from the Department of the Interior Reclamation Fund: *Provided*, That notwithstanding 31 U.S.C. 3302, section 5 of the Flood Control Act of 1944 (16 U.S.C. 825s), and section 1 of the Interior Department Appropriation Act, 1939 (43 U.S.C. 392a), up to **[\$214,342,000]** \$211,563,000 collected by the Western Area Power Administration from the sale of power and related services shall be credited to this account as discretionary offsetting collections, to remain available until expended, for the sole purpose of funding the annual expenses of the Western Area Power Administration: *Provided further*, That the sum herein appropriated for annual expenses shall be reduced as collections are received during the fiscal year so as to result in a final fiscal year **[2016]** 2017 appropriation estimated at not more than **[\$93,372,000]** \$95,581,000, of which **[\$87,658,000]** \$88,179,000 is derived from the Reclamation Fund: *Provided further*, That notwithstanding 31 U.S.C. 3302, up to **[\$352,813,000]** \$367,009,000 collected by the Western Area Power Administration pursuant to the Flood Control Act of 1944 and the Reclamation Project Act of 1939 to recover purchase power and wheeling expenses shall be credited to this account as offsetting collections, to remain available until expended for the sole purpose of making purchase power and wheeling expenditures: *Provided further*, That for purposes of this appropriation, annual expenses means expenditures that are generally recovered in the same year that they are incurred (excluding purchase power and wheeling expenses). (*Energy and Water Development and Related Agencies Appropriations Act, 2016.*)

Program and Financing (in millions of dollars)

Identification code 089-5068-0-2-271	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0001 Systems operation and maintenance	37	41	42
0004 Program direction	40	47	35
0091 Direct Program by Activities - Subtotal (1 level)	77	88	77
0100 Total operating expenses	77	88	77
0101 Capital investment	11	5	19
0799 Total direct obligations	88	93	96
0802 Purchase Power and Wheeling	164	353	367
0803 Annual Expenses	184	214	211

0804	Other Reimbursable	270	638	273
0809	Reimbursable program activities, subtotal	618	1,205	851
0899	Total reimbursable obligations	618	1,205	851
0900	Total new obligations	706	1,298	947
Budgetary resources:				
Unobligated balance:				
1000	Unobligated balance brought forward, Oct 1	555	638	638
Budget authority:				
Appropriations, discretionary:				
1100	Appropriation	8	6	7
1101	Appropriation (special or trust fund)	85	87	89
1131	Unobligated balance of appropriations permanently reduced	-2		
1160	Appropriation, discretionary (total)	91	93	96
Spending authority from offsetting collections, discretionary:				
1700	Collected	694	1,205	851
1701	Change in uncollected payments, Federal sources	4		
1750	Spending auth from offsetting collections, disc (total)	698	1,205	851
1900	Budget authority (total)	789	1,298	947
1930	Total budgetary resources available	1,344	1,936	1,585
Memorandum (non-add) entries:				
1941	Unexpired unobligated balance, end of year	638	638	638
Change in obligated balance:				
Unpaid obligations:				
3000	Unpaid obligations, brought forward, Oct 1	306	333	163
3010	Obligations incurred, unexpired accounts	706	1,298	947
3020	Outlays (gross)	-679	-1,468	-1,020
3050	Unpaid obligations, end of year	333	163	90
Uncollected payments:				
3060	Uncollected pymts, Fed sources, brought forward, Oct 1	-41	-45	-45
3070	Change in uncollected pymts, Fed sources, unexpired	-4		
3090	Uncollected pymts, Fed sources, end of year	-45	-45	-45
Memorandum (non-add) entries:				
3100	Obligated balance, start of year	265	288	118
3200	Obligated balance, end of year	288	118	45
Budget authority and outlays, net:				
Discretionary:				
4000	Budget authority, gross	789	1,298	947
Outlays, gross:				
4010	Outlays from new discretionary authority	230	1,247	894
4011	Outlays from discretionary balances	449	221	126
4020	Outlays, gross (total)	679	1,468	1,020
Offsets against gross budget authority and outlays:				
Offsetting collections (collected) from:				
4030	Federal sources	-125	-237	-170
4033	Non-Federal sources	-569	-968	-681
4040	Offsets against gross budget authority and outlays (total)	-694	-1,205	-851
Additional offsets against gross budget authority only:				
4050	Change in uncollected pymts, Fed sources, unexpired	-4		
4070	Budget authority, net (discretionary)	91	93	96
4080	Outlays, net (discretionary)	-15	263	169
4180	Budget authority, net (total)	91	93	96
4190	Outlays, net (total)	-15	263	169
Memorandum (non-add) entries:				
5080	Outstanding debt, SOY	-12,427	-12,709	-12,709
5081	Outstanding debt, EOY	-12,709	-12,709	-12,709
5082	Cumulative change in appropriation classified by FASAB as debt	-282		

The Western Area Power Administration (Western) markets electric power in 15 central and western states from federally-owned power plants operated primarily by the Bureau of Reclamation, the Army Corps of Engineers, and the International Boundary and Water Commission. Western operates and maintains about 17,000 circuit-miles of high-voltage transmission lines, more than 300 substations/switchyards and associated power system controls, and communication and electrical facilities for 15 separate power projects. Western also constructs additions and modifications to existing facilities.

In keeping with statutory requirements, Western's long-term power contracts allow for periodic rate adjustments to ensure that the Federal Govern-

ment recovers costs of operations, other costs allocated to power, and the capital investment in power facilities, with interest.

Power is sold to wholesale customers such as municipalities, cooperatives, irrigation districts, public utility districts, State and Federal Government agencies, and private utilities. Receipts are deposited in the Reclamation Fund, the Falcon and Amistad Operating and Maintenance Fund, the General Fund, the Colorado River Dam Fund and the Colorado River Basins Power Marketing Fund.

As in past years, the budget continues to provide funding for annual expenses and purchase power and wheeling expenses through discretionary offsetting collections derived from power receipts collected to recover those expenses.

Systems Operation and Maintenance.—Provides essential electrical and communication equipment replacements and upgrades, capitalized moveable equipment, technical services, and supplies and materials necessary for safe reliable operation and cost-effective maintenance of the power systems.

Purchase Power and Wheeling.—Provision is made for the payment of wheeling fees and for the purchase of electricity in connection with the distribution of power under contracts with utility companies, including the cost of voluntary participation in state greenhouse gas programs. Customers are encouraged to contract for power and wheeling on their own, or use alternative funding mechanisms, including customer advances, net billing and bill crediting to finance these activities. Ongoing operating services are also available on a reimbursable basis.

System Construction.—Western's construction and rehabilitation activity emphasizes replacement and upgrades of existing infrastructure to sustain reliable power delivery to its customers, to contain annual maintenance costs, and to improve overall operational efficiency. Western will continue to participate in joint construction projects with customers to encourage more widespread transmission access.

Program Direction.—Provides compensation and all related expenses for the workforce that operates and maintains Western's high-voltage interconnected transmission system (systems operation and maintenance program), and those that plan, design, and supervise the construction of replacements, upgrades and additions (system construction program) to the transmission facilities.

Reimbursable Program.—This program involves services provided by Western to others under various types of reimbursable arrangements. Western will continue to spend out of the Colorado River Dam Fund for operations and maintenance activities associated with the Boulder Canyon Project via a reimbursable arrangement with the Interior Department's Bureau of Reclamation. The Colorado River Dam Fund is a revolving fund operated by the Bureau of Reclamation. Authority for Western to obligate directly from the Colorado River Dam Fund comes from section 104(a) of the Hoover Power Plant Act of 1984.

Object Classification (in millions of dollars)

Identification code 089-5068-0-2-271	2015 actual	2016 est.	2017 est.	
Direct obligations:				
Personnel compensation:				
11.1	Full-time permanent	17	19	17
11.5	Other personnel compensation	2	2	2
	Total personnel compensation	19	21	19
12.1	Civilian personnel benefits	6	5	5
21.0	Travel and transportation of persons	1	2	1
22.0	Transportation of things	1	1	1
23.3	Communications, utilities, and miscellaneous charges	1	1	1
25.2	Other services from non-Federal sources	13	16	23
26.0	Supplies and materials	2	2	2
31.0	Equipment	15	17	19
32.0	Land and structures	30	28	25
99.0	Direct obligations	88	93	96
99.0	Reimbursable obligations	618	1,205	851
99.9	Total new obligations	706	1,298	947

CONSTRUCTION, REHABILITATION, OPERATION AND MAINTENANCE, WESTERN AREA
POWER ADMINISTRATION—Continued

Employment Summary

Identification code 089-5068-0-2-271	2015 actual	2016 est.	2017 est.
1001 Direct civilian full-time equivalent employment	134	196	171
2001 Reimbursable civilian full-time equivalent employment	1,021	955	1,031

WESTERN AREA POWER ADMINISTRATION, BORROWING AUTHORITY, RECOVERY ACT.

Program and Financing (in millions of dollars)

Identification code 089-4404-0-3-271	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0102 Transmission Infrastructure Program Projects	4	1,050	800
0811 Western Area Power Administration, Borrowing Authority, Recovery (Reimbursable)	2	16	12
0900 Total new obligations	6	1,066	812
Budgetary resources:			
Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	9	11	11
1001 Discretionary unobligated balance brought fwd, Oct 1		10	
Budget authority:			
Borrowing authority, mandatory:			
1400 Borrowing authority	281	1,151	804
1422 Borrowing authority applied to repay debt	-281	-101	-4
1440 Borrowing authority, mandatory (total)		1,050	800
Spending authority from offsetting collections, discretionary:			
1700 Collected	4	8	5
Spending authority from offsetting collections, mandatory:			
1800 Collected	4	8	7
1900 Budget authority (total)	8	1,066	812
1930 Total budgetary resources available	17	1,077	823
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	11	11	11

Change in obligated balance:

Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	31	26	601
3010 Obligations incurred, unexpired accounts	6	1,066	812
3020 Outlays (gross)	-11	-491	-674
3050 Unpaid obligations, end of year	26	601	739
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	31	26	601
3200 Obligated balance, end of year	26	601	739

Budget authority and outlays, net:

Discretionary:			
4000 Budget authority, gross	4	8	5
Outlays, gross:			
4010 Outlays from new discretionary authority	1	8	5
4011 Outlays from discretionary balances	4		
4020 Outlays, gross (total)	5	8	5
Offsets against gross budget authority and outlays:			
Offsetting collections (collected) from:			
4030 Federal sources	-1		
4033 Non-Federal sources	-3	-8	-5
4040 Offsets against gross budget authority and outlays (total)	-4	-8	-5
4080 Outlays, net (discretionary)	1		
Mandatory:			
4090 Budget authority, gross	4	1,058	807
Outlays, gross:			
4100 Outlays from new mandatory authority	1	458	457
4101 Outlays from mandatory balances	5	25	212
4110 Outlays, gross (total)	6	483	669
Offsets against gross budget authority and outlays:			
Offsetting collections (collected) from:			
4123 Non-Federal sources	-4	-8	-7
4180 Budget authority, net (total)		1,050	800
4190 Outlays, net (total)	3	475	662

Memorandum (non-add) entries:

5101 Unexpired unavailable balance, SOY: Borrowing authority	2		
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The American Recovery and Reinvestment Act of 2009 (the Act) provided Western Area Power Administration (Western) borrowing authority for the purpose of constructing, financing, facilitating, planning, operating, maintaining or studying construction of new or upgraded electric power transmission lines and related facilities with at least one terminus within the area served by Western, and for delivering or facilitating the delivery of power generated by renewable energy resources. This authority to borrow from the United States Treasury is available to Western on a permanent, indefinite basis, with the amount of borrowing outstanding not to exceed \$3.25 billion at any one time. Western established the Transmission Infrastructure Program (TIP) to manage and administer this borrowing authority and its related program requirements. The Transmission Infrastructure Program supports Western's and the Department of Energy's priorities by supporting projects which facilitate the delivery of clean energy resources to market.

Object Classification (in millions of dollars)

Identification code 089-4404-0-3-271	2015 actual	2016 est.	2017 est.
Direct obligations:			
11.1 Personnel compensation: Full-time permanent	1		
12.1 Civilian personnel benefits	1		
25.2 Other services from non-Federal sources	1		
33.0 Investments and loans		1,050	800
43.0 Interest and dividends	1		
99.0 Direct obligations	4	1,050	800
Reimbursable obligations:			
11.1 Personnel compensation: Full-time permanent		1	1
12.1 Civilian personnel benefits		1	1
25.2 Other services from non-Federal sources	2	14	10
99.0 Reimbursable obligations	2	16	12
99.9 Total new obligations	6	1,066	812

Employment Summary

Identification code 089-4404-0-3-271	2015 actual	2016 est.	2017 est.
1001 Direct civilian full-time equivalent employment	15	15	15
2001 Reimbursable civilian full-time equivalent employment	4	2	2

EMERGENCY FUND, WESTERN AREA POWER ADMINISTRATION

Program and Financing (in millions of dollars)

Identification code 089-5069-0-2-271	2015 actual	2016 est.	2017 est.
Budgetary resources:			
Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	1	1	1
1930 Total budgetary resources available	1	1	1
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	1	1	1
4180 Budget authority, net (total)			
4190 Outlays, net (total)			
Memorandum (non-add) entries:			
5080 Outstanding debt, SOY	-55	-55	-55
5081 Outstanding debt, EOY	-55	-55	-55

An emergency fund maintained from receipts from the sale and transmission of electric power is available to defray expenses necessary to ensure continuity of service. The fund was last activated in fiscal year 2010 to repair and replace damaged transmission lines due to severe winter storm conditions. This work has since been completed.

FALCON AND AMISTAD OPERATING AND MAINTENANCE FUND

For operation, maintenance, and emergency costs for the hydroelectric facilities at the Falcon and Amistad Dams, **[\$4,490,000]** \$4,070,000, to remain available until expended, and to be derived from the Falcon and Amistad Operating and

Maintenance Fund of the Western Area Power Administration, as provided in section 2 of the Act of June 18, 1954 (68 Stat. 255): *Provided*, That notwithstanding the provisions of that Act and of 31 U.S.C. 3302, up to **[\$4,262,000]** \$3,838,000 collected by the Western Area Power Administration from the sale of power and related services from the Falcon and Amistad Dams shall be credited to this account as discretionary offsetting collections, to remain available until expended for the sole purpose of funding the annual expenses of the hydroelectric facilities of these Dams and associated Western Area Power Administration activities: *Provided further*, That the sum herein appropriated for annual expenses shall be reduced as collections are received during the fiscal year so as to result in a final fiscal year **[2016]** 2017 appropriation estimated at not more than **[\$228,000]** \$232,000: *Provided further*, That for purposes of this appropriation, annual expenses means expenditures that are generally recovered in the same year that they are incurred: *Provided further*, That for fiscal year **[2016]** 2017, the Administrator of the Western Area Power Administration may accept up to **[\$460,000]** \$323,000 in funds contributed by United States power customers of the Falcon and Amistad Dams for deposit into the Falcon and Amistad Operating and Maintenance Fund, and such funds shall be available for the purpose for which contributed in like manner as if said sums had been specifically appropriated for such purpose: *Provided further*, That any such funds shall be available without further appropriation and without fiscal year limitation for use by the Commissioner of the United States Section of the International Boundary and Water Commission for the sole purpose of operating, maintaining, repairing, rehabilitating, replacing, or upgrading the hydroelectric facilities at these Dams in accordance with agreements reached between the Administrator, Commissioner, and the power customers. (*Energy and Water Development and Related Agencies Appropriations Act, 2016.*)

Special and Trust Fund Receipts (in millions of dollars)

Identification code 089-5178-0-2-271	2015 actual	2016 est.	2017 est.
0100 Balance, start of year	5	6	6
0198 Unappropriated receipt adjustment	1		
0199 Balance, start of year	6	6	6
2000 Total: Balances and receipts	6	6	6
5099 Balance, end of year	6	6	6

Program and Financing (in millions of dollars)

Identification code 089-5178-0-2-271	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0801 Reimbursable program activity - Annual expenses	5	4	4
0802 Reimbursable program activity - Alternative Financing		1	
0900 Total new obligations (object class 25.3)	5	5	4
Budgetary resources:			
Budget authority:			
Spending authority from offsetting collections, discretionary:			
1700 Offsetting collections	5	5	4
1930 Total budgetary resources available	5	5	4

Change in obligated balance:			
Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	7	7	4
3010 Obligations incurred, unexpired accounts	5	5	4
3020 Outlays (gross)	-5	-8	-7
3050 Unpaid obligations, end of year	7	4	1
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	7	7	4
3200 Obligated balance, end of year	7	4	1

Budget authority and outlays, net:			
Discretionary:			
4000 Budget authority, gross	5	5	4
Outlays, gross:			
4010 Outlays from new discretionary authority	1	3	3
4011 Outlays from discretionary balances	4	5	4
4020 Outlays, gross (total)	5	8	7
Offsets against gross budget authority and outlays:			
Offsetting collections (collected) from:			
4033 Non-Federal sources	-5	-5	-4
4180 Budget authority, net (total)			
4190 Outlays, net (total)		3	3

Pursuant to section 2 of the Act of June 18, 1954, as amended, Western Area Power Administration is requesting funding for the Falcon and Amistad Operating and Maintenance Fund to defray operations, maintenance, and emergency (OM&E) expenses for the hydroelectric facilities at Falcon and Amistad Dams on the Rio Grande River. Most of these funds will be made available to the United States Section of the International Boundary and Water Commission through a reimbursable agreement. Within the fund, \$200,000 is for an emergency reserve that will remain unobligated unless unanticipated expenses arise. Revenues in excess of OM&E will be paid to the General Fund to repay the costs of replacements and the original investment with interest. The budget provides funding for annual expenses through discretionary offsetting collections derived from power receipts collected to recover those expenses.

COLORADO RIVER BASINS POWER MARKETING FUND, WESTERN AREA POWER ADMINISTRATION

Program and Financing (in millions of dollars)

Identification code 089-4452-0-3-271	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0801 Program direction	54	62	62
0802 Equipment, Contracts and Related Expenses	108	154	152
0900 Total new obligations	162	216	214

Budgetary resources:			
Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	143	142	142
Budget authority:			
Spending authority from offsetting collections, discretionary:			
1700 Collected	161	239	237
1720 Capital transfer of spending authority from offsetting collections to general fund		-23	-23
1750 Spending auth from offsetting collections, disc (total)	161	216	214
1930 Total budgetary resources available	304	358	356
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	142	142	142

Change in obligated balance:			
Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	61	49	57
3010 Obligations incurred, unexpired accounts	162	216	214
3020 Outlays (gross)	-174	-208	-229
3050 Unpaid obligations, end of year	49	57	42
Uncollected payments:			
3060 Uncollected pymts, Fed sources, brought forward, Oct 1	-1	-1	-1
3090 Uncollected pymts, Fed sources, end of year	-1	-1	-1
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	60	48	56
3200 Obligated balance, end of year	48	56	41

Budget authority and outlays, net:			
Discretionary:			
4000 Budget authority, gross	161	216	214
Outlays, gross:			
4010 Outlays from new discretionary authority		48	48
4011 Outlays from discretionary balances	174	160	181
4020 Outlays, gross (total)	174	208	229
Offsets against gross budget authority and outlays:			
Offsetting collections (collected) from:			
4030 Federal sources	-6	-7	-6
4033 Non-Federal sources	-155	-232	-231
4040 Offsets against gross budget authority and outlays (total)	-161	-239	-237
4070 Budget authority, net (discretionary)		-23	-23
4080 Outlays, net (discretionary)	13	-31	-8
4180 Budget authority, net (total)		-23	-23
4190 Outlays, net (total)	13	-31	-8

Western Area Power Administration's (Western) operation and maintenance (O&M) and power marketing expenses for the Colorado River Storage Project, the Colorado River Basin Project, the Seedskaadee Project, the Dolores Project and the Fort Peck Project are financed from power revenues.

COLORADO RIVER BASINS POWER MARKETING FUND, WESTERN AREA POWER ADMINISTRATION—Continued

Colorado River Storage Project.—Western markets power and operates and maintains the power transmission facilities of the Colorado River Storage Project consisting of four major storage units: Glen Canyon on the Colorado River in Arizona, Flaming Gorge on the Green River in Utah, Navajo on the San Juan River in New Mexico, and the Wayne N. Aspinall unit on the Gunnison River in Colorado.

Colorado River Basin Project.—This project includes Western's expenses associated with the Central Arizona Project and the United States entitlement from the Navajo coal-fired powerplant. Revenues in excess of operating expenses are transferred to the Lower Colorado River Basin Development Fund.

Seedskadee Project.—This project includes Western's expenses for O&M, power marketing, and transmission of hydroelectric power from the Fontenelle Dam power plant in southwestern Wyoming.

Dolores Project.—This project includes Western's expenses for O&M, power marketing, and transmission of hydroelectric power from power plants at McPhee Dam and Towaoc Canal in southwestern Colorado.

Fort Peck Project.—Revenues collected by Western are used to defray operation and maintenance and power marketing expenses associated with the power generation and transmission facilities of the Fort Peck Project, and Western operates and maintains the transmission system and performs power marketing functions.

Equipment, Contracts and Related Expenses.—Western operates and maintains approximately 4,000 miles of transmission lines, substations, switchyards, communications and control equipment associated with this fund. Wholesale power is provided to utilities over interconnected high-voltage transmission systems. In keeping with statutory requirements, long-term power contracts provide for periodic rate adjustments to ensure that the Federal Government recovers all costs of O&M, and all capital invested in power, with interest. This activity provides for the supplies, materials, services, capital equipment replacements and additions, including communications and control equipment, purchase power, transmission and wheeling services, and interest payments to the U.S. Treasury.

Program Direction.—The personnel compensation and related expenses for all these activities are quantified under Program Direction.

Object Classification (in millions of dollars)

Identification code 089-4452-0-3-271	2015 actual	2016 est.	2017 est.
Reimbursable obligations:			
Personnel compensation:			
11.1 Full-time permanent	27	30	29
11.5 Other personnel compensation	3	2	3
11.9 Total personnel compensation	30	32	32
12.1 Civilian personnel benefits	10	10	11
21.0 Travel and transportation of persons	2	2	2
22.0 Transportation of things	1	1	1
23.1 Rental payments to GSA	1		1
23.3 Communications, utilities, and miscellaneous charges	1	2	1
25.2 Other services from non-Federal sources	100	128	135
25.3 Other goods and services from Federal sources	8	7	6
26.0 Supplies and materials		4	4
31.0 Equipment	3	4	2
32.0 Land and structures	6	16	12
43.0 Interest and dividends		10	7
99.9 Total new obligations	162	216	214

Employment Summary

Identification code 089-4452-0-3-271	2015 actual	2016 est.	2017 est.
2001 Reimbursable civilian full-time equivalent employment	276	301	302

BONNEVILLE POWER ADMINISTRATION FUND

Expenditures from the Bonneville Power Administration Fund, established pursuant to Public Law 93-454, are approved [for the Shoshone Paiute Trout Hatchery, the Spokane Tribal Hatchery, the Snake River Sockeye Weirs and, in addition,] for official reception and representation expenses in an amount not to exceed \$5,000: *Provided, That during fiscal year [2016] 2017, no new direct loan obligations may be made. (Energy and Water Development and Related Agencies Appropriations Act, 2016.)*

Program and Financing (in millions of dollars)

Identification code 089-4045-0-3-271	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0801 Power business line	951	1,103	1,099
0802 Residential exchange	200	217	217
0803 Bureau of Reclamation	134	157	158
0804 Corp of Engineers	230	244	251
0805 Colville settlement	19	22	22
0806 U.S. Fish & Wildlife	31	32	33
0807 Planning council	10	11	11
0808 Fish and Wildlife	258	267	274
0809 Reimbursable program activities, subtotal	1,833	2,053	2,065
0811 Transmission business line	453	449	458
0812 Conservation and energy efficiency	75	178	173
0813 Interest	350	299	314
0814 Pension and health benefits	38	38	39
0819 Reimbursable program activities, subtotal	916	964	984
0821 Power business line	43	241	270
0822 Transmission services	461	700	644
0823 Conservation and energy efficiency	87		
0824 Fish and Wildlife	21	40	46
0825 Capital Equipment	34	37	29
0826 Projects funded in advance	390	30	30
0829 Reimbursable program activities, subtotal	1,036	1,048	1,019
0900 Total new obligations	3,785	4,065	4,068
Budgetary resources:			
Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	8	11	839
1023 Unobligated balances applied to repay debt		-1	-839
1050 Unobligated balance (total)	8	10	
Budget authority:			
Appropriations, mandatory:			
1221 Appropriations transferred from other acct [011-5512]	5		
Borrowing authority, mandatory:			
1400 Borrowing authority	619	1,018	989
Contract authority, mandatory:			
1600 Contract authority	1,946		
Spending authority from offsetting collections, mandatory:			
1800 Collected	3,345	4,065	4,114
1801 Change in uncollected payments, Federal sources	23		
1802 Offsetting collections (previously unavailable)	9	9	9
1810 Spending authority from offsetting collections transferred to other accounts [096-3123]	-111		
1823 New and/or unobligated balance of spending authority from offsetting collections temporarily reduced	-9	-9	
1825 Spending authority from offsetting collections applied to repay debt	-212	-189	-206
1826 Spending authority from offsetting collections applied to liquidate contract authority	-1,827		
1850 Spending auth from offsetting collections, mand (total)	1,218	3,876	3,917
1900 Budget authority (total)	3,788	4,894	4,906
1930 Total budgetary resources available	3,796	4,904	4,906
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	11	839	838
Change in obligated balance:			
Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	3,190	3,247	3,247
3010 Obligations incurred, unexpired accounts	3,785	4,065	4,068
3020 Outlays (gross)	-3,728	-4,065	-4,068
3050 Unpaid obligations, end of year	3,247	3,247	3,247
Uncollected payments:			
3060 Uncollected pymts, Fed sources, brought forward, Oct 1	-304	-327	-327
3070 Change in uncollected pymts, Fed sources, unexpired	-23		
3090 Uncollected pymts, Fed sources, end of year	-327	-327	-327
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	2,886	2,920	2,920

3200	Obligated balance, end of year	2,920	2,920	2,920
Budget authority and outlays, net:				
Mandatory:				
4090	Budget authority, gross	3,788	4,894	4,906
Outlays, gross:				
4100	Outlays from new mandatory authority	3,728	3,865	3,868
4101	Outlays from mandatory balances		200	200
4110	Outlays, gross (total)	3,728	4,065	4,068
Offsets against gross budget authority and outlays:				
Offsetting collections (collected) from:				
4120	Federal sources	-47	-90	-90
4121	Interest on Federal securities	3		
4123	Non-Federal sources	-3,301	-3,975	-4,024
4130	Offsets against gross budget authority and outlays (total)	-3,345	-4,065	-4,114
Additional offsets against gross budget authority only:				
4140	Change in uncollected pymts, Fed sources, unexpired	-23		
4160	Budget authority, net (mandatory)	420	829	792
4170	Outlays, net (mandatory)	383		-46
4180	Budget authority, net (total)	420	829	792
4190	Outlays, net (total)	383		-46
Memorandum (non-add) entries:				
5000	Total investments, SOY: Federal securities: Par value	594	690	785
5001	Total investments, EOY: Federal securities: Par value	690	785	880
5052	Obligated balance, SOY: Contract authority	1,827	1,947	1,947
5053	Obligated balance, EOY: Contract authority	1,947	1,947	1,947
5090	Unexpired unavailable balance, SOY: Offsetting collections	9	9	9
5092	Unexpired unavailable balance, EOY: Offsetting collections	9	9	

Status of Direct Loans (in millions of dollars)

Identification code 089-4045-0-3-271	2015 actual	2016 est.	2017 est.
Cumulative balance of direct loans outstanding:			
1210 Outstanding, start of year	2	2	2
1290 Outstanding, end of year	2	2	2

Bonneville Power Administration (BPA) is a Federal electric power marketing agency in the Pacific Northwest. BPA markets hydroelectric power from 21 multipurpose water resource projects of the U.S. Army Corps of Engineers and 10 projects of the U.S. Bureau of Reclamation, plus some energy from non-Federal generating projects in the region. These generating resources and BPA's transmission system are operated as an integrated power system with operating and financial results combined and reported as the Federal Columbia River Power System (FCRPS). BPA provides about 50 percent of the region's electric energy supply and about three-fourths of the region's high-voltage electric power transmission capacity.

BPA is responsible for meeting the net firm power requirements of its requesting customers through a variety of means, including energy conservation programs, acquisition of renewable and other resources, and power exchanges with utilities both in and outside the region.

BPA finances its operations with a business-type budget under the Government Corporation Control Act, 31 U.S.C. 9101-10, on the basis of the self-financing authority provided by the Federal Columbia River Transmission System Act of 1974 (Transmission Act) (Public Law 93-454) and the U.S. Treasury borrowing authority provided by the Transmission Act, the Pacific Northwest Electric Power Planning and Conservation Act (Pacific Northwest Power Act) (Public Law 96-501) for energy conservation, renewable energy resources, capital fish facilities, and other purposes, the American Recovery and Reinvestment Act of 2009 (Public Law 111-5), and other legislation. Authority to borrow from the U.S. Treasury is available to the BPA on a permanent, indefinite basis. The amount of U.S. Treasury borrowing outstanding at any time cannot exceed \$7.70 billion. BPA finances its approximate \$4.3 billion annual cost of operations and investments primarily using power and transmission revenues and loans from the U.S. Treasury.

Operating Expenses.—Transmission Services.—Provides for operating over 15,000 circuit miles of high-voltage transmissions lines and 259 sub-

stations, and for maintaining the facilities and equipment of the Bonneville transmission system in 2017.

Power Services.—Provides for the planning, contractual acquisition and oversight of reliable, cost effective resources. These resources are needed to serve BPA's portion of the region's forecasted net electric load requirements. This activity also includes protection, mitigation and enhancement of fish and wildlife affected by hydroelectric facilities on the Columbia River and its tributaries in accordance with the Pacific Northwest Power Act. This activity provides for payment of the operation and maintenance (O&M) costs allocated to power the 31 U.S. Army Corps of Engineers and U.S. Bureau of Reclamation hydro projects, amortization on the capital investment in power generating facilities, and irrigation assistance at U.S. Bureau of Reclamation facilities. This activity also provides for the planning, contractual acquisition and oversight of reliable, cost effective conservation. It also provides for extending the benefits of low cost Federal power to the residential and small farm customers of investor-owned and publicly-owned utilities, in accordance with the Pacific Northwest Power Act and for activities of the Pacific Northwest Electric Power and Conservation Planning Council required by the Pacific Northwest Power Act.

Interest.—Provides for payments to the U.S. Treasury for interest on U.S. Treasury borrowings to finance BPA's capital investments under \$7.70 billion of U.S. Treasury borrowing authority provided by the Transmission Act, the Pacific Northwest Power Act for energy conservation, renewable energy resources, capital fish facilities, and other purposes, the American Recovery and Reinvestment Act of 2009, and other legislation. This interest category also includes interest on U.S. Army Corps of Engineers, BPA and U.S. Bureau of Reclamation appropriated debt.

Capital Investments-Transmission Services.—Provides for the planning, design and construction of transmission lines, substation and control system additions, replacements, and enhancements to the FCRPS transmission system for a reliable, efficient and cost-effective regional transmission system. Provides for planning, design, and construction work to repair or replace existing transmission lines, substations, control systems, and general facilities of the FCRPS transmission system.

Power Services.—Provides for direct funding of additions, improvements, and replacements at existing Federal hydroelectric projects in the Northwest. It also provides for capital investments to implement environmental activities, and protect, mitigate, and enhance fish and wildlife affected by hydroelectric facilities on the Columbia River and its tributaries, in accordance with the Pacific Northwest Power Act. This activity provides for the planning, contractual acquisition and oversight of reliable, cost effective conservation.

Capital Equipment/Capitalized Bond Premium.—Provides for capital information technologies, and office furniture and equipment, and software capital development in support of all BPA programs. It also provides for bond premiums incurred for refinancing of bonds.

Total Capital Obligations.—The 2017 capital obligations are estimated to be \$989.8 million.

Contingencies.—Although contingencies are not specifically funded, the need may arise to provide for purchase of power in low-water years; for repair and/or replacement of facilities affected by natural and man-made emergencies, including the resulting additional costs for contracting, construction, and operation and maintenance work; for unavoidable increased costs for the planned program due to necessary but unforeseen adjustments, including engineering and design changes, contractor and other claims and relocations; or for payment of a retrospective premium adjustment in excess nuclear property insurance.

Financing.—The Transmission Act provides for the use by BPA of all receipts, collections, and recoveries in cash from all sources, including the sale of bonds, to finance the annual budget programs of BPA. These receipts result primarily from the sale of power and transmission services. The Transmission Act also provides for authority to borrow from the U.S. Treasury at rates comparable to borrowings at open market rates for similar issues. BPA has \$7.70 billion of U.S. Treasury borrowing authority provided

BONNEVILLE POWER ADMINISTRATION FUND—Continued

by the Transmission Act, the Pacific Northwest Power Act for energy conservation, renewable energy resources, capital fish facilities, and other purposes, the American Recovery and Reinvestment Act of 2009, and other legislation. At the end of 2015, BPA had outstanding bonds with the U.S. Treasury of \$4.6 billion. At the end of 2015, BPA also had \$7.5 billion of non-Federal debt outstanding, including Energy Northwest bonds. BPA will rely primarily on its U.S. Treasury borrowing authority to finance capital projects, but may also elect to use cash reserves generated by revenues from customers or seek third party financing sources when feasible to finance some of these investments.

In 2015, BPA made payments to the Treasury of \$891 million and also expects to make payments of \$640 million in 2016 and \$662 million in 2017. The 2017 payment is expected to be distributed as follows: interest on bonds and appropriations (\$365 million), amortization (\$206 million), and other (\$91 million). BPA also received credits totaling approximately \$80 million applied against its Treasury payments in 2015 to reflect amounts diverted to fish mitigation efforts, but not allocable to power, in the Columbia and Snake River systems.

BPA, with input from its stakeholders, considers other strategies to sustain funding for its infrastructure investment requirements as well. BPA's Financial Plan defines strategies and policies for guiding how BPA will manage risk and variability of electricity markets and water years. It also describes how BPA will continue to manage to ensure it meets its Treasury repayment responsibilities.

Direct Loans.—During 2017, no new direct loan obligations may be made.

Operating Results.—Total revenues are forecast at approximately \$4.1 billion in 2017.

It should be noted that BPA's revenue forecasts are based on several critical assumptions about both the supply of and demand for Federal energy. During the operating year, deviation from the conditions assumed in a rate case may result in a variation in actual revenues of several hundred million dollars from the forecast.

Consistent with Administration policy, BPA will continue to fully recover, from the sale of electric power and transmission, funds sufficient to cover the full cost of Civil Service Retirement System and Post-Retirement Health Benefits for its employees. The entire cost of BPA and the power share of FCRPS U.S. Army Corps of Engineers and U.S. Bureau of Reclamation employees working under the Federal Employees Retirement System is fully recovered in wholesale electric power and transmission rates.

Balance Sheet (in millions of dollars)

Identification code 089-4045-0-3-271	2014 actual	2015 actual
ASSETS:		
Federal assets:		
1101 Fund balances with Treasury	524	524
Investments in US securities:		
1106 Receivables, net	1	1
1206 Non-Federal assets: Receivables, net	304	304
Other Federal assets:		
1802 Inventories and related properties	112	112
1803 Property, plant and equipment, net	6,253	6,253
1901 Other assets	16,191	16,191
1999 Total assets	23,385	23,385
LIABILITIES:		
Federal liabilities:		
2102 Interest payable	68	68
2103 Debt	9,300	9,300
Non-Federal liabilities:		
2201 Accounts payable	411	411
2203 Debt	5,787	5,787
2207 Other	7,819	7,819
2999 Total liabilities	23,385	23,385
4999 Total liabilities and net position	23,385	23,385

Object Classification (in millions of dollars)

Identification code 089-4045-0-3-271	2015 actual	2016 est.	2017 est.
Reimbursable obligations:			
11.1 Personnel compensation: Full-time permanent	413	442	442
12.1 Civilian personnel benefits	130	139	139
21.0 Travel and transportation of persons	21	22	22
22.0 Transportation of things	2	2	2
23.1 Rental payments to GSA	17	19	19
23.2 Rental payments to others	30	32	32
23.3 Communications, utilities, and miscellaneous charges	10	11	11
25.1 Advisory and assistance services	221	237	237
25.2 Other services from non-Federal sources	1,935	2,088	2,089
25.5 Research and development contracts	13	11	11
26.0 Supplies and materials	59	63	63
31.0 Equipment	232	248	249
32.0 Land and structures	397	425	425
41.0 Grants, subsidies, and contributions	45	49	49
43.0 Interest and dividends	260	277	278
99.9 Total new obligations	3,785	4,065	4,068

Employment Summary

Identification code 089-4045-0-3-271	2015 actual	2016 est.	2017 est.
1001 Direct civilian full-time equivalent employment	2,836	3,100	3,100

DEPARTMENTAL ADMINISTRATION

Federal Funds

DEPARTMENTAL ADMINISTRATION

For salaries and expenses of the Department of Energy necessary for departmental administration in carrying out the purposes of the Department of Energy Organization Act (42 U.S.C. 7101 et seq.), **[\$248,142,000]** \$270,037,000, to remain available until September 30, **[2017]** 2018, including the hire of passenger motor vehicles and official reception and representation expenses not to exceed \$30,000, plus such additional amounts as necessary to cover increases in the estimated amount of cost of work for others notwithstanding the provisions of the Anti-Deficiency Act (31 U.S.C. 1511 et seq.): *Provided*, That such increases in cost of work are offset by revenue increases of the same or greater amount: *Provided further*, That moneys received by the Department for miscellaneous revenues estimated to total **[\$117,171,000]** \$125,171,000 in fiscal year **[2016]** 2017 may be retained and used for operating expenses within this account, as authorized by section 201 of Public Law 95-238, notwithstanding the provisions of 31 U.S.C. 3302: *Provided further*, That the sum herein appropriated shall be reduced as collections are received during the fiscal year so as to result in a final fiscal year **[2016]** 2017 appropriation from the general fund estimated at not more than **[\$130,971,000]** \$144,866,000: *Provided further*, That of the total amount made available under this heading, **[\$31,297,000]** is for Energy Policy and Systems Analysis] \$3,000,000 is to support the Department's activities related to implementation of the Digital Accountability and Transparency Act (DATA Act; Public Law 113-101; 31 U.S.C. 6101 note), to include changes in business processes, workforce, or information technology to support high quality, transparent Federal spending information. (Energy and Water Development and Related Agencies Appropriations Act, 2016.)

Program and Financing (in millions of dollars)

Identification code 089-0228-0-1-276	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0002 Cost of Work for Others	22		
0003 Office of the Secretary	6	6	5
0004 Office of Congressional and Intergovernmental Affairs	5	1	6
0005 Office of Public Affairs	3	4	3
0006 General Counsel	33	33	31
0008 Economic Impact and Diversity	9	9	11
0009 Chief Financial Officer	1		
0011 Human Capital Management	24	25	25
0012 Indian Energy Policy	6	16	
0013 Energy Policy and Systems Analysis	30	35	31
0014 International Affairs	25	18	19
0015 Office of Small and Disadvantaged Business Utilization	2	3	3
0018 Management	62	65	59
0020 Project Management Oversight and Assessment			18
0030 Cost Estimating and Program Evaluation			5
0040 Office of the Energy Jobs Development			4

0045	Strategic Partnership Programs	40	39
0799	Total direct obligations	228	255
0801	Departmental Administration (Reimbursable)	4	4
0900	Total new obligations	232	259
Budgetary resources:			
Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	74	87
1001	Discretionary unobligated balance brought fwd, Oct 1	72	.....
1011	Unobligated balance transfer from other acct [072-1037]	10	.....
1021	Recoveries of prior year unpaid obligations	4	.....
1050	Unobligated balance (total)	88	87
Budget authority:			
Appropriations, discretionary:			
1100	Appropriation	165	167
1121	Appropriations transferred from other acct [072-1037]	1	.....
1131	Unobligated balance of appropriations permanently reduced	-1	.....
1160	Appropriation, discretionary (total)	165	167
Appropriations, mandatory:			
1221	Appropriations transferred from other acct [011-5512]	2	.....
Spending authority from offsetting collections, discretionary:			
1700	Collected	81	81
1900	Budget authority (total)	248	248
1930	Total budgetary resources available	336	335
Memorandum (non-add) entries:			
1940	Unobligated balance expiring	-17	.....
1941	Unexpired unobligated balance, end of year	87	76
Change in obligated balance:			
Unpaid obligations:			
3000	Unpaid obligations, brought forward, Oct 1	90	98
3010	Obligations incurred, unexpired accounts	232	259
3020	Outlays (gross)	-216	-285
3040	Recoveries of prior year unpaid obligations, unexpired	-4	.....
3041	Recoveries of prior year unpaid obligations, expired	-4	.....
3050	Unpaid obligations, end of year	98	72
Memorandum (non-add) entries:			
3100	Obligated balance, start of year	90	98
3200	Obligated balance, end of year	98	72
Budget authority and outlays, net:			
Discretionary:			
4000	Budget authority, gross	246	248
Outlays, gross:			
4010	Outlays from new discretionary authority	124	205
4011	Outlays from discretionary balances	92	78
4020	Outlays, gross (total)	216	283
Offsets against gross budget authority and outlays:			
Offsetting collections (collected) from:			
4030	Federal sources	-34	-34
4033	Non-Federal sources	-47	-47
4040	Offsets against gross budget authority and outlays (total)	-81	-81
4070	Budget authority, net (discretionary)	165	167
4080	Outlays, net (discretionary)	135	202
Mandatory:			
4090	Budget authority, gross	2	.....
Outlays, gross:			
4101	Outlays from mandatory balances	2	.....
4180	Budget authority, net (total)	167	167
4190	Outlays, net (total)	135	204

Office of the Secretary (OSE).—Directs and leads the management of the Department and provides policy guidance to line and staff organizations in the accomplishment of DOE's mission.

Congressional and Intergovernmental Affairs (CI).—Responsible for the Department's liaison, communication, coordinating, directing, and promoting the Secretary's and the Department's policies and legislative initiatives with Congress, State, territorial, Tribal and local government officials, other Federal agencies, and the general public.

Public Affairs (PA).—Responsible for directing and managing the Department's policies and initiatives with the public, news media, and other stakeholders on energy issues. The Office serves as the Department's chief spokesperson with the news media, shapes initiatives aimed at educating the press and public about energy issues, builds and maintains the Department's Energy.gov internet platform.

General Counsel (GC).—Responsible for providing legal services to all Department offices, and for determining the Department's authoritative position on any question of law with respect to all Department offices and programs, except for those belonging exclusively to the Federal Energy Regulatory Commission. GC is responsible for the coordination and clearance of proposed legislation affecting energy policy and Department activities. GC administers and monitors standards of conduct requirements, conducts patent program and intellectual property activities, and coordinates rulemaking actions of the Department with other Federal agencies.

Economic Impact and Diversity (ED).—Develops and executes Department-wide policies to implement applicable statutes and Executive Orders that strengthen diversity goals affecting equal employment opportunities, minority businesses, minority educational institutions, and historically underrepresented communities. ED identifies ways of ensuring that underrepresented populations are afforded an opportunity to participate fully in the energy programs of the Department.

Chief Financial Officer (CFO).—Assures the effective management and financial integrity of DOE programs, activities, and resources by developing, implementing, and monitoring Department-wide policies and systems in the areas of budget administration, finance and accounting, internal controls and financial policy, corporate financial systems, and strategic planning. Also includes continued support for DATA Act implementation.

Chief Information Officer (CIO).—Provides advice and assistance to the Secretary and other senior managers to ensure that information technology is acquired and information resources are managed in a manner that complies with policies and procedures of statutory requirements.

Chief Human Capital Officer (HC).—Provides leadership to the Department on the impact and use of policies, proposals, programs, partnership agreements and relationships related to all aspects of human capital management. HC seeks solutions that address workforce issues in the areas of recruiting, hiring, motivating, succession planning, competency development, training and learning, retention, and diversity. It also provides leadership and direction on DOE human capital issues with other Federal agencies.

Energy Policy and Systems Analysis (EPSA).—Serves as the principal policy advisor to the Secretary on energy and related integration of energy systems. EPSA serves as a focal point for policy coordination within the Department on the formulation, analysis, and implementation of energy policy and related programmatic options and initiatives that could facilitate the transition to a low-carbon and secure energy economy.

International Affairs (IA).—Advises Departmental leadership on strategic implementation of the United States' international energy policy. IA develops and leads the Department's bilateral and multilateral R&D cooperation, including investment and trade activities with other nations and international agencies, and represents the Department and the United States Government in interagency processes, intergovernmental forums, and bilateral and multilateral proceedings that address the development and implementation of energy policies, strategies and objectives.

Office of Small and Disadvantaged Business Utilization (OSDBU).—Responsible for maximizing contracting and subcontracting opportunities for small businesses interested in doing business with the Department. A primary responsibility of OSDBU is to work in partnership with Departmental program elements to achieve prime and subcontracting small business goals set forth by the U.S. Small Business Administration.

Office of Management (MA).—Provides DOE with centralized direction and oversight for the full range of management, procurement and administrative services. MA is responsible for project and contract management policy development and oversight, acquisition and contract administration, and delivery of procurement services to DOE headquarters organizations. MA's administrative activities include the management of headquarters facilities and the delivery of other services critical to meeting Federal sustainability goals and other proper functions of the Department.

Project Management Oversight and Assessment (PM).—Provides the Department corporate oversight, managerial leadership and assistance in

DEPARTMENTAL ADMINISTRATION—Continued

developing and implementing DOE-wide policies, procedures, programs, and management systems pertaining to project management, and manages the project management career development program for DOE's Federal Project Directors. PMOA also provides independent oversight of Environmental Management's portfolio of capital asset projects, including all activities involved with on-site cost, schedule, technical and management status reviews, as well as analyzing and reporting performance progress of the projects.

Cost Estimating and Program Evaluation-DOE (CEPE-DOE).— Provides independent analytic advice on all aspects of DOE-wide programs, including cost effectiveness, development and evaluation of program alternatives. CEPE-DOE develops cost estimating policy and practices, provides timely and unbiased analysis, and performs independent cost estimation for the Department. CEPE-DOE ensures that the Department's cost estimation and cost analysis processes provide accurate information and realistic estimates of cost for the Department's programs, projects, and acquisitions.

Energy Jobs Development (EJD).—Manages the collection of annual energy jobs growth data and issues annual reports, coordinates the ongoing energy workforce development activities within the program offices and laboratories, manages external partnerships with other federal agencies on energy workforce, and provides energy economic development technical services to states, municipalities, and tribal governments.

Strategic Partnership Programs (SPP).— (formerly, Cost of Work for Others) Covers the cost of work performed under orders placed with the Department by non-DOE entities that are precluded by law from making advance payments and certain revenue programs. Reimbursement of these costs is made through deposits of offsetting collections to this account.

Object Classification (in millions of dollars)

Identification code 089-0228-0-1-276	2015 actual	2016 est.	2017 est.
11.1 Direct obligations: Personnel compensation: Full-time permanent	84	108	112
11.9 Total personnel compensation	84	108	112
12.1 Civilian personnel benefits	24	29	32
21.0 Travel and transportation of persons	4	4	4
23.3 Communications, utilities, and miscellaneous charges	2	2	2
25.7 Other Contractual Services	111	110	107
26.0 Other Services	2	2	2
44.0 Non-Capitalized Personal Property	1		
99.0 Direct obligations	228	255	259
99.0 Reimbursable obligations	4	4	4
99.9 Total new obligations	232	259	263

Employment Summary

Identification code 089-0228-0-1-276	2015 actual	2016 est.	2017 est.
1001 Direct civilian full-time equivalent employment	695	832	843

OFFICE OF THE INSPECTOR GENERAL

For expenses necessary for the Office of the Inspector General in carrying out the provisions of the Inspector General Act of 1978, **[\$46,424,000]** \$44,424,000, to remain available until September 30, **[2017]** 2018. (*Energy and Water Development and Related Agencies Appropriations Act, 2016.*)

Program and Financing (in millions of dollars)

Identification code 089-0236-0-1-276	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0001 Office of the Inspector General (Direct)	48	51	48
Budgetary resources:			
Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	15	9	4
1021 Recoveries of prior year unpaid obligations	1		

1050 Unobligated balance (total)	16	9	4
Budget authority:			
Appropriations, discretionary:			
1100 Appropriation	41	46	44
1930 Total budgetary resources available	57	55	48
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	9	4	

Change in obligated balance:

Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	6	5	8
3010 Obligations incurred, unexpired accounts	48	51	48
3020 Outlays (gross)	-48	-48	-47
3040 Recoveries of prior year unpaid obligations, unexpired	-1		
3050 Unpaid obligations, end of year	5	8	9
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	6	5	8
3200 Obligated balance, end of year	5	8	9

Budget authority and outlays, net:

Discretionary:			
4000 Budget authority, gross	41	46	44
Outlays, gross:			
4010 Outlays from new discretionary authority	29	39	37
4011 Outlays from discretionary balances	19	9	10
4020 Outlays, gross (total)	48	48	47
4180 Budget authority, net (total)	41	46	44
4190 Outlays, net (total)	48	48	47

The Office of Inspector General (OIG) provides Department-wide (including the National Nuclear Security Administration and the Federal Energy Regulatory Commission) audit, inspection, and investigative functions to identify and recommend corrections for management and administrative deficiencies, which create conditions for existing or potential instances of fraud, waste, abuse and violations of law. The audit function provides financial and performance audits of programs and operations. The inspection function provides independent inspection and analysis of the performance of programs and operations. The investigative function provides for the detection and investigation of improper and illegal activities involving programs, personnel, and operations. Through these efforts, the OIG identifies opportunities for cost savings and operational efficiency; identifies programs that are not meeting performance expectations; recovers monies to the Department and the Treasury as a result of civil and criminal prosecutions; and identifies ways to make Departmental programs safer and more secure.

Object Classification (in millions of dollars)

Identification code 089-0236-0-1-276	2015 actual	2016 est.	2017 est.
Direct obligations:			
Personnel compensation:			
11.1 Full-time permanent	27	29	27
11.5 Other personnel compensation	2	2	2
11.9 Total personnel compensation	29	31	29
12.1 Civilian personnel benefits	11	12	11
21.0 Travel and transportation of persons	1	1	1
25.2 Other services from non-Federal sources	3	3	3
25.3 Other goods and services from Federal sources	4	4	4
99.9 Total new obligations	48	51	48

Employment Summary

Identification code 089-0236-0-1-276	2015 actual	2016 est.	2017 est.
1001 Direct civilian full-time equivalent employment	277	279	279

WORKING CAPITAL FUND

Program and Financing (in millions of dollars)

Identification code 089-4563-0-4-276	2015 actual	2016 est.	2017 est.
Obligations by program activity:			
0801 Payroll and other personnel	6	8	8
0802 Project management and career development program	1	2	2
0810 Supplies	2	2	2
0812 Photocopying	4	3	3
0813 Printing and graphics	3	4	4
0814 Building rental, operations & maintenance	109	102	102
0815 iManage	40	30	30
0816 Mail and Transportation Services	4	4	4
0817 Internal control/Financial Statement Audit	10	12	12
0818 Procurement Management	18	18	18
0820 Telecommunication	34	32	32
0821 Overseas Representation	13	17	17
0822 Interagency Transfers to GSA	10	6	6
0823 Health Services	1	2	2
0824 CyberOne	22	33	33
0825 Corporate Training Services	2	3	3
0826 Financial Reporting Control Assessment	1	2	2
0827 Pension Studies .....	.....	1	1
0900 Total new obligations	280	281	281
Budgetary resources:			
Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	29	30	30
Budget authority:			
Spending authority from offsetting collections, discretionary:			
1700 Collected	281	281	281
1930 Total budgetary resources available	310	311	311
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	30	30	30
Change in obligated balance:			
Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1 .....	.....	131	74
3010 Obligations incurred, unexpired accounts	280	281	281
3020 Outlays (gross)	-277	-338	-337
3050 Unpaid obligations, end of year	131	74	18
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	128	131	74
3200 Obligated balance, end of year	131	74	18
Budget authority and outlays, net:			
Discretionary:			
4000 Budget authority, gross	281	281	281
Outlays, gross:			
4010 Outlays from new discretionary authority	149	270	270
4011 Outlays from discretionary balances	128	68	67
4020 Outlays, gross (total)	277	338	337
Offsets against gross budget authority and outlays:			
Offsetting collections (collected) from:			
4030 Federal sources	-281	-281	-281
4180 Budget authority, net (total) .....	.....	.....	.....
4190 Outlays, net (total)	-4	57	56

The Department's Working Capital Fund (WCF) provides the following shared services: rent and building operations, telecommunications, cyber-security, automated office systems including the Standard Accounting and Reporting System, Strategic Integrated Procurement Enterprise System, payroll and personnel processing, administrative services, training and health services, overseas representation, procurement management, audits, and controls for financial reporting. The WCF helps the Department reduce waste and improve efficiency.

Object Classification (in millions of dollars)

Identification code 089-4563-0-4-276	2015 actual	2016 est.	2017 est.
Reimbursable obligations:			
Personnel compensation:			
11.1 Full-time permanent	13	14	14
11.8 Special personal services payments	2	2	2
11.9 Total personnel compensation	15	16	16
12.1 Civilian personnel benefits	5	5	5
21.0 Travel and transportation of persons	2	2	2
22.0 Transportation of things	1	1	1

23.1 Rental payments to GSA	53	53	53
23.2 Rental payments to others	1	1	1
23.3 Communications, utilities, and miscellaneous charges	15	15	15
24.0 Printing and reproduction	1	1	1
25.1 Advisory and assistance services	44	44	44
25.2 Other services from non-Federal sources	20	20	20
25.3 Other goods and services from Federal sources	86	85	85
25.4 Operation and maintenance of facilities	24	25	25
25.6 Medical care	1	1	1
26.0 Supplies and materials	1	1	1
31.0 Equipment	2	2	2
32.0 Land and structures	9	9	9
99.9 Total new obligations	280	281	281

Employment Summary

Identification code 089-4563-0-4-276	2015 actual	2016 est.	2017 est.
2001 Reimbursable civilian full-time equivalent employment	94	94	94

GENERAL FUND RECEIPT ACCOUNTS

(in millions of dollars)

	2015 actual	2016 est.	2017 est.
Offsetting receipts from the public:			
089-223000 Oil and Gas Sale Proceeds at NPRs	2	.....	.....
089-279530 DOE ATM Direct Loans Downward Reestimate Account .....	.....	19	12
089-279730 DOE Loan Guarantees Downward Reestimate Account	131	112	.....
089-224500 Sale and Transmission of Electric Energy, Falcon Dam	2	1	1
089-089400 Fees and Recoveries, Federal Energy Regulatory Commission	17	24	9
089-322000 All Other General Fund Proprietary Receipts Including Budget Clearing Accounts	87	14	14
089-267910 Title 17 Innovative Technology Loan Guarantees, Negative Subsidies	65	48	37
089-224900 Sale of Power and Other Utilities, not Otherwise Classified	93	30	30
089-288900 Repayments on Miscellaneous Recoverable Costs, not Otherwise Classified	38	38	39
089-224700 Sale and Transmission of Electric Energy, Southwestern Power Administration	94	66	72
089-224800 Sale and Transmission of Electric Energy, Southeastern Power Administration	194	189	189
General Fund Offsetting receipts from the public	742	534	391
Intragovernmental payments:			
089-388500 Undistributed Intragovernmental Payments and Receivables from Cancelled Accounts .....	.....	7	7
General Fund Intragovernmental payments .....	.....	7	7

GENERAL PROVISIONS—DEPARTMENT OF ENERGY

(INCLUDING TRANSFER [AND RESCISSIONS] OF FUNDS)

SEC. 301. (a) No appropriation, funds, or authority made available by this title for the Department of Energy shall be used to initiate or resume any program, project, or activity or to prepare or initiate Requests For Proposals or similar arrangements (including Requests for Quotations, Requests for Information, and Funding Opportunity Announcements) for a program, project, or activity if the program, project, or activity has not been funded by Congress.

(b)(1) Unless the Secretary of Energy notifies the Committees on Appropriations of both Houses of Congress at least 3 full business days in advance, none of the funds made available in this title may be used to—

(A) make a grant allocation or discretionary grant award totaling \$1,000,000 or more;

(B) make a discretionary contract award or Other Transaction Agreement totaling \$1,000,000 or more, including a contract covered by the Federal Acquisition Regulation;

(C) issue a letter of intent to make an allocation, award, or Agreement in excess of the limits in subparagraph (A) or (B); or

(D) announce publicly the intention to make an allocation, award, or Agreement in excess of the limits in subparagraph (A) or (B).

(2) The Secretary of Energy shall submit to the Committees on Appropriations of both Houses of Congress within 15 days of the conclusion of each quarter a report detailing each grant allocation or discretionary grant award totaling less than \$1,000,000 provided during the previous quarter.

(3) The notification required by paragraph (1) and the report required by paragraph (2) shall include the recipient of the award, the amount of the award, the fiscal year for which the funds for the award were appropriated, the account and program, project, or activity from which the funds are being drawn, the title of the award, and a brief description of the activity for which the award is made.

(c) The Department of Energy may not, with respect to any program, project, or activity that uses budget authority made available in this title under the heading "Department of Energy—Energy Programs", enter into a multiyear contract, award a multiyear grant, or enter into a multiyear cooperative agreement unless—

(1) the contract, grant, or cooperative agreement is funded for the full period of performance as anticipated at the time of award; or

(2) the contract, grant, or cooperative agreement includes a clause conditioning the Federal Government's obligation on the availability of future year budget authority and the Secretary notifies the Committees on Appropriations of both Houses of Congress at least 3 days in advance.

(d) Except as provided in subsections (e), (f), and (g), the amounts made available by this title shall be expended as authorized by law for the programs, projects, and activities specified in the "Final Bill" column in the "Department of Energy" table included under the heading "Title III—Department of Energy" in the explanatory statement [described in section 4 (in the matter preceding division A of this consolidated) *accompanying this Act*].

(e) The amounts made available by this title may be reprogrammed for any program, project, or activity, and the Department shall notify the Committees on Appropriations of both Houses of Congress at least 30 days prior to the use of any proposed reprogramming that would cause any program, project, or activity funding level to increase or decrease by more than \$5,000,000 or 10 percent, whichever is less, during the time period covered by this Act.

(f) None of the funds provided in this title shall be available for obligation or expenditure through a reprogramming of funds that—

(1) creates, initiates, or eliminates a program, project, or activity;

(2) increases funds or personnel for any program, project, or activity for which funds are denied or restricted by this Act; or

(3) reduces funds that are directed to be used for a specific program, project, or activity by this Act.

(g)(1) The Secretary of Energy may waive any requirement or restriction in this section that applies to the use of funds made available for the Department of Energy if compliance with such requirement or restriction would pose a substantial risk to human health, the environment, welfare, or national security.

(2) The Secretary of Energy shall notify the Committees on Appropriations of both Houses of Congress of any waiver under paragraph (1) as soon as practicable, but not later than 3 days after the date of the activity to which a requirement or restriction would otherwise have applied. Such notice shall include an explanation of the substantial risk under paragraph (1) that permitted such waiver.

SEC. 302. The unexpended balances of prior appropriations provided for activities in this Act may be available to the same appropriation accounts for such activities established pursuant to this title. Available balances may be merged with funds in the applicable established accounts and thereafter may be accounted for as one fund for the same time period as originally enacted.

SEC. 303. Funds appropriated by this or any other Act, or made available by the transfer of funds in this Act, for intelligence activities are deemed to be specifically authorized by the Congress for purposes of section 504 of the National Security Act of 1947 (50 U.S.C. 3094) during fiscal year [2016]2017 until the enactment of the Intelligence Authorization Act for fiscal year [2016]2017.

SEC. 304. None of the funds made available in this title shall be used for the construction of facilities classified as high-hazard nuclear facilities under 10 CFR Part 830 unless independent oversight is conducted by the Office of [Independent] Enterprise Assessments to ensure the project is in compliance with nuclear safety requirements.

SEC. 305. None of the funds made available in this title may be used to approve critical decision-2 or critical decision-3 under Department of Energy Order 413.3B, or any successive departmental guidance, for construction projects where the total project cost exceeds \$100,000,000, until a separate independent cost estimate has been developed for the project for that critical decision.

SEC. 306. Notwithstanding section 301(c) of this Act, none of the funds made available under the heading "Department of Energy—Energy Programs—Science" in this or any subsequent Energy and Water Development and Related Agencies appropriations Act for any fiscal year may be used for a multiyear contract, grant, cooperative agreement, or Other Transaction Agreement of \$1,000,000 or less unless

the contract, grant, cooperative agreement, or Other Transaction Agreement is funded for the full period of performance as anticipated at the time of award.

SEC. 307. (a) None of the funds made available in this or any prior Act under the heading "Defense Nuclear Nonproliferation" may be made available to enter into new contracts with, or new agreements for Federal assistance to, the Russian Federation.

(b) The Secretary of Energy may waive the prohibition in subsection (a) if the Secretary determines that such activity is in the national security interests of the United States. This waiver authority may not be delegated.

(c) A waiver under subsection (b) shall not be effective until 15 days after the date on which the Secretary submits to the Committees on Appropriations of both Houses of Congress, in classified form if necessary, a report on the justification for the waiver.]

SEC. [308]307. (a) NEW REGIONAL RESERVES.—The Secretary of Energy may not establish any new regional petroleum product reserve unless funding for the proposed regional petroleum product reserve is explicitly requested in advance in an annual budget submission and approved by the Congress in an appropriations Act.

(b) The budget request or notification shall include—

(1) the justification for the new reserve;

(2) a cost estimate for the establishment, operation, and maintenance of the reserve, including funding sources;

(3) a detailed plan for operation of the reserve, including the conditions upon which the products may be released;

(4) the location of the reserve; and

(5) the estimate of the total inventory of the reserve.

SEC. 309. Of the amounts made available by this Act for "National Nuclear Security Administration—Weapons Activities", up to \$50,000,000 may be reprogrammed within such account for Domestic Uranium Enrichment, subject to the notice requirement in section 301(e).]

SEC. 310. (a) Unobligated balances available from appropriations are hereby rescinded from the following accounts of the Department of Energy in the specified amounts:

(1) "Energy Programs—Energy Efficiency and Renewable Energy", \$1,355,149.00 from Public Law 110–161; \$627,299.24 from Public Law 111–8; and \$1,824,051.94 from Public Law 111–85.

(2) "Energy Programs—Science", \$3,200,000.00.

(b) No amounts may be rescinded by this section from amounts that were designated by the Congress as an emergency requirement pursuant to a concurrent resolution on the budget or the Balanced Budget and Emergency Deficit Control Act of 1985.]

SEC. 311. Notwithstanding any other provision of law, the provisions of 40 U.S.C. 11319 shall not apply to funds appropriated in this title to Federally Funded Research and Development Centers sponsored by the Department of Energy.]

SEC. 312. None of the funds made available in this Act may be used—

(1) to implement or enforce section 430.32(x) of title 10, Code of Federal Regulations; or

(2) to implement or enforce the standards established by the tables contained in section 325(i)(1)(B) of the Energy Policy and Conservation Act (42 U.S.C. 6295(i)(1)(B)) with respect to BPAR incandescent reflector lamps, BR incandescent reflector lamps, and ER incandescent reflector lamps.]

SEC. 313. (a) Of the funds appropriated in prior Acts under the headings "Fossil Energy Research and Development" and "Clean Coal Technology" for prior solicitations under the Clean Coal Power Initiative and FutureGen, not less than \$160,000,000 from projects selected under such solicitations that have not reached financial close and have not secured funding sufficient to construct the project prior to 30 days after the date of enactment of this Act shall be deobligated, if necessary, shall be utilized for previously selected demonstration projects under such solicitations that have reached financial close or have otherwise secured funding sufficient to construct the project prior to 30 days after the date of enactment of this Act, and shall be allocated among such projects in proportion to the total financial contribution by the recipients to those projects stipulated in their respective cooperative agreements.

(b) Funds utilized pursuant to subsection (a) shall be administered in accordance with the provisions in the Act in which the funds for those demonstration projects were originally appropriated, except that financial assistance for costs in excess of those estimated as of the date of award of the original financial assistance may be provided in excess of the proportion of costs borne by the Government in the original agreement and shall not be limited to 25 percent of the original financial assistance.

(c) No amounts may be repurposed pursuant to this section from amounts that were designated by the Congress as an emergency requirement pursuant to a

concurrent resolution on the budget or the Balanced Budget and Emergency Deficit Control Act of 1985.

(d) This section shall be fully implemented not later than 60 days after the date of enactment of this Act.】

SEC. 308. *Amounts made available by this title may be transferred to the Technology Commercialization Fund in amounts not to exceed 0.9% of the amounts appropriated for applied energy research and development. Amounts so transferred shall be available for a broad spectrum of energy technology or combination of technologies, consistent with section 1001 of the Energy Policy Act of 2005 (42 U.S. Code paragraph 16391(e)), and shall remain available until expended.*

SEC. 309. *Not to exceed 5 percent of any appropriation made available for Department of Energy activities funded in this Act or subsequent Energy and Water Development and Related Agencies Appropriations Acts may be transferred between such appropriations, but no such appropriation, except as otherwise provided, shall be increased or decreased by more than 5 percent by any such transfers, and notification of any such transfers shall be submitted promptly to the Committees on Appropriations of the House of Representatives and the Senate.*

SEC. 310. *Consolidated Emergency Operations Center. Amounts available for the Department of Energy under this title in this and prior appropriations Acts shall be available for the design of a consolidated Emergency Operations Center: Provided, That no amounts may be repurposed from amounts that were designated by the Congress as an emergency requirement pursuant to the Concurrent Resolution on the Budget or the Balanced Budget and Emergency Deficit Control Act of 1985, as amended.*

SEC. 311. *TREATMENT OF LOBBYING AND POLITICAL ACTIVITY COSTS AS ALLOWABLE COSTS UNDER DEPARTMENT OF ENERGY CONTRACTS.*

(a) *Allowable Costs.—*

(1) *Section 4801(b) of the Atomic Energy Defense Act (50 U.S.C. 2781(b)) is amended—*

(A) *by striking "(1)" and all that follows through "the Secretary" and inserting "The Secretary"; and*

(B) *by striking paragraph (2).*

(2) *Section 305 of the Energy and Water Development Appropriation Act, 1988, as contained in section 101(d) of Public Law 100–202 (101 Stat. 1329–125), is repealed.*

(b) *Regulations Revised.—The Secretary of Energy shall revise existing regulations consistent with the repeal of 50 U.S.C. 2781(b)(2) and section 305 of Public Law 100–202 and shall issue regulations to implement 50 U.S.C. 2781(b), as amended by subsection (a), no later than 150 days after the date of the enactment of this Act. Such regulations shall be consistent with the Federal Acquisition Regulation 48 C.F.R. 31.205–22.*

(Energy and Water Development and Related Agencies Appropriations Act, 2016.)

TITLE V—GENERAL PROVISIONS

GENERAL PROVISIONS

SEC. 501. None of the funds appropriated by this Act may be used in any way, directly or indirectly, to influence congressional action on any legislation or appropriation matters pending before Congress, other than to communicate to Members of Congress as described in 18 U.S.C. 1913.

【SEC. 502. (a) None of the funds made available in title III of this Act may be transferred to any department, agency, or instrumentality of the United States Government, except pursuant to a transfer made by or transfer authority provided in this Act or any other appropriations Act for any fiscal year, transfer authority referenced in the explanatory statement described in section 4 (in the matter preceding division A of this consolidated Act), or any authority whereby a department, agency, or instrumentality of the United States Government may provide goods or services to another department, agency, or instrumentality.

(b) None of the funds made available for any department, agency, or instrumentality of the United States Government may be transferred to accounts funded in title III of this Act, except pursuant to a transfer made by or transfer authority provided in this Act or any other appropriations Act for any fiscal year, transfer authority referenced in the explanatory statement described in section 4 (in the matter preceding division A of this consolidated Act), or any authority whereby a department, agency, or instrumentality of the United States Government may provide goods or services to another department, agency, or instrumentality.

(c) The head of any relevant department or agency funded in this Act utilizing any transfer authority shall submit to the Committees on Appropriations of both Houses of Congress a semiannual report detailing the transfer authorities, except for any authority whereby a department, agency, or instrumentality of the United States Government may provide goods or services to another department, agency, or instrumentality, used in the previous 6 months and in the year-to-date. This report shall include the amounts transferred and the purposes for which they were transferred, and shall not replace or modify existing notification requirements for each authority.】

SEC. 【503】502. None of the funds made available by this Act may be used in contravention of Executive Order No. 12898 of February 11, 1994 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations). *(Energy and Water Development and Related Agencies Appropriations Act, 2016.)*

