



CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

June 13, 2008

S. 3001 **National Defense Authorization Act for Fiscal Year 2009**

*As reported by the Senate Committee on Armed Services
on May 12, 2008*

SUMMARY

S. 3001 would authorize appropriations totaling \$601 billion for fiscal year 2009 for the military functions of the Department of Defense (DoD), for certain activities of the Department of Energy (DOE), and for other purposes. That total includes \$70 billion for military operations in Iraq and Afghanistan. The bill also would authorize \$0.4 billion in 2008 supplemental appropriations for military construction projects. In addition, S. 3001 would prescribe personnel strengths for each active-duty and selected reserve component of the U.S. armed forces. CBO estimates that appropriation of the authorized amounts would result in additional outlays of \$594 billion over the 2009-2013 period.

Including outlays from funds previously appropriated, spending for defense programs authorized by the bill would total about \$600 billion in 2009, CBO estimates. That figure, however, does not include outlays from the likely enactment of supplemental appropriations for 2008 that would not be authorized by this bill. When including the effect of those additional appropriations for 2008—at the level that has been passed by the Senate—such spending in 2009 would exceed \$630 billion.

The bill also contains provisions that would both increase and decrease costs of discretionary defense programs in future years. Most of those provisions would affect force structure, compensation, and benefits. In total, such provisions would raise costs in future years by about \$1 billion to \$2 billion annually.

In addition, S. 3001 contains provisions that would both increase and decrease direct spending, primarily from multiyear authority to develop and procure alternative fuels and various forms of renewable energy, and from changes in retirement benefits. In total, enacting those provisions would increase direct spending by \$83 million in 2009,

\$587 million over the 2009-2013 period, and \$6.4 billion over the 2009-2018 period. Enacting the bill would not affect revenues.

S. 3001 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA).

ESTIMATED COST TO THE FEDERAL GOVERNMENT

The estimated budgetary impact of S. 3001 is summarized in Table 1. Most of the costs of this legislation fall within budget function 050 (national defense).

BASIS OF ESTIMATE

For this estimate, CBO assumes that S. 3001 will be enacted near the start of fiscal year 2009 and that the authorized amount will be appropriated for that year.

Spending Subject to Appropriation

The bill would specifically authorize appropriations totaling \$601 billion for 2009 (see Table 2). Of that amount, \$70 billion would be for DoD's costs associated with continuing operations in Iraq and Afghanistan. Nearly all of those authorizations fall within budget function 050 (national defense); a small portion—\$63 million for the Armed Forces Retirement Home—falls within budget function 600 (income security).

For 2008, the bill would authorize \$0.4 billion in supplemental appropriations for military construction programs. Assuming appropriations are provided near the end of fiscal year 2008, CBO estimates that outlays from that additional funding would begin in fiscal year 2009.

The estimate assumes that the amounts authorized for 2009 will be appropriated near the start of fiscal year 2009. The estimated outlays from authorizations of regular appropriations are based on historical spending patterns.

S. 3001 also contains provisions that would both increase and decrease various costs, mostly for changes in end strength, military compensation, and health benefits, that would be covered by this legislation and by authorizations in future years. Those estimated authorizations, which are discussed below, are shown in Table 3. The following discussion does not address the timing of outlays from those estimated authorizations.

TABLE 1. BUDGETARY IMPACT OF S. 3001, THE NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2009

	By Fiscal Year, in Millions of Dollars					
	2008	2009	2010	2011	2012	2013
SPENDING SUBJECT TO APPROPRIATION						
Spending Under Current Law for Programs Authorized by S. 3001						
Budget Authority ^a	581,275	0	0	0	0	0
Estimated Outlays	567,056	220,658	80,350	28,381	11,404	4,810
Proposed Changes						
Authorization of Supplemental Appropriations for 2008						
Authorization Level	355	0	0	0	0	0
Estimated Outlays	0	25	150	123	37	12
Authorization of Regular Appropriations for 2009						
Authorization Level	0	531,391	0	0	0	0
Estimated Outlays	0	340,771	123,458	41,429	13,482	5,401
Authorization of Appropriations for 2009 for Military Operations in Iraq and Afghanistan						
Authorization Level	0	70,000	0	0	0	0
Estimated Outlays	0	38,562	19,863	7,846	2,291	699
Subtotal, Proposed Changes						
Authorization Level	355	601,391	0	0	0	0
Estimated Outlays	0	379,358	143,471	49,398	15,810	6,112
Total—Including Spending Authorized by S. 3001						
Authorization Level	581,630	601,391	0	0	0	0
Estimated Outlays	567,056	600,016	223,821	77,779	27,214	10,922
CHANGES IN DIRECT SPENDING ^b						
Estimated Budget Authority	0	98	196	98	103	107
Estimated Outlays	0	83	115	128	143	118

Notes: The Congress is now considering the President’s request for \$103 billion in supplemental defense appropriations for 2008, primarily for military operations in Iraq and Afghanistan. Aside from the \$0.4 billion in additional 2008 funding that would be authorized for military construction projects, S. 3001 would not authorize the supplemental funds requested by the President. If, however, the Congress ultimately provides supplemental appropriations at a level that has been passed by the Senate, outlays from that funding would total an estimated \$29 billion in 2008, \$35 billion in 2009, and smaller amounts in future years.

For 2009, the authorization levels under “Proposed Changes” include amounts specifically authorized by the bill. The bill also implicitly authorizes some activities in 2010 through 2013; those authorizations are not included above (but are shown in Table 3) because funding for those activities would be covered by specific authorizations in future years.

- a. The 2008 level is the amount appropriated for programs authorized by the bill. That level is slightly lower than the comparable 2008 figure presented in CBO’s cost estimate for H.R. 5658, the National Defense Authorization Act for Fiscal Year 2009, as reported by the House Committee on Armed Services, because H.R. 5658 would authorize appropriations for some existing programs that would not be authorized by S. 3001.
- b. In addition to the direct spending effects shown here, enacting the bill would have additional effects on direct spending after 2013 (see Table 4). In total, CBO estimates that enacting the bill would increase direct spending by \$6.4 billion over the 2009-2018 period.

TABLE 2. SPECIFIED AUTHORIZATIONS IN S. 3001 FOR FISCAL YEAR 2009 ^a

Category	By Fiscal Year, in Millions of Dollars				
	2009	2010	2011	2012	2013
Authorization of Regular Appropriations					
Department of Defense					
Military Personnel ^b					
Authorization Level	124,503	0	0	0	0
Estimated Outlays	118,776	5,229	125	12	0
Operation and Maintenance					
Authorization Level	179,666	0	0	0	0
Estimated Outlays	131,466	37,370	6,950	1,858	746
Procurement					
Authorization Level	105,083	0	0	0	0
Estimated Outlays	28,917	38,958	21,861	8,015	3,205
Research and Development					
Authorization Level	79,494	0	0	0	0
Estimated Outlays	43,496	28,650	4,792	1,149	364
Military Construction and Family Housing					
Authorization Level	24,795	0	0	0	0
Estimated Outlays	4,113	8,740	6,936	2,516	1,095
Revolving Funds ^c					
Authorization Level	1,795	0	0	0	0
Estimated Outlays	2,372	462	140	82	41
General Transfer Authority					
Authorization Level	0	0	0	0	0
Estimated Outlays	700	-150	-300	-150	-50
Subtotal, Department of Defense					
Authorization Level	515,336	0	0	0	0
Estimated Outlays	329,840	119,259	40,504	13,482	5,401
Atomic Energy Defense Activities ^d					
Authorization Level	15,992	0	0	0	0
Estimated Outlays	10,877	4,190	925	0	0
Armed Forces Retirement Home					
Authorization Level	63	0	0	0	0
Estimated Outlays	54	9	0	0	0
Subtotal, Authorization of Regular Appropriations					
Authorization Level	531,391	0	0	0	0
Estimated Outlays	340,771	123,458	41,429	13,482	5,401

(Continued)

TABLE 2. CONTINUED

Category	By Fiscal Year, in Millions of Dollars				
	2009	2010	2011	2012	2013
Authorization of Appropriations for Military Operations in Iraq and Afghanistan					
Military Personnel	3,000	0	0	0	0
Authorization Level	2,987	0	0	0	0
Estimated Outlays					
Operation and Maintenance					
Authorization Level	51,100	0	0	0	0
Estimated Outlays	32,091	13,372	4,054	936	305
Procurement					
Authorization Level	14,200	0	0	0	0
Estimated Outlays	2,962	5,703	3,488	1,286	376
Research and Development					
Authorization Level	200	0	0	0	0
Estimated Outlays	106	74	13	4	1
Military Construction and Family Housing					
Authorization Level	500	0	0	0	0
Estimated Outlays	11	207	187	63	24
Revolving Funds					
Authorization Level	1,000	0	0	0	0
Estimated Outlays	300	530	134	25	8
Special Transfer Authority					
Authorization Level	0	0	0	0	0
Estimated Outlays	105	-23	-30	-23	-15
Subtotal, Iraq and Afghanistan					
Authorization Level	70,000	0	0	0	0
Estimated Outlays	38,562	19,863	7,846	2,291	699
Total Specified Authorizations					
Authorization Level	601,391	0	0	0	0
Estimated Outlays	379,333	143,321	49,275	15,773	6,100

Notes: This table summarizes the authorizations of appropriations for 2009 that are explicitly stated in the bill—in specified amounts. Various provisions of the bill would authorize activities and provide authorities that also would result in costs in future years. Because the bill does not authorize appropriations to cover those future costs, they are not reflected in this table. Rather, Table 3 contains the estimated costs of a select number of those provisions.

- a. This table does not include \$355 million in specified authorizations of supplemental 2008 appropriations for military construction programs.
- b. The authorization of appropriations for military personnel includes \$10,351 million for accrual payments to the Medicare-Eligible Retiree Health Care Fund for the TRICARE For Life program.
- c. This authorization includes the effect of section 1403, which would authorize the transfer of up to \$1.3 billion of unobligated balances from the National Defense Stockpile Transaction Fund to the Defense Health Program. That transfer from the stockpile, which would be subject to appropriation action, would lower the 2009 authorization level for the revolving funds by an estimated \$1.3 billion. However, the transfer would not affect outlays in the revolving funds over the 2009-2013 period because under current law those balances are unlikely to be spent.
- d. This authorization is primarily for atomic energy activities within the Department of Energy.

TABLE 3. ESTIMATED AUTHORIZATIONS OF APPROPRIATIONS FOR SELECTED PROVISIONS IN S. 3001

Category	By Fiscal Year, in Millions of Dollars					2009-
	2009	2010	2011	2012	2013	2013
FORCE STRUCTURE						
Army and Marine Corps Active-Duty End Strengths	2,046	2,516	2,529	2,273	2,172	11,536
Navy and Air Force Active-Duty End Strengths	-1,128	-2,103	-2,168	-2,239	-2,313	-9,951
Reserve Component End Strengths	210	392	408	419	429	1,858
Reserve Technicians	80	163	167	172	177	759
COMPENSATION AND BENEFITS (DoD)						
Pay Raises	324	441	454	466	480	2,165
Expiring Bonuses and Allowances	54	25	9	2	1	91
Education for Military Spouses	40	64	89	117	146	456
Foreign Language Pay SROTC	17	35	36	37	38	163
Transportation Allowance	0	26	27	27	28	108
Disability Separation Payments	11	11	12	12	13	59
Bonuses for Psychologists	5	3	3	4	4	19
DEFENSE HEALTH PROGRAM						
Reserve Dental Readiness	22	30	32	33	35	152
Demonstration Projects	0	50	50	50	0	150
Center of Excellence for Extremity Injuries	5	10	10	10	10	45
MATTERS RELATING TO FOREIGN NATIONS						
Assistance to North Korea	300	200	50	25	0	575
Other Provisions	645	645	650	15	15	1,970

Notes: For every item in this table, the 2009 levels are included in Table 2 as amounts specifically authorized to be appropriated by the bill. Amounts shown in this table for 2010 through 2013 are not included in Table 1, because authorizations for those amounts would be covered by specific authorizations in future years.

SROTC = Senior Reserve Officers Training Corps.

Figures shown here may not add to numbers in the text because of rounding.

Force Structure. The bill would affect force structure by setting end-strength levels for the various military services.

Title IV would authorize end-strength levels in 2009 for active-duty personnel and personnel in the selected reserves of about 1,370,000 and 850,000, respectively. Of those reservists, about 78,800 would serve on active duty in support of the reserves. In total, active-duty end strength would decrease by about 4,600 and selected-reserve end strength would increase by about 160 when compared to levels authorized for 2008.

Section 401 would authorize increases to the active-duty end strengths of the Army and Marine Corps relative to the personnel levels authorized for 2008. CBO estimates that those increases—7,000 additional personnel for the Army and 5,000 for the Marine Corps—would increase costs to DoD by about \$12 billion over the 2009-2013 period. Those costs include the pay and benefits of the additional personnel, as well as costs for operation and maintenance, procurement, and construction.

Section 401 also would decrease the active-duty end strength of the Navy by about 3,800 and that of the Air Force by about 12,800. CBO estimates that, combined, those decreases in end strength would cut costs for salaries and other expenses by about \$1 billion in the first year and about \$2 billion annually thereafter.

Sections 411, 412, and 416 would authorize the end strengths for the reserve components, including those full-time reservists who serve on active duty in support of the reserves. Under this bill, the selected reserve would experience a net increase in end strength of 156, with the Navy Reserve and Air Force Reserve losing personnel while the Army Guard and Air Guard would see an increase. The number of full-time reservists who serve on active duty in support of the reserves would increase by over 3,200. CBO estimates that the net result of implementing those provisions would be an increase in costs for salaries and other expenses for selected reservists of \$210 million in 2009 and about \$410 million a year thereafter, as compared to the authorized end-strength levels for 2008.

In addition, sections 413, 414, and 416 would authorize higher end-strength levels for military technicians, who are federal civilian personnel required to maintain membership in a selected reserve component as a condition of their employment. Under this bill, the number of technicians would increase by up to 2,024 relative to the levels currently authorized. CBO estimates the costs in civilian salaries and expenses that would result from additional military technicians would be about \$80 million in 2009 and about \$170 million annually thereafter, as compared to the minimum end-strength levels for technicians in 2008.

The bill also would authorize an end strength of 10,000 servicemembers in 2009 for the Coast Guard Reserve. Because this authorization is the same as that under current law, CBO does not estimate any additional costs for this provision.

Compensation and Benefits. S. 3001 contains several provisions that would affect military compensation and benefits for uniformed personnel.

Pay Raise. Section 601 would raise basic pay for all individuals in the uniformed services by 3.9 percent, effective January 1, 2009. CBO estimates the total cost of a 3.9 percent raise in 2009 would be about \$2.5 billion. Because the pay raise would be above that projected under current law (which calls for a 3.4 percent across-the-board increase on January 1, 2009), CBO estimates that the incremental cost associated with the larger pay raise would be about \$2.2 billion over the 2009-2013 period.

Expiring Bonuses and Allowances. Sections 611 through 615 would extend DoD's authority to pay certain bonuses and allowances to military personnel for another year. Most of those bonuses and allowances have dual authorities, established in section 661 of the National Defense Authorization Act for Fiscal Year 2008 (Public Law 110-181), which currently extend through December 2009. Several of the benefits, including some without dual authority, are scheduled to expire in December 2008. Based on DoD's budget material, CBO estimates that extending those authorities through December 2009 would cost \$91 million over the 2009-2013 period.

Education for Military Spouses. Section 571 would give the Secretary of Defense the authority to establish programs to help military spouses acquire education and training, and to provide tuition assistance. According to DoD, this authority would be used narrowly to reimburse military spouses for the cost of obtaining an associates degree, or the necessary licenses or other credentials to support a one-time change to a career that can be readily transferred to a new location, such as nursing, bookkeeping, or teaching. In addition, DoD would limit the program to pay a maximum of \$6,000 for two years of education or training. CBO estimates that about 16,500 military spouses would receive an average annual benefit of about \$2,400 in the program's first year and that the program would eventually grow to fund education benefits for over 60,000 military spouses a year. This section would cost \$456 million over the 2009-2013 period, CBO estimates.

Foreign Language Pay. Section 619 would authorize the Secretary of Defense to establish a program to encourage members of the Senior Reserve Officer Training Corps (SROTC) to study certain critical foreign languages. Under this program, DoD could pay incentive pay to qualified students. Based on information from DoD, CBO estimates that about 15,000 SROTC students would participate in the program each year and earn about \$200 each month

in incentive pay. On that basis, CBO estimates that the pilot program would cost about \$17 million in 2009 and close to \$40 million a year until the program expires in December 2013.

Transportation Allowance. Section 632 would increase the amount of certain household goods servicemembers are allowed to move by up to 500 pounds. This authority would become effective October 1, 2009. Based on information from DoD, CBO estimates that almost 100,000 military families would, on average, use half the allowed weight increase—250 pounds—and that this section would cost \$26 million starting in 2010 and total \$108 million over the 2010-2013 period.

Disability Separation Payments. Section 1061 would authorize the Secretary of Defense to make separation payments to members with less than six months of service who are separated due to medical conditions that are either caused or aggravated by military service. Based on data from the Defense Manpower Data Center, CBO estimates that an additional 1,300 members would become eligible for separation payments each year because of this expanded authority. CBO estimates the average payment would be about \$8,000, which is based on the separation payment calculation for a servicemember in the E-1 pay grade with less than a year of service. In total, CBO estimates that this section would increase the cost of separation payments by \$59 million over the 2009-2013 period.

Bonuses for Psychologists. Section 617 would establish new accession and retention bonuses specifically for psychologists. Based on information from DoD, CBO estimates that DoD would pay lump-sum accession bonuses of \$70,000 to about 50 psychologists, who would agree to serve in the military for a minimum of four years. Under section 617, DoD's authority to enter into such agreements would expire on December 31, 2009. In addition, CBO estimates that each year DoD would pay another 50 psychologists—who already are serving in the military—about \$20,000 annually to remain on active duty for four more years. The authority to pay this retention bonus would not expire. CBO estimates that section 617 would cost \$19 million over the 2009-2013 period.

Defense Health Program. Titles VII and X contain several provisions that would improve health care for military personnel. In total, CBO estimates those provisions would increase costs to DoD by about \$350 million over the 2009-2013 period.

Reserve Dental Readiness. Section 711 would increase the amount of dental care that DoD provides to reserve personnel at no charge. In total, CBO estimates those changes would cost DoD an additional \$152 million over the 2009-2013 period.

Section 711 would allow the Secretary of Defense to waive copayments for reservists enrolled in the TRICARE Dental Program during periods of national emergency.¹ There are currently about 60,000 reserve members enrolled in the TRICARE Dental Program. Although enrolled reservists have no copayments for preventive services, copayments for restorative and orthodontic services range from 20 percent to 50 percent. Based on an analysis of data from the department's annual budget justification exhibits, CBO estimates that, on average, reserve members enrolled in the TRICARE Dental Program use about \$340 per year in restorative and orthodontic services, of which they contribute about \$110 in copayments per year. Therefore, waiving copayments for reserve personnel enrolled in the TRICARE Dental Program would increase DoD's costs by about \$7 million per year. In addition, CBO estimates that waiving copayments would increase overall usage of those services by about 50 percent, based on the results of several studies that examine the relationship between price and demand for dental services. Because DoD would be required to pay both the government's and members' cost shares for those services, the cost for the additional care would be about \$12 million year.

Section 711 also would require the Navy, Air Force, and Marine Corps to provide free dental care to reserve component members scheduled for deployment. While all of the services require reserve members to undergo annual medical and dental screenings, only the Army currently has authority to provide follow-up dental care at no cost to deploying reserve members. Based on the number of personnel requiring follow-up dental care under the Army's reserve medical readiness programs, and after making adjustments for differences among the services in the number of deploying reserve members and variations in overall dental readiness,² CBO estimates the Navy, Air Force, and Marine Corps would be required to provide additional dental care to about 8,000 reservists per year. CBO estimates the annual cost to provide follow-up care to those reservists would be about \$1,200 per person, or about \$10 million per year, based on information from the Army's reserve readiness program. (The annual cost per person is higher than that for members receiving care through the TRICARE Dental Program because members identified for follow-up dental care through mandatory screenings typically have much lower levels of dental readiness.)

Other Provisions. Other health care provisions in titles VII and X would cost DoD about \$195 million over the 2009-2013 period, CBO estimates. Section 712 would authorize the Secretary of Defense to conduct various demonstration programs, including programs to

-
1. A declared national emergency has existed since September 14, 2001. For this estimate, CBO assumes existing national emergency declarations will be extended through at least 2013.
 2. The reserve components of the Navy, Air Force, and Marine Corps have generally been able to maintain higher standards of dental readiness than the Army. See Department of Defense, Defense Health Board, *Task Force on the Future of Military Health Care: Final Report* (December 2007), p.61.

encourage use of preventive health services, provide incentives to health professionals, improve reserve medical and dental readiness, and provide continuity of health care for dependents of reserve members called to active duty. CBO estimates that if the Secretary were to carry out each of the programs authorized by this section, the cost would be about \$50 million per year over a period of three years, based on costs for other demonstration projects.

Section 1066 would establish a Center of Excellence in the Mitigation, Treatment, and Rehabilitation of Traumatic Extremity Injuries and Amputations. CBO estimates the funding required by such a center would be about \$45 million over the 2009-2013 period, based on the funding provided to other centers of excellence within DoD and the Department of Veterans Affairs.

Matters Relating to Foreign Nations. The bill contains several provisions that would affect spending on matters relating to foreign nations.

Assistance to Dismantle Nuclear Facilities in North Korea. Section 1221 would authorize the President to waive certain restrictions that were imposed against North Korea after it tested a nuclear device in 2006. Specifically, the bill would allow the United States to assist North Korea in dismantling three nuclear facilities at Yongbyon: the reactor, the nearby plant that fabricates natural uranium into fuel for the reactor core, and the chemical reprocessing plant where plutonium is separated from the spent fuel rods. Based on information from the State Department and the Department of Energy, CBO estimates that the costs of dismantling the nuclear reactor and the nearby plants, as well as transporting and reprocessing the spent fuel outside of North Korea, would total about \$575 million and that the process would take four years to complete.

Other Provisions. Title XII contains several other provisions that would affect DoD's spending on matters relating to foreign nations. CBO estimates that the costs for those programs would total about \$645 million in 2009 and about \$2 billion over the 2009-2013 period. Various sections of title XII would modify authorization levels for existing programs—or provide new authority—by:

- Extending by three years, through 2011, the authorization for U.S. efforts to expand the capacity of foreign military forces to conduct counterterrorism operations and authorizing \$400 million a year (\$300 million is currently authorized for that purpose),

- Extending by three years, through 2011, the authority to assist U.S. efforts to secure and stabilize foreign countries, at an authorized level of \$200 million a year (\$100 million is currently authorized for that purpose),
- Increasing the authorization level to \$35 million a year for foreign officials to receive training under the Regional Defense Combating Terrorism Fellowship Program (\$25 million is currently authorized for that purpose),
- Extending by one year, through 2011, the authority for U.S. efforts to provide special operations forces to combat terrorism and increasing the authorization level to \$35 million a year (\$25 million is currently authorized through 2010 for that purpose),
- Authorizing \$20 million annually, through 2010, to assist in the recovery of U.S. military personnel from hostile environments, and
- Permanently authorizing DoD to participate in multinational military centers of excellence, at an estimated cost of \$5 million annually.

Direct Spending

The bill contains provisions that would increase and decrease direct spending. The major effects on direct spending would result from authorities relating to alternative and renewable energy and changes to retirement benefits. We estimate that, in total, the bill would increase direct spending by \$83 million in 2009, \$587 million over the 2009-2013 period, and \$6.4 billion over the 2009-2018 period (see Table 4).

Multiyear Procurement Authority for Synthetic and Alternative Fuels. Section 821 would allow the Department of Defense to enter into contracts with terms of up to 10 years for the acquisition of synthetic and alternative fuels. CBO expects that under those contracts, DoD would commit to purchase a certain amount of fuel during each year of the contract. Those guaranteed payments would allow makers of synthetic fuels such as those derived from coal or natural gas, and alternative fuels such as ethanol, to recover some or all of the capital costs of the plants and refineries that would be built to produce the fuel. Thus, those federal commitments would likely provide producers with a guaranteed source of income that would enable them to obtain financing for development and construction from private-sector lenders. DoD would use such contracts to finance new facilities intended to produce fuel for federal consumption, and CBO considers spending for those facilities to be a governmental expenditure.

TABLE 4. ESTIMATED IMPACT OF S. 3001 ON DIRECT SPENDING

	By Fiscal Year, in Millions of Dollars										Total	Total
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2009-2013	2009-2018
CHANGES IN DIRECT SPENDING												
Multiyear Procurement Authority for Synthetic and Alternative Fuels												
Estimated Budget Authority	0	100	0	0	0	0	5,780	0	0	0	100	5,880
Estimated Outlays	0	20	30	40	10	0	1,160	1,730	2,310	580	100	5,880
Renewable Energy Facilities on Federal Land												
Estimated Budget Authority	100	101	102	103	104	0	0	0	0	0	510	510
Estimated Outlays	85	100	102	103	105	15	0	0	0	0	495	510
Incentives Related to Energy Savings												
Estimated Budget Authority	2	4	6	8	10	12	14	16	18	20	30	110
Estimated Outlays	2	4	6	8	10	12	14	16	18	20	30	110
Delayed Retirement for Military Technicians												
Estimated Budget Authority	-5	-7	-7	-6	-6	-6	-5	-5	-5	-4	-31	-56
Estimated Outlays	-5	-7	-7	-6	-6	-6	-5	-5	-5	-4	-31	-56
Retirement Age of Certain Reserve Officers												
Estimated Budget Authority	-1	-2	-2	-1	-1	-1	-1	-1	-1	-1	-7	-12
Estimated Outlays	-1	-2	-2	-1	-1	-1	-1	-1	-1	-1	-7	-12
Education Benefits for Reserve Component Members												
Estimated Budget Authority	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-5	-10
Estimated Outlays	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-5	-10
Retirement of Warrant Officers												
Estimated Budget Authority	1	1	*	*	1	1	1	1	1	1	3	8
Estimated Outlays	1	1	*	*	1	1	1	1	1	1	3	8
Insurance Coverage for Deployed Civilians												
Estimated Budget Authority	2	*	*	*	*	*	*	*	*	*	2	2
Estimated Outlays	2	*	*	*	*	*	*	*	*	*	2	2
Total												
Estimated Budget Authority	98	196	98	103	107	5	5,788	10	12	15	602	6,432
Estimated Outlays	83	115	128	143	118	20	1,168	1,740	2,322	595	587	6,432

Notes: * = less than \$500,000.

Numbers may not add up to totals because of rounding.

Because the technology to produce synthetic fuels such as liquid fuel from coal has not yet proven commercially viable—there are only a few facilities operating worldwide, and none in the United States—it is difficult to obtain the financing needed to develop and construct such facilities at acceptable interest rates. The production of alternative fuels such as ethanol and biodiesel is not profitable without a variety of government support programs and regulatory requirements, such as tax credits, import tariffs, and the renewable fuel standard, which requires refiners to blend a certain amount of alternative fuels with the gasoline they produce. Thus, some form of government commitment will be necessary to facilitate the construction of production capacity to meet DoD’s demand for synthetic and alternative fuels. We expect that the long-term contracts that would be authorized by section 821 would provide lenders the surety they need to make loans to enable the construction of such facilities.

Under current law, the department can enter into multiyear contracts for the acquisition of property, services, and energy conservation equipment—in which it commits to making payments over the term of the contract—without appropriations for the full cost of those items. For those contracts, DoD obtains budget authority and records obligations only for the payments due in the first year of the contract, even though its actual contractual obligations exceed those initial payments. CBO expects that DoD would implement the authority in section 821 in a similar manner. That budgetary treatment, however, is inconsistent with government-wide accounting principles indicating that the budget should reflect the full cost of those commitments as new obligations at the time that such a contract is signed. CBO thus believes that section 821 would provide DoD with contract authority—a form of budget authority—because it would allow the department to incur obligations in excess of available appropriations. Providing such authority constitutes direct spending.

Based on DoD’s plans to reduce its consumption of imported petroleum products, CBO estimates that within the next 10 years, synthetic and alternative fuels could account for 10 percent (approximately 12 million barrels per year) of DoD’s annual purchases of fuel for aircraft and ground vehicles. Most of that fuel would come from synthetic sources. Ethanol lacks the energy to power military aircraft engines and is not commonly blended for use in diesel engines, which are common in military vehicles. Thus, CBO assumes that 90 percent of fuel purchased under those multiyear contracts would be synthetic fuel produced from coal and the remainder would be alternative fuels such as ethanol and biodiesel.

Because it will be at least several years before the technology for coal-to-liquid fuel production is mature enough for commercial deployment in the United States, CBO estimates that expenditures for synthetic fuel plants would begin in 2015. Contracts for alternative fuels could be signed sooner, and we expect that construction of ethanol or biodiesel plants would begin by 2010. CBO estimates that it would cost approximately \$5.8 billion to

construct a synthetic fuel plant with the capacity to produce 11 million barrels annually and about \$100 million to construct ethanol plants with the capacity to produce 1 million barrels per year. Thus, enacting section 821 would increase direct spending by an estimated \$5.9 billion over the 2009-2018 period.

Renewable Energy Facilities on Federal Land. Section 2831 would allow DoD to enter contracts with terms of up to 30 years, to develop facilities for the production of renewable energy on military lands. The department currently has similar authority for the development of geothermal energy sources.

CBO expects that under such contracts, the department would commit to purchasing a guaranteed amount of the electricity produced on military lands. Such guarantees would enable energy producers to obtain financing for the construction of renewable energy facilities at favorable interest rates.

When the government enters a contract with a guaranteed purchase amount, it incurs a legal obligation for the full cost of those purchases. Yet when DoD has used its multiyear contracting authorities in the past, it typically has obtained budget authority only for payments due in the first year of the contract. As stated above in the discussion of section 821 (regarding multiyear procurement authority for synthetic and alternative fuels), CBO believes that method of implementing multiyear procurement authority provides DoD with contract authority—a form of budget authority. Granting authority to enter into such contracts thus constitutes direct spending.

Under current law, DoD is required to obtain 7.5 percent of its electricity from renewable energy sources by 2013. It currently gets about 5.5 percent of its electricity from such sources. If section 2831 were enacted, CBO estimates that DoD would use multiyear contracts to increase by 50 percent the amount of renewable energy produced on federal land. That additional energy would provide approximately half the additional renewable electricity it needs—nearly 600,000 megawatt hours per year—to meet the statutory requirement. However, because DoD gets double credit towards that mandate for renewable energy produced and consumed on federal land, acquiring renewable energy in that manner would allow the department to reach the 7.5 percent goal.

The cost of renewable energy equipment would vary based on the mix of wind, solar, and biomass power generators that were used; CBO estimates that DoD would pay roughly \$4 million per megawatt of capacity from renewable energy sources. CBO assumes that over a five-year period, DoD would initiate a series of multiyear contracts for increments of additional generating capacity until it was acquiring 300,000 megawatt hours of electricity

from renewable sources by 2013. Under such contracts, direct spending would increase by about \$510 million over the 2009-2018 period.

Incentives Related to Energy Savings. Section 342 would allow the Department of Defense to accept any financial incentive, financial assistance, or services from gas and electric utility companies as well as from state and local governments, in conjunction with its execution of energy savings performance contracts (ESPCs). Such nonfederal entities routinely provide such assistance to reduce the demand for electricity and to encourage the use of renewable energy.

ESPCs enable federal agencies to enter into long-term contracts with energy savings companies (ESCOs) for the acquisition of energy-efficient equipment, such as replacement windows, lighting, and heating, ventilation, and air-conditioning systems, and for renewable energy equipment such as photovoltaic arrays. Using such equipment can reduce the energy costs for a facility, and the savings from reduced utility payments can be used to pay the contractor for the equipment over time. Because the government does not pay for the equipment at the time it is acquired, the ESCO borrows money from a nonfederal lender to finance the acquisition and installation of the equipment. When it signs the ESPC, the government commits to paying for the full cost of the equipment as well as the interest costs on the ESCO's borrowing for the project.

The obligation to make payments for the equipment and for the financing costs is incurred when the government signs the ESPC. Under current law, agencies can use ESPCs to acquire new energy-efficient equipment, to be paid for over a period of up to 25 years, without an up-front appropriation for the full amount of the purchase price. Consistent with government-wide accounting principles, however, CBO believes that the budget should reflect the full cost of those commitments as new obligations at the time that an ESPC is signed and that the authority to enter into such contracts without an appropriation for the full amount of the purchase price constitutes direct spending.

By providing an additional source of income or by reducing costs for an energy-conservation project, the assistance that could be accepted under section 342 would increase the number of energy savings performance contracts that are financially viable. CBO estimates that DoD's use of those contracts could eventually increase by 10 percent as a result of that assistance. In 2007, DoD acquired \$185 million in energy-efficiency equipment and related improvements. The additional contracts enabled under this section would increase direct spending by an estimated \$110 million over the 2009-2018 period.

Delayed Retirement for Military Technicians. Dual-status military technicians are civilian employees of DoD who are required to hold concurrent positions in the reserves. Under

current law, some technicians in the Air Force Reserve and Air National Guard are forced to retire from their civil service positions because they have reached both the maximum years-of-service for officers in their grade and become eligible for an unreduced civil service retirement annuity, usually at age 55.

Section 532 would direct the Secretary of the Air Force to allow those technicians to remain in the reserves until they reach age 60, thus allowing them to continue in their civil service positions. Under this section, some technicians who would have retired at age 55 would choose to delay their retirements by one or more years, reducing direct spending for civil service retirement and health care benefits. (Because military retirement benefits for reservists do not begin until they reach age 60, there would not be a similar reduction in spending for military retirements.)

Based on information from DoD, CBO estimates that in 2009, about 90 military technicians would delay their retirements by one or more years. Each year, a new cohort of technicians could choose to stay in the civilian workforce and delay retirement, eventually resulting in about 250 fewer retirees at any point in time. Although delaying retirement reduces retirement costs in the near term, the extra years worked would entitle technicians to a larger annuity once they did retire, partially offsetting those savings. CBO estimates that this section would result in a net reduction in direct spending for civil service retirement annuities and health care benefits of \$56 million over the 2009-2018 period.

Retirement Age of Certain Reserve Officers. Section 533 would allow officers serving in the National Guard in state headquarters positions to remain in an active status until age 62. Currently, they must retire at age 60. CBO estimates that this change would decrease spending from the Military Retirement Fund because some officers would begin receiving retirement annuities at a later date than they otherwise would have. Based on information from DoD, we estimate that, under section 533, about 25 officers each year would delay their retirements by one year and would forgo about \$70,000 in annuities, reducing retirement expenditures by about \$2 million annually. The annual savings would decrease over time however, as those officers would receive larger annuities when they do retire. In total, CBO estimates this section would reduce net direct spending for military retirements by \$12 million over the 2009-2018 period.

Education Benefits for Reserve Component Members. Section 554 would limit the use of education benefits by members of the selected reserve who separate from the reserves after serving on active duty in support of a contingency operation. Those individuals would have to complete their service contract under honorable conditions to remain eligible to receive benefits after they separate. CBO estimates that this section would decrease the number of

reservists receiving benefits by about 200 per year, thereby reducing direct spending for veterans' education benefits by \$10 million over the 2009-2018 period.

Retirement of Warrant Officers. Section 509 would allow the Navy and Marine Corps to require warrant officers who have at least 30 years of active-duty service to retire. This provision would increase spending from the Military Retirement Fund in two ways. First, CBO estimates it would result in the retirement of 30 warrant officers in 2009 who would otherwise not have retired, based on data from the Defense Manpower Data Center. Also, since most warrant officers with over 30 years of service are in the grade of W-5, it would open up the ranks and allow more officers in the grade of W-4 to receive a promotion to W-5 before they retire. A retirement annuity for a member who retires at W-5 is about \$15,000 per year higher than an annuity for a member that retires at W-4. In total, CBO estimates this section would increase outlays from the Military Retirement Fund by \$8 million over the 2009-2018 period.

Insurance Coverage for Deployed Civilians. Section 1105 would allow federal civilian employees who are deployed in support of a contingency operation and who had previously waived automatic coverage under the Federal Employees Group Life Insurance program to elect automatic coverage upon notification of deployment. In addition, those employees as well as DoD employees designated as "emergency essential" could elect optional insurance coverage or increase their optional coverage amount upon notification of deployment. Employees who are designated by DoD as emergency essential are currently allowed to elect automatic coverage upon notification of designation.

Based on information from DoD, CBO estimates that about 5,000 federal civilian employees are deployed in support of a contingency operation and about 10,000 DoD employees are designated as emergency essential. In addition, CBO estimates:

- Five percent of those employees who are deployed in support of a contingency operation were previously not participating under automatic coverage and would participate if they were given the option to elect automatic coverage.
- Approximately two-thirds of those employees deployed or designated as emergency essential are not participating in Option A Standard coverage or Option B Additional life insurance coverage. Of those, 50 percent would elect to participate if they were given the option. Standard coverage is \$10,000 and optional coverage is estimated to be \$135,000.

- Of those employees who are deployed or designated as emergency essential who are participating in Option B Additional coverage, 50 percent would elect to increase their coverage when given the option. CBO estimates they would increase their coverage by \$65,000.

Based on information from DoD, CBO expects that DoD would raise premium payments to cover the expected increase in outlays under section 1105, but that the increase would not go into effect until 2010. As a result, CBO estimates that enacting section 1105 would increase direct spending by \$2 million in fiscal year 2009 and over the 2009-2018 period.

Other Provisions. The following provisions would have an insignificant impact on direct spending primarily because they would affect few individuals or because they would authorize both the collection and spending of funds so that the net budgetary impact would be quite small:

- Section 535 would delay some retirements by allowing medical officers and chaplains in the reserves to remain in an active status until age 68.
- Section 552 would instruct the Air Force Institute of Technology to charge tuition to certain federal civilians who receive instruction at the Institute. Under this section, the Air Force would have the authority to collect and spend any tuition it collects.
- Section 852 would expand the authority of Secretary of Defense to retain and spend fees received from trademark licensing.
- Section 1032 would allow the Secretary of Defense to accept donations for the purpose of defraying the costs of operating the Center for Complex Operations.
- Section 1033 would allow DoD to deposit receipts from admiralty claims—arising from damage to DoD property—into a working capital fund, where they could be spent. Under current law those receipts, which total less than \$500,000 annually, cannot be spent by DoD because they are deposited in the Treasury as miscellaneous receipts.
- Section 1061 would expand eligibility for a disability retirement to servicemembers with less than six months of service.
- Section 1212 would permit the Secretary of Defense to waive the reimbursement of costs associated with personnel from nongovernmental and international organizations attending DoD's Regional Centers for Security Studies. DoD has the authority to retain and spend such reimbursements.

INTERGOVERNMENTAL AND PRIVATE-SECTOR IMPACT

S. 3001 contains no intergovernmental or private-sector mandates as defined in UMRA.

The bill would benefit state and local governments by authorizing aid for certain schools with severely disabled children or with significant numbers of students who are dependents of defense personnel. Any costs to those governments would be incurred voluntarily as a condition of receiving federal assistance.

PREVIOUS CBO ESTIMATES

On May 20, 2008, CBO transmitted a cost estimate for H.R. 5658, the National Defense Authorization Act for Fiscal Year 2009, as reported by the House Committee on Armed Services on May 16, 2008. Differences in the estimated costs of S. 3001 and H.R. 5658 reflect differences in the two versions of the legislation.

For programs that fall within budget function 050 (national defense), both S. 3001 and H.R. 5658 would authorize appropriations totaling \$601.4 billion for 2009. In addition, the House bill would authorize about \$0.5 billion in funding for nondefense programs—primarily for the Department of State and the Maritime Administration—that would not be authorized by S. 3001. Both bills also contain provisions that would increase as well as decrease direct spending. The Senate bill, however, would increase such spending by an estimated \$6.4 billion over the 2009-2018 period while the House bill would, on a net basis, decrease such spending by \$0.1 billion over that 10-year period. The increase in direct spending that would occur from enacting the Senate bill is primarily due to provisions that would grant DoD multiyear authority to develop and procure alternative fuels and renewable energy.

On May 8, 2008, CBO transmitted a cost estimate for H.R. 5916, the Security Assistance and Arms Export Control Reform Act of 2008, as ordered reported by the House Committee on Foreign Affairs on April 30, 2008. Similar to section 1221 of S. 3001, title III of H.R. 5916 would authorize the President to waive certain sanctions that were imposed against North Korea after it tested a nuclear device in 2006. CBO's estimate of the cost of section 1221 is identical to its estimate for title III of H.R. 5916.

ESTIMATE PREPARED BY:

Federal Costs:

Defense Outlays—Kent Christensen

Multiyear Procurement and Military Construction—David Newman

Military and Civilian Personnel—Dawn Regan

Military Retirement and Health Care—Matthew Schmit

Foreign Affairs—Raymond J. Hall

Education Benefits—Camille Woodland

Operation and Maintenance—Jason Wheelock

Impact on State, Local, and Tribal Governments: Neil Hood

Impact on the Private Sector: Daniel Frisk

ESTIMATE APPROVED BY:

Theresa Gullo

Deputy Assistant Director for Budget Analysis