Defense Environmental Programs

Annual Report to Congress

for FY 2015

JULY 2016

Office of the Under Secretary of Defense
for Acquisition, Technology, and Logistics

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I. INTRODUCTION

This Fiscal Year 2015 Defense Environmental Programs Annual Report to Congress contains information to satisfy the following requirements:

- The funding invested in and progress of the Department of Defense's (DoD) environmental programs – Environmental Restoration, Environmental Quality (EQ), and Environmental Technology – in accordance with title 10, U.S.C., section 2711 (Sections II-IV);

- The Department's ongoing decontamination activities on withdrawn or reserved lands in accordance with section 2916(b) of the National Defense Authorization Act for Fiscal Year 2014 (Section V); and

- A list of DoD installations and Formerly Used Defense Sites (FUDS) properties where DoD obligated funding in FY 2015, as well as reasons for increases in cleanup cost estimates since FY 2014, in accordance with the House Appropriations Committee Report 113-113 (Section VI, Appendix A, Appendix B).

The Department's priorities for its Environmental Programs are 1) protect the environment to ensure that DoD has the land, water, and airspace needed for military readiness; 2) protect the health of the military and civilian personnel and their families who live and work on DoD bases; 3) ensure DoD operations do not adversely affect the health or environment of surrounding communities; and 4) preserve resources for future generations. To achieve these objectives, DoD is committed to continuous improvement, greater efficiency, and the use of new technology where feasible. In FY 2015, DoD obligated approximately $3.8 billion for its environmental programs. This number includes $1.8 billion for Environmental Restoration activities, $1.8 billion for EQ activities, and $185 million for Environmental Technology activities. In the President's FY 2017 budget, DoD requested $3.4 billion for its environmental programs to continue ensuring the protection of human health and the environment, and to sustain the resources required to support the readiness of our Nation's Armed Forces.

Table 1 summarizes the overall DoD environmental program funding from FY 2011 through FY 2017.

Table 1: Overall DoD Environmental Program Funding (millions of dollars)*

	FY 2011 Actual	FY 2012 Actual	FY 2013 Actual	FY 2014 Actual	FY 2015 Actual	FY 2016 Enacted	FY 2017 Requested
Environmental Restoration							
Active Installations and FUDS	$1,592.0	$1,521.2	$1,352.6	$1,286.5	$1,221.0	$1,142.4+	$1,029.5**
Base Realignment and Closure (BRAC) Locations++	$467.5	$545.0	$472.9	$697.5	$609.6	$229.6***	$181.1+++
Restoration Total	**$2,059.5**	**$2,066.2**	**$1,825.5**	**$1,984.0**	**$1,830.6**	**$1,372.0**	**$1,210.6**
EQ							
Compliance	$1,423.0	$1,388.4	$1,347.3	$1,379.5	$1,306.0	$1,373.9	$1,493.1
Natural and Cultural Resources	$394.7	$387.7	$384.3	$444.6	$377.2	$399.7	$420.2
Pollution Prevention	$85.6	$97.9	$65.5	$97.2	$94.3	$89.5	$84.1
EQ Total	**$1,903.3**	**$1,874.0**	**$1,797.1**	**$1,921.3**	**$1,777.5**	**$1,863.1**	**$1,997.4**
Environmental Technology							
Technology Total	$217.9	$213.6	$195.1	$203.1	$184.5	$189.6	$191.3
DoD Total**	**$4,180.7**	**$4,153.8**	**$3,817.7**	**$4,108.5**	**$3,792.6**	**$3,424.6**	**$3,399.4**

* Includes all applicable congressional funding additions for FY 2011 through FY 2016.

+ Excludes budget authority carried forward into FY 2016 for the Environmental Restoration FUDS ($40.0 million) and Environmental Restoration, Defense-wide ($0.2 million) accounts.

** Excludes $0.6 million of Environmental Restoration, Defense-wide budget authority from prior years for use in FY 2017.

++ BRAC FY 2011 to FY 2015 may include prior year funds and anticipated land sale revenue.

*** Excludes $252.0 million of planned obligations from prior year funds and anticipated land sale revenue.

+++ Excludes $107.9 million of planned obligations from prior year funds and anticipated land sale revenue.

**** Due to rounding, subtotals may not equal FY totals.

For more information on DoD's environmental programs, please visit: http://www.denix.osd.mil.

II. ENVIRONMENTAL RESTORATION PROGRAM

The Department began environmental restoration in 1975 under its Installation Restoration Program (IRP). The IRP addresses contamination from hazardous substances, pollutants, or contaminants at active installations, Formerly Used Defense Sites (FUDS) properties, and Base Realignment and Closure (BRAC) locations in the United States. In 2001, DoD established its Military Munitions Response Program (MMRP) to address sites (referred to as munitions response sites (MRSs)) known or suspected to contain unexploded ordnance (UXO), discarded military munitions, or munitions constituents. Through these programs, DoD complies with applicable environmental laws, such as the Comprehensive Environmental Response, Compensation, and Liability Act, also known as Superfund.

The Department remains focused on continuously improving its restoration program by updating relevant policies, working with stakeholders, and developing and implementing new advanced technologies to reduce costs and accelerate cleanup. These initiatives help ensure that DoD makes the best use of available resources to steadily move sites through the cleanup process and achieve program goals while protecting human health, safety, and the environment. The Department measures cleanup progress against the Response Complete (RC) milestone, which occurs when the cleanup activities are complete (although DoD or a subsequent owner may continue to monitor the site). Of the almost 39,500 IRP sites and MRSs in the inventory, DoD has achieved the RC milestone at over 32,000 (81 percent).

Environmental Restoration Goals

The Department relies on environmental restoration goals to drive cleanup progress toward achieving the RC milestone. The DoD Components prioritize resources to meet the goals listed in Table 2 in a cost-effective manner. The goals demonstrate progress in a streamlined and transparent fashion.

The Department's newest environmental restoration goal, established in FY 2014, focuses on reducing the risk that FUDS MRSs could pose to human health and the environment. The goal is to implement interim risk management or start a munitions response action at 90 percent of FUDS MRSs that have not achieved RC by the end of FY 2018. The Department began interim risk management activities in FY 2015. These activities included mailing letters to property owners that provided explosives safety education material and establishing a call center to answer questions.

Table 2 lists the environmental restoration goals and summarizes the Department's progress toward achieving them. The table presents the number of sites subject to these goals; the total number and percentage of sites that have achieved the goals from the beginning of the program through FY 2015; the number and percentage of sites projected to achieve the goals in FY 2016 and FY 2017; and the total number and percentage of sites projected to achieve the goals from the beginning of the program through FY 2017.

Table 2: Environmental Restoration Goals and Progress*

Goals	Number of Sites Subject to the Goals	Total Number (and Percentage) of Sites that Achieved the Goals through FY 2015	Number (and Percentage) of Sites Projected to Achieve the Goals in FY 2016	Number (and Percentage) of Sites Projected to Achieve the Goals in FY 2017	Total Number (and Percentage) of Sites Projected to Achieve the Goals through FY 2017
Achieve RC at 90% and 95% of IRP sites and MRSs at active installations and BRAC locations, and IRP sites at FUDS properties by the end of FY 2018 and FY 2021, respectively	37,142	31,135 (84%)	703 (2%)	1,098 (3%)	32,936 (89%)

* Excludes potentially responsible party sites, which are sites where DoD has identified that an individual or company is potentially responsible for contributing to the contamination. Also excludes sites where a DoD Component cannot obtain rights of entry to complete investigations.

Through FY 2015, the Department achieved RC at 84 percent of IRP sites and MRSs at active installations and BRAC locations, and IRP sites at FUDS properties. DoD is currently on track to meet its RC goals.

Additional information about the status of DoD's cleanup efforts and funding can be found on the DoD Cleanup Landing website at http://www.denix.osd.mil/cleanup/.

IRP Site Status and Funding

Table 3 summarizes the cleanup status of IRP sites at active installations, FUDS properties, and BRAC locations. The table presents the number of sites in the inventory, the number of sites at Remedy In Place (RIP)[1] and RC through FY 2014 and FY 2015, and the changes in RIP and RC status from FY 2014 to FY 2015.

Table 3: IRP Site Status

	Total IRP Inventory (FY 2015)	RIP			RC		
		Number of IRP Sites at RIP through FY 2014	Number of IRP Sites at RIP through FY 2015	Change in RIP Status from FY 2014 to FY 2015	Number of IRP Sites at RC through FY 2014	Number of IRP Sites at RC through FY 2015	Change in RC Status from FY 2014 to FY 2015
Active Installations							
Army	11,249	10,278	10,477	199	10,026	10,202	176
Department of the Navy (DON)*	4,026	3,736	3,728	-8	3,287	3,396	109
Air Force	7,221	5,528	5,840	312	4,841	5,231	390
Defense Logistics Agency (DLA)	216	345	194	-151+	326	185	-141**
Active Total	**22,712**	**19,887**	**20,239**	**352**	**18,480**	**19,014**	**534**
FUDS Properties							
FUDS Total	**3,064**	**2,403**	**2,461**	**58**	**2,373**	**2,424**	**51**
BRAC Locations							
Army	2,108	1,989	1,996	7	1,942	1,952	10
DON*	1,134	1,064	1,057	-7	877	900	23
Air Force	5,146	4,836	4,879	43	4,654	4,717	63
DLA	48	48	48	0	47	47	0
BRAC Total	**8,436**	**7,937**	**7,980**	**43**	**7,520**	**7,616**	**96**
DoD Total	**34,212**	**30,227**	**30,680**	**453**	**28,373**	**29,054**	**681**

* DON includes Navy and Marine Corps; DON manages Navy and Marine Corps environmental restoration activities as a combined program.

+ The number of sites at RIP and RC decreased because DLA transferred the Defense Distribution Depot San Joaquin, Sharpe Facility to the Army.

[1] The Department measures the number of sites at RIP, which occurs when cleanup systems are constructed and operational.

Table 4 summarizes IRP funding from FY 2011 through FY 2017 at active installations, FUDS properties, and BRAC locations.

Table 4: IRP Funding* (millions of dollars)

	FY 2011 Actual	FY 2012 Actual	FY 2013 Actual	FY 2014 Actual	FY 2015 Actual	FY 2016 Enacted	FY 2017 Requested
Active Installations							
Army	$266.8	$274.8	$212.8+	$201.9+	$216.8+	$178.5	$132.8
DON**	$256.6	$259.3	$239.0	$262.1	$240.9	$249.2	$231.6
Air Force	$448.8	$481.2	$431.2	$403.4	$398.2+	$350.3	$324.9
Defense-wide++**	$10.1	$11.6	$10.7	$11.0	$7.9	$5.7	$9.5
Active Total	**$982.3**	**$1,026.9**	**$893.7**	**$878.4**	**$863.9**	**$783.6**	**$698.8**
FUDS Properties							
FUDS Total	**$256.3**	**$226.5**	**$195.2**	**$172.3**	**$143.8+**	**$196.0+**	**$148.9**
BRAC Locations***							
Army	$61.6	$90.2	$86.5	$207.2	$106.1	$72.4	$30.9
DON**	$143.2	$213.4	$164.9	$119.2	$181.1	$152.1	$125.8
Air Force	$123.0	$92.3	$118.9	$154.3	$94.1	$66.2	$66.7
Defense-wide++**	$2.0	$0.0	$3.7	$3.2	$2.6	$2.1	$2.4
BRAC Total	**$329.8**	**$395.9**	**$374.0**	**$483.8**	**$384.0**	**$292.8**	**$225.7**
DoD Total+++**	**$1,568.4**	**$1,649.3**	**$1,462.9**	**$1,534.4**	**$1,391.6**	**$1,272.5**	**$1,073.4**

* This table includes funding for all program management requirements at active installations, FUDS properties, and BRAC locations.

+ Includes funds reprogrammed from the previous FY.

** DON includes Navy and Marine Corps; DON manages Navy and Marine Corps environmental restoration activities as a combined program.

++ Defense-wide accounts include other defense agencies and DLA.

*** FY 2011 through FY 2013 actuals include prior year funding and land sale revenue.

+++ Due to rounding, subtotals may not equal FY totals.

MRS Status and Funding

Table 5 summarizes the cleanup status of MRSs at active installations, FUDS properties, and BRAC locations. The table presents the number of MRSs in the inventory; the number of MRSs at RIP and RC through FY 2014 and FY 2015; and the changes in RIP and RC status from FY 2014 to FY 2015.

Table 5: MRS Status

	Total MRS Inventory (FY 2015)	RIP			RC		
		Number of MRSs at RIP through FY 2014	Number of MRSs at RIP through FY 2015	Change in RIP Status from FY 2014 to FY 2015	Number of MRSs at RC through FY 2014	Number of MRSs at RC through FY 2015	Change in RC Status from FY 2014 to FY 2015
Active Installations							
Army	1,360	1,074	1,099	25	1,074	1,098	24
DON*	395	160	164	4	159	163	4
Air Force	1,030	640	713	73	621	697	76
DLA	7	0	0	0	0	0	0
Active Total	**2,792**	**1,874**	**1,976**	**102**	**1,854**	**1,958**	**104**
FUDS Properties							
FUDS Total	**2,080**	**855**	**868**	**13**	**855**	**868**	**13**
BRAC Locations							
Army	178	107	125	18	107	125	18
DON*	41	19	19	0	18	19	1
Air Force	139	127	124	-3[+]	124	121	-3[+]
DLA**	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BRAC Total	**358**	**253**	**268**	**15**	**249**	**265**	**16**
DoD Total	**5,230**	**2,982**	**3,112**	**130**	**2,958**	**3,091**	**133**

* DON includes Navy and Marine Corps; DON manages Navy and Marine Corps environmental restoration activities as a combined program.

[+] The Air Force reopened 10 MRSs in FY 2015, resulting in a decrease in the RIP and RC numbers.

** DLA does not have MRSs at BRAC locations.

Table 6 summarizes MMRP funding from FY 2011 through FY 2017 at active installations, FUDS properties, and BRAC locations.

Table 6: MMRP Funding (millions of dollars)

	FY 2011 Actual	FY 2012 Actual	FY 2013 Actual	FY 2014 Actual	FY 2015 Actual	FY 2016 Enacted	FY 2017 Requested
Active Installations							
Army	$55.3	$71.3	$76.7*	$67.5*	$53.1*	$56.2	$37.4
DON+	$45.7	$48.6	$48.2	$53.9	$45.4	$50.8	$50.1
Air Force	$52.2	$44.5	$56.2	$16.1	$30.8*	$17.9	$46.7
Defense-wide**	$0.0	$1.6	$0.4	$0.2	$0.0	$2.7	$0.1
Active Total	**$153.2**	**$166.0**	**$181.5**	**$137.6**	**$129.3**	**$127.6**	**$134.3**
FUDS Properties							
FUDS Total	**$200.2**	**$101.8**	**$82.0**	**$98.2**	**$84.1***	**$75.2***	**$48.2**
BRAC Locations++**							
Army	$30.4	$46.6	$38.6	$129.9	$181.8	$75.1	$24.5
DON+**	$8.5	$33.5	$38.1	$14.4	$22.0	$9.3	$14.1
Air Force	$45.3	$4.1	$0.3	$5.0	$2.6	$1.0	$0.0
Defense-wide**	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BRAC Total	**$84.2**	**$84.2**	**$77.1**	**$149.3**	**$206.4**	**$85.4**	**$38.6**
DoD Total***	**$437.7**	**$351.9**	**$340.6**	**$385.2**	**$419.8**	**$288.2**	**$221.1**

* Includes funds reprogrammed from the previous year.

+ DON includes Navy and Marine Corps; DON manages Navy and Marine Corps environmental restoration activities as a combined program.

** Defense-wide accounts include other defense agencies and DLA, which began reporting MRSs at active installations in FY 2011. DLA does not have MRSs at BRAC locations.

++ FY 2011 through FY 2013 actuals include prior year funding and land sale revenue.

*** Due to rounding, subtotals may not equal FY totals.

BRAC Planning and Compliance Funding

Table 7 summarizes funding for planning and compliance projects, such as facility assessments and surveys, at BRAC locations from FY 2011 through FY 2017.

Table 7: BRAC Planning and Compliance Funding* (millions of dollars)

	FY 2011 Actual	FY 2012 Actual	FY 2013 Actual	FY 2014 Actual+	FY 2015 Actual+	FY 2016 Enacted+	FY 2017 Requested+
BRAC Locations							
Army	$49.1	$41.6	$21.1	$46.9	$18.5	$102.9	$23.3
DON**	$1.8	$3.6	$0.2	$0.7	$0.4	$0.4	$1.3
Air Force	$2.7	$19.8	$0.6	$16.7	$0.3	$0.1	$0.0
Defense-wide++**	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
DoD Total***	**$53.6**	**$65.0**	**$21.9**	**$64.3**	**$19.2**	**$103.4**	**$24.6**

* BRAC total includes prior year funding and land sale revenue.

+ Includes unobligated prior year funds.

** DON includes Navy and Marine Corps; DON manages Navy and Marine Corps environmental restoration activities as a combined program.

++ Defense-wide accounts include other defense agencies and DLA.

*** Due to rounding, subtotals may not equal FY totals.

DoD invested $11.8 billion in cleanup at BRAC locations over the last 20 years, and because of this investment, DoD has completed cleanup at most of these sites. Beginning in FY 2014, Congress consolidated the BRAC accounts, providing DoD with increased flexibility

to use unobligated prior year funds across the BRAC cleanup inventory. The Department continues to reduce its remaining balances from prior years to supplement its annual appropriations and use anticipated land sale revenue to meet annual BRAC cleanup funding needs. Table 8 summarizes BRAC funding, including annual appropriations, prior year funds, and land sale revenue from FY 2015 through FY 2017.

Table 8: BRAC Funding Breakout (millions of dollars)

	FY 2015 Actual	FY 2016 Enacted*	FY 2017 Requested*
Army			
Annual Appropriation	$68.7	$15.1	$6.5
Prior Year Funds	$215.2	$75.6	$58.5
Land Sale Revenue	$22.6	$159.7	$13.6
Army Total Funding+	**$306.5**	**$250.4**	**$78.6**
DON**			
Annual Appropriation	$130.1	$157.6	$127.1
Prior Year Funds	$46.9	$4.2	$14.2
Land Sale Revenue	$26.6	$0.0	$0.0
DON Total Funding+	**$203.6**	**$161.8**	**$141.3**
Air Force			
Annual Appropriation	$65.6	$56.9	$47.5
Prior Year Funds	$31.3	$10.4	$19.2
Land Sale Revenue	$0.0	$0.0	$0.0
Air Force Total Funding+	**$96.9**	**$67.3**	**$66.7**
DLA			
Annual Appropriation	$0.0	$0.0	$0.0
Prior Year Funds++	$2.6	$2.1	$2.4
Land Sale Revenue	$0.0	$0.0	$0.0
DLA Total Funding+	**$2.6**	**$2.1**	**$2.4**
DoD Total			
Annual Appropriation	$264.4	$229.6	$181.1
Prior Year Funds	$296.1	$92.3	$94.3
Land Sale Revenue	$49.2	$159.7	$13.6
DoD Total Funding+	**$609.6**	**$481.6**	**$288.9**

* FY 2016 and FY 2017 include anticipated land sale revenue.

+ Due to rounding, subtotals may not equal FY totals.

** DON includes Navy and Marine Corps; DON manages Navy and Marine Corps environmental restoration activities as a combined program.

++ A portion of the prior year funds is from a settlement DLA received from Sunoco to perform cleanup activities at the former Defense Supply Center Philadelphia.

The Office of the Secretary of Defense (OSD) engages with the Military Departments to ensure they are executing plans that efficiently spend remaining unobligated balances based on cleanup schedules. The Department is projected to use a majority of unobligated prior year funds by the end of FY 2017. Specifically, the Army will spend all prior year funds by the end of FY 2017 and supplement its annual appropriation with anticipated land sale revenue through program completion; the DON will spend all prior year funds by the end of FY 2017; the Air Force will spend all prior year funds by the end of FY 2018; and DLA will continue to rely on prior year funds and funds obtained from a settlement with Sunoco instead of seeking appropriated funds through FY 2023.

III. EQ PROGRAMS

The Department's EQ Programs address compliance with environmental laws and regulations, protection of natural and cultural resources on DoD lands, and pollution prevention. In FY 2014, DoD updated its budget-reporting format for these programs to increase consistency and provide additional detail and insight on funding allocations. Because of the change in format and definitions, DoD Components have shifted funding between programs and re-categorized some of the funding. Therefore, it is not possible to compare FY 2015 obligations to pre-FY 2014 actual funding below the program level (i.e., compliance, conservation, pollution prevention).

Compliance

The DoD Compliance Program provides resources to comply with applicable requirements, such as Federal, State, and local environmental laws and regulations, for installations located in the United States. Additionally, the Compliance Program includes applicable environmental compliance, remediation, and planning requirements for installations located outside of the United States (i.e., overseas installations). Under this program, DoD activities include sampling and analyzing pollutant discharges to air and water, maintaining environmental permits for regulated activities, providing safe drinking water, and disposing of regulated waste. The Compliance Program also includes projects to upgrade wastewater treatment facilities and install air pollution controls to meet new regulatory standards. In FY 2015, the Department maintained a Clean Water Act permit compliance rate above 90 percent and increased its drinking water compliance rate to 93 percent. In addition, DoD decreased the amount of hazardous waste generated (i.e., the amount "to be reduced") by 20 percent between calendar year 2013 and calendar year 2014.

Table 9 summarizes Compliance Program funding from FY 2011 through FY 2017 for the Army, Navy, Air Force, Marine Corps, and Defense-wide accounts.

Table 9: Compliance Program Funding (millions of dollars)

	FY 2011 Actual	FY 2012 Actual	FY 2013 Actual	FY 2014 Actual	FY 2015 Actual	FY 2016 Enacted	FY 2017 Requested
Army	$393.4	$341.6	$389.6	$380.2	$347.6	$370.8	$383.5
Navy	$369.0	$403.0	$358.1	$374.3	$354.9	$379.7	$367.1
Air Force	$338.9	$295.9	$298.5	$293.9	$283.5	$335.1	$351.0
Marine Corps	$126.0	$131.1	$113.2	$115.6	$148.1	$103.2	$120.6
Defense-wide*	$195.7	$216.8	$187.7	$215.5	$171.9	$185.1	$270.9
DoD Total+	**$1,423.0**	**$1,388.4**	**$1,347.1**	**$1,379.5**	**$1,306.0**	**$1,373.9**	**$1,493.1**

* Defense-wide accounts include DLA and other defense agencies.

+ Due to rounding, subtotals may not equal FY totals.

Overall Trend Analysis

Overall Compliance Program funding decreased from FY 2011 to FY 2012 due to reduced personnel costs, the migration of funds out of the Compliance Program into other non-environmental programs, and decreases in one-time projects. Beginning in FY 2013, the Budget Control Act led to a trend in further reductions that continued through FY 2015. For FY 2016, DoD expects that total funding will approach FY 2014 levels due to increased requests across most of the DoD Components to fund efforts delayed in FY 2015. For FY 2017, DoD anticipates that funding will increase again due to military construction projects that are necessary for DoD to provide facilities that meet environmental requirements.

Explanation of Significant Changes in Funding Amounts

- From FY 2014 to FY 2015, the Marine Corps funding increased 28.1 percent for a one-time military construction project to meet drinking water standards at Marine Corps Air Station Cherry Point, North Carolina. The decrease in Defense-wide account funding (-20.2 percent) is due to DLA's completion of military construction and compliance-related cleanup.
- From FY 2015 to FY 2016, the Department anticipates funding for the Marine Corps will decrease (-30.3 percent) due to the completion of a military construction project to meet drinking water standards at Marine Corps Air Station Cherry Point, North Carolina. The Department projects that Air Force funding will increase 18.2 percent due to increases in environmental impact analysis, miscellaneous compliance activities, and storage and disposal programs.
- From FY 2016 to FY 2017, the Marine Corps requested a 16.9 percent increase in funding due to a $12.8 million Clean Air Act project at Marine Corps Air Station Cherry Point, North Carolina, and increases in wastewater and storm water funding. In addition, Defense-wide requested funding increased by 46.4 percent due to two DLA military construction projects to replace petroleum, oil, and lubrication storage facilities at Patrick Air Force Base, Florida, and Kwajalein Atoll, Marshall Islands.

Natural and Cultural Resources

The Department manages its natural and cultural resources and complies with existing laws (e.g., Endangered Species Act, Sikes Act, National Historic Preservation Act) to enable continued access to testing and training lands while ensuring the long-term sustainability of our Nation's natural and cultural heritage. The Department manages approximately 25 million acres of land that contain high quality, unique habitats and provide food and shelter for more than 550 species-at-risk and more than 400 federally listed threatened or endangered species. Nearly 75 of these species are only found on DoD lands. The Department also manages and maintains cultural resources at 325 DoD installations that contain more than 125,000 archaeological sites and over 276,770 historic buildings.

Table 10 summarizes natural and cultural resources funding from FY 2011 through FY 2017 for the Army, Navy, Air Force, Marine Corps, and Defense-wide accounts.

Table 10: Natural and Cultural Resources Funding (millions of dollars)

	FY 2011 Actual	FY 2012 Actual	FY 2013 Actual	FY 2014 Actual	FY 2015 Actual	FY 2016 Enacted	FY 2017 Requested
Army	$177.1	$156.7	$182.0	$174.6	$182.2	$180.2	$208.3
Navy	$41.4	$75.3	$59.3	$75.0	$57.2	$59.9	$57.6
Air Force	$66.3	$68.1	$58.7	$80.0	$53.4	$52.4	$53.4
Marine Corps	$20.2	$35.7	$34.8	$46.1	$27.3	$26.6	$35.5
Defense-wide*	$89.7	$51.9	$49.5	$68.9	$57.1	$80.6	$65.4
DoD Total+	**$394.7**	**$387.7**	**$384.3**	**$444.6**	**$377.2**	**$399.7**	**$420.2**

* Defense-wide accounts include DLA and other defense agencies.

+ Due to rounding, subtotals may not equal FY totals.

Overall Trend Analysis

Funding for natural and cultural resources activities increased overall between FY 2011 and FY 2014. This increase was primarily due to congressional funding additions from FY 2012 through FY 2014 related to conservation in support of ranges, and the DoD Components' funding to address threatened and endangered species requirements. Funding decreased in FY 2015 due to no congressional adds to the Military Departments' conservation requirements in support of ranges and the Budget Control Act constraints on all Environmental Program funding. Revised fiscal constraints for FY 2016 and FY 2017 will allow the DoD Components to increase the amount of funding for natural and cultural resources activities. The Department will continue to meet legal requirements and fund items with FY 2017 deadlines that it needs to maintain military readiness in the year of execution. FY 2017 funding increases are a result of Army's need to address listed and at risk species that were delayed by fiscal constraints caused by the Budget Control Act. Decreases in overall funding will result in a decreased capability to address emerging requirements.

Explanation of Significant Changes in Funding Amounts

- From FY 2014 to FY 2015, the decrease in Navy funding (-23.7 percent) and Marine Corps funding (-40.8 percent) reflects a return to normal funding levels after the prior year's increase from congressional funding additions for conservation projects in support of training ranges and activities to address threatened and endangered species requirements. Air Force funding decreased (-33.3 percent) to FY 2013 levels after addressing candidate and endangered species in FY 2014. Defense-wide funding decreased by 17.1 percent largely due to reduced funding in the Readiness and Environmental Protection Integration (REPI) Program.
- From FY 2015 to FY 2016, DoD anticipates that Defense-wide funding will increase (41.2 percent) due to increases in REPI Program funds from FY 2015 amounts.
- From FY 2016 to FY 2017, Army requested that funding increase by 15.6 percent as listed and at-risk species becomes the Army's largest single funding category. The Department anticipates that Marine Corps funding will increase 33.5 percent due to increases in integrated natural resource planning as well as threatened and endangered

species. Defense-wide funding will decrease by 18.9 percent due to reductions in REPI funds from FY 2016 amounts.

Pollution Prevention

The Department created the Pollution Prevention Program to reduce or eliminate the use of hazardous materials, minimize waste generation, prevent natural resources losses, and reduce air emissions from industrial processes and pollutant discharges to wastewater treatment systems. DoD also implements energy, water, and fuel efficiency measures that, while not funded with environmental dollars, further reduce pollution and better use existing resources. Together, these pollution prevention investments have the potential to reduce costs throughout DoD. The flexible framework for this program not only helps DoD prioritize cost-effective initiatives but also ensures safe, uninterrupted operations, and sustains military readiness.

Table 11 summarizes Pollution Prevention Program funding from FY 2011 through FY 2017 for the Army, Navy, Air Force, Marine Corps, and Defense-wide accounts.

Table 11: Pollution Prevention Program Funding (millions of dollars)

	FY 2011 Actual	FY 2012 Actual	FY 2013 Actual	FY 2014 Actual	FY 2015 Actual	FY 2016 Enacted	FY 2017 Requested
Army	$18.6	$37.4	$23.9	$31.6	$36.2	$35.2	$34.1
Navy	$15.8	$11.7	$6.6	$7.4	$4.1	$8.4	$4.0
Air Force	$33.8	$22.2	$15.2	$30.1	$21.0	$19.2	$18.2
Marine Corps	$14.3	$21.4	$15.8	$21.2	$20.7	$13.8	$14.9
Defense-wide*	$3.1	$5.2	$4.0	$6.9	$12.3	$12.9	$12.9
DoD Total+	**$85.6**	**$97.9**	**$65.5**	**$97.2**	**$94.3**	**$89.5**	**$84.1**

* Defense-wide accounts include DLA and other defense agencies.

+ Due to rounding, subtotals may not equal FY totals.

Overall Trend Analysis

Overall funding for the Pollution Prevention Program increased from FY 2011 through FY 2015 despite fluctuations that included a significant decrease in FY 2013 funding driven by reductions called for in the Budget Control Act. In addition, because Pollution Prevention is not directly linked to legal requirements, DoD Components reduced pollution prevention funding to preserve funding for other programs. The Department estimates a decrease in FY 2016 funding because the Department expects to use funds for compliance activities to meet legal requirements after Budget Control Act reductions. Pollution prevention declines as the DoD Components apply funding to other more legally driven requirements in other EQ Programs. Declines in funding continue through FY 2017, with the completion of a military construction project for Navy in 2016.

Explanation of Significant Changes in Funding Amounts

- From FY 2014 to FY 2015, Army funding increased by 14.6 percent from investments in pollution prevention management and initiatives to reduce toxic and hazardous

substances in the Army's supply chain. Air Force funding decreased by 30.2 percent due to migration of funds to higher priority efforts. Pollution prevention investments within the Air Force will rely more heavily on weapons systems funding outside of Operation and Maintenance to address pollution closer to its source. Navy funding decreased by 44.6 percent as Navy incorporated pollution prevention into everyday operating procedures. Defense-wide funding increased 78.3 percent due to DLA's efforts to reduce hazardous materials and hazardous waste.

- From FY 2015 to FY 2016, the Department anticipates that Navy funding will increase by 109.4 percent due to a military construction project at Indian Island Washington to minimize air pollutant emissions. The Department anticipates a decrease in Marine Corps funding (-33.3 percent) due to adjusted manpower costs and incorporating pollution prevention into everyday operating procedures.
- From FY 2016 to FY 2017, Navy will decrease the requested funding amount by 52.4 percent due to the completion of the military construction project at Indian Island Washington.

IV. ENVIRONMENTAL TECHNOLOGY PROGRAMS

OSD oversees the Military Departments' and Defense-wide Environmental Technology Programs. OSD directly administers the Strategic Environmental Research and Development Program (SERDP) and the Environmental Security Technology Certification Program (ESTCP).

Table 12 summarizes Environmental Technology Program funding from FY 2011 through FY 2017 for the Army, Navy, Air Force, and Defense-wide accounts.

Table 12: Environmental Technology Program Funding (millions of dollars)

	FY 2011 Actual	FY 2012 Actual	FY 2013 Actual	FY 2014 Actual	FY 2015 Actual	FY 2016 Enacted	FY 2017 Requested
Army*							
Army Total	$53.1	$54.2	$45.5	$47.5	$44.9	$55.0	$51.2
DON+							
DON Total	$41.3	$42.4	$39.8	$37.3	$28.8	$35.7	$37.1
Air Force							
Air Force Total	$25.6	$15.7	$9.3	$10.6	$9.3	$8.3	$0.0
Defense-wide**							
SERDP++	$64.0	$64.2	$58.6	$62.3	$56.4	$54.2	$65.1
ESTCP++	$28.8	$31.8	$38.0	$39.8	$39.4	$31.1	$32.5
Deployed Warfighter Protection Program	$5.1	$5.3	$3.9	$5.6	$5.7	$5.3	$5.4
Defense-wide Total	**$97.9**	**$101.3**	**$100.5**	**$107.7**	**$101.4**	**$90.7**	**$103.0**
DoD Total***	**$217.9**	**$213.6**	**$195.1**	**$203.1**	**$184.5**	**$189.6**	**$191.3**

* The National Defense Center for Energy and Environment is included in the Army Program line.

+ DON includes Navy and Marine Corps.

** Defense-wide accounts include DLA and other defense agencies.

++ SERDP/ESTCP values are for environment only and do not include energy projects.

*** Due to rounding, subtotals may not equal FY totals.

Overall Trend Analysis

The Department's funding for Environmental Technology decreased from FY 2011 to FY 2015 due to a lack of congressional earmarks and the reductions made to meet the Budget Control Act. Despite an increase in DoD's FY 2014 funding, funding decreased in FY 2015; this decrease was primarily due to the end of funding for advanced classification demonstrations. Funding increased again in FY 2016, but it will decrease in FY 2017 because DoD is progressively capturing environmental technology requirements in other funding lines such as material substitution, production processes, Operation and Maintenance, and weapons system acquisition program elements.

Explanation of Significant Changes in Funding Amounts

- From FY 2014 to FY 2015, Navy's funding reduction (-22.8 percent) is due to reprioritizing environmental research and development programs and a decrease in marine mammal research. Air Force funding decreased (-12.3 percent).
- From FY 2015 to FY 2016, DoD anticipates that Army funding will increase by 22.5 percent for pollution prevention projects, and Navy funding will increase by 24.0 percent for improved monitoring technologies and research on shipboard water treatment systems. The Department anticipates a decrease in Air Force environmental technology funding (-10.8 percent) due to funding higher Air Force priorities and taking risk in environmental technology to fund environmental mandates. The Department anticipates that ESTCP funding will decrease (-21.1 percent) due to a congressional add in FY 2015 that restored ESTCP funding to recent historical levels—an add that was not repeated in FY 2016. The SERDP budget decreased by 3.9 percent to about $10 million below historic levels. The FY 2016 President's Budget Request was $65.8 million, and Congress reduced this request by $10 million.
- From FY 2016 to FY 2017, DoD anticipates that the Air Force will not specifically request environmental technology funding; therefore, the FY 2017 Environmental Technology Program amount will be $0. DoD projects a slight decrease in funding (-11.6 percent) for ESTCP.

Progress in Achieving Objectives and Goals

The mission of the Environmental Technology Programs is to address high-priority environmental challenges. The DoD Components' environmental technology investments focus on unique Military Service requirements and complement other Defense-wide investments. SERDP, ESTCP, and DoD Components work together to coordinate and leverage these investments.

Advances in environmental technology have allowed the Department to be more cost-efficient when spending resources for environmental cleanup and compliance. For example, DoD is developing groundwater cleanup technologies that are used across the Department and throughout the private sector. The Department is currently on track to meet its goal of achieving RC at 95 percent of its IRP sites and MRSs at active installations and BRAC locations, and IRP sites at FUDS properties by the end of FY 2021. However, a majority of the sites that will not reach RC by that date are complex groundwater sites. DoD programs are currently investing in scientific endeavors to improve our fundamental understanding of these sites and developing technologies to manage or remediate them.

The Department is also transitioning technologies to reduce life-cycle costs in the acquisition, operation, and maintenance of multiple weapons systems. In FY 2015, a SERDP-sponsored project developed an environmentally benign Chemical Agent Resistant Coating (CARC), which is a critical technology to protect military assets. Current CARC coatings contribute approximately 2.3 million pounds of volatile organic compounds (VOCs) and hazardous air pollutants to the environment each year. This new powder coating does not contain solvents, emits nearly zero VOCs, can be recycled, and is compatible with existing

CARC systems. In addition, testing to date proves that the exterior durability of this coating is superior to any liquid CARC system, supporting DoD's initiative for corrosion prevention and mitigation. The project has produced three topcoats—tan, green, and black—which together represent nearly 95 percent of the military's needs. Coating products are currently transitioning to original equipment manufacturers, depots, and DLA. This, and other Environmental Technology Program efforts, benefit both the environment and the military mission.

Looking ahead, the Department's Environmental Technology investments will focus on its evolving needs. ESTCP is completing demonstrations for advanced classification, a process for determining whether a buried metal object is likely a military munition or harmless debris, and DoD has initiated a comprehensive program to transition the process to widespread commercial use. The Department will continue to invest in current initiatives and focus on future initiatives, including developing and demonstrating technologies to address munitions in the underwater environment; identifying the science and tools needed to meet DoD's obligations to assess and adapt to climate change; and researching technologies to manage and treat chemicals of emerging concern. The Department is also continuing the critical work of reducing future liability and life-cycle costs by eliminating toxic and hazardous materials from the production, operation, and maintenance processes.

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V. ONGOING DECONTAMINATION ACTIVITIES

The Department maintains decontamination programs to remove UXO resulting from Defense-related activities on withdrawn or reserved lands. Below are descriptions of DoD's ongoing decontamination activities during FY 2015 at specific ranges.

Limestone Hills Training Area, Montana

In FY 2015, the Army conducted range clearance activities on approximately 62 acres at the Limestone Hills Training Area.

White Sands Missile Range, New Mexico

In FY 2015, the Army did not conduct decontamination activities at White Sands Missile Range, but it will conduct decontamination activities as needed.

Chocolate Mountain Aerial Gunnery Range (CMAGR), California

In FY 2015, the Marine Corps conducted ongoing decontamination activities on approximately 1,799 acres of withdrawn land at CMAGR. Decontamination activities included surface and subsurface clearance operations, soil grading and stabilization, and detecting UXO. The Marine Corps removed, certified safe, and transported over 260 tons of munitions and range-related debris.

Also in FY 2015, the Marine Corps conducted ongoing decontamination activities on approximately 1,960 acres of withdrawn land at CMAGR that the Marine Corps is required to relinquish to the Bureau of Land Management (BLM) pursuant to the National Defense Authorization Act for Fiscal Year 2014. Decontamination activities on this land included UXO clearance and the removal of approximately 974 pounds of range-related debris.

Marine Corps Air Ground Combat Center (MCAGCC), Twentynine Palms, California

In FY 2015, the Marine Corps did not conduct any decontamination activities on the withdrawn lands at MCAGCC Twentynine Palms. The Marine Corps acquired the withdrawn land from BLM in December 2013 to conduct live-fire and maneuver exercises. The Marine Corps did not conduct live fire training on the withdrawn land during FY 2014 or FY 2015; therefore, no decontamination activities were required or conducted.

Naval Air Weapons Station (NAWS), China Lake, California

In FY 2015, the Navy conducted ongoing decontamination activities on approximately 5,000 acres of withdrawn land at NAWS China Lake. Decontamination activities included surface and subsurface clearance operations, addressing UXO, and transporting range-related debris.

VI. FY 2015 ENVIRONMENTAL RESTORATION FUNDING AND REASONS FOR INCREASES IN COST ESTIMATES SINCE FY 2014

Introduction

The House Appropriations Committee Report (House Report 113-113) accompanying the House version of the FY 2014 Defense Appropriations Bill (H.R. 2397), which was enacted as the Consolidated Appropriations Law (Public Law 113-76), directs the Secretary of Defense to provide information regarding funds invested in DoD's Environmental Restoration Program and the cost to complete cleanup at environmental restoration sites (hereinafter referred to as the "cost estimate"). Specifically, the report must:

1. Provide the amount of environmental restoration funding obligated at each DoD installation and FUDS property in FY 2015; the change in the cost estimate from FY 2014 to FY 2015; and an explanation if the cost estimate did not decrease by at least the amount obligated in FY 2015 (detailed in Appendix A); and
2. Account for any increase of 10 percent or more in an installation's or property's projected cost estimate over the prior year estimate (detailed in Appendix B).

The Department has made tremendous progress in its cleanup efforts. Having identified nearly 39,500 sites for cleanup, DoD completed cleanup of 32,145 by the end of FY 2015. Identified environmental restoration sites include both those containing traditional chemical contaminants (classified under the IRP) and those containing unexploded munitions and their constituents (classified under the MMRP). The remaining costs at completed environmental restoration sites are to support long-term management, including maintaining land use controls and ensuring that contamination remains below regulatory levels.

Notwithstanding the Department's successful cleanup of 81 percent of its identified sites, the remaining sites scheduled for restoration present significantly more complex challenges. Specifically, cleanup at these remaining sites will take longer to complete, necessitate more regulatory attention, and require a greater financial investment. Consequently, this complicates the estimation of cleanup costs.

For each identified environmental restoration site, the Department creates a cost estimate based on all pertinent factors known about the site and uses cost estimating models and engineering estimates.[2] These estimates are refined annually as our engineers learn more about an individual site or re-evaluate the efficacy of the cleanup technology that is currently used. If DoD discovers new contamination or identifies additional cleanup requirements, cost estimates generally increase. Conversely, if DoD determines that less work is required than initially expected, it revises the cost estimates accordingly.

[2] An engineering estimate is a detailed cost estimate for a project computed by estimating the cost of every activity in a work breakdown structure, summing these estimates, and adding appropriate overheads. The engineer in charge of the site does this, usually after much is known about the site and the cleanup is ready to begin. The estimate is based on the engineer's professional knowledge of the site and past experiences. It is usually more specific than a modeled estimate, which is based on statistical cost factors about similar sites.

In addition, the cost models used to develop a significant portion of the estimates are updated annually. Changes are made within the models to reflect new technologies, inflation, updated labor rates, and additional factors that influence the cost of a particular cleanup strategy. These changes improve the accuracy of the models.

This continuous refinement in both models and individual estimates creates inherent fluctuations in cost estimation. These fluctuations are detailed in the attached appendices along with the primary reasons why some cost estimates did not decrease by the amount invested and why some cost estimates increased by 10 percent or more. Some of the main reasons for the variances include increases in project scope and changes in cost estimating methods or models.

Installations and Properties Where DoD Obligated Funding in FY 2015

Appendix A lists the DoD installations and FUDS properties where DoD obligated funds in FY 2015. It also compares the cost estimates at the end of FY 2014 and FY 2015 to determine how much the Department reduced its liability at each location. The FY 2014 cost estimates are adjusted for inflation and work completed in FY 2015 to compare the estimates more accurately. The appendix includes an explanation for each location where the liability was not reduced by the amount of funding invested.[3]

In FY 2015, the Department obligated funding at 568 DoD installations and 466 FUDS properties. At 220 DoD installations and 255 FUDS properties, the cost estimate either decreased by the amount invested or decreased to zero (indicating that no further investment is required and, therefore, no explanation is needed). The Department made significant progress at several installations. Between FY 2014 and FY 2015, DoD reduced the cost estimates by more than $100 million at the following locations: Camp Gordon Johnston, Florida ($108 million); Twin Cities Army Ammunition Plant, Minnesota ($115 million); Joint Base McGuire/Dix/ Lakehurst-McGuire, New Jersey ($117 million); Vandenberg Air Force Base (AFB), California ($120 million); and Lake City Army Ammunition Plant, Missouri ($134 million). Such reductions resulted from FY 2015 investments, decreased cleanup requirements, and cost estimating refinements.

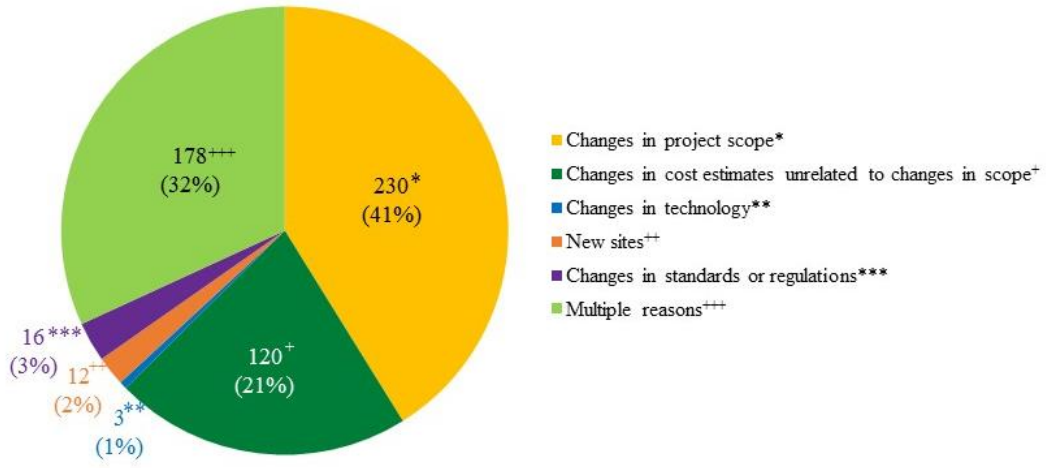
At 348 DoD installations and 211 FUDS properties, DoD obligated funding in FY 2015, but the cost estimates did not decrease by at least the amount invested (as indicated in Figure 1 below). The two primary reasons for this—changes in project scope and changes in cost estimates unrelated to changes in scope—account for 62 percent of the locations that require an explanation. At the remaining locations, the explanations are divided between changes in technology, new sites, and changes in standards or regulations. Additionally, there were multiple reasons why the cost estimates did not decrease by at least the amount invested at 32 percent of the locations that require an explanation. For example, at several DoD installations, the cost

[3] If a location's liability was not reduced by the amount of funding invested in FY 2015 but the cost estimate change was less than $25,000, DoD did not provide an explanation because it considers $25,000 to be within the margin of error for that location.

estimates were impacted by both changes in project scope and changes in cost models. Explanations of these reasons include:

- Changes in project scope – includes adding cleanup phases as projects progress (e.g., feasibility study, remedial action operation); and adding requirements due to other site-level project changes (e.g., newly discovered contaminants, increased physical dimensions of the cleanup, additional risk pathway such as vapor intrusion (that is required and initiated by DoD), changes in future property reuse, sites reopened to address additional risk, additional sampling);
- Changes in cost estimates unrelated to changes in scope – includes changes in cost estimating methodologies or models; changes in contracts or contract methods; and situations where actual contract costs for prior or ongoing work are greater than the prior estimate (changes in schedule may also cause this additional cost);
- Changes in technology – includes changes to a different or improved cleanup technology (e.g., monitored natural attenuation did not work, so active remediation is needed, technology was ineffective);
- New sites – includes the increased cleanup costs of new contaminated sites identified at a location; and
- Changes in standards or regulations – includes broad-scale or national changes in regulations that impact multiple sites (e.g., newly promulgated or modified Applicable or Relevant and Appropriate Requirements); changes in projects as a result of negotiations with regulators (e.g., a regulator imposes a new requirement that increases project scope, delay in regulatory document review or approval); and changes in DoD policies or directives that redefine the costs included in the estimate.

Figure 1: DoD Installations and FUDS Properties Where the Cost Estimate did not Decrease by the Amount Invested in FY 2015



Changes in project scope affected the cost estimates at 107 DoD installations and 123 FUDS properties (41 percent of the locations requiring an explanation, plus an additional 128 DoD installations and 20 FUDS properties where a change in project scope was one of

multiple reasons why the cost estimate did not decrease by at least the amount invested). For example, at Bainbridge Naval Training Center (NTC), Maryland, the cost estimate increased by $26 million (320 percent) because additional cleanup phases are required. At the F.E. Warren AFB Facility Site 4, Wyoming, the United States Army Corps of Engineers (USACE) identified additional cleanup requirements, resulting in an increase of $74 million (529 percent).

Changes in cost estimates unrelated to changes in scope impacted the cost estimates at 69 DoD installations and 51 FUDS properties (21 percent of the locations requiring an explanation, plus an additional 121 DoD installations and 11 FUDS properties where a change in the cost estimate unrelated to a change in scope was one of multiple reasons why the cost estimate did not decrease by at least the amount invested). Changing methodologies or models drove changes in estimates at Dover AFB, Delaware, where the cost estimate increased by $40 million (110 percent) from FY 2014 to FY 2015. In addition, at the Culebra property, Puerto Rico, the cost estimate increased by $18 million (20 percent).

In some cases, the actual cost for a portion of the work exceeded the estimate, causing an increase in the estimate for future work. In addition, DoD has identified new sites, which add to its future liability. While identifying new sites only impacted seven DoD installations and five FUDS properties (2 percent of the locations requiring an explanation, plus an additional 31 DoD installations and 10 FUDS properties where identifying new sites was one of multiple reasons why the cost estimate did not decrease by at least the amount invested), new sites can contribute to significant cost increases at an installation or property. For example, as DoD discovered and characterized new sites, cost estimates increased by $1 million each at these locations, where the cost estimates were $0 in FY 2014: the Western Remount Area and Reception Center property, California; Louisville International Airport, Kentucky; and the New River Ordnance Plant property, Virginia.

During internal reviews of the cleanup program, OSD identified inconsistencies in how DoD Components generate their cost estimates. OSD continued evaluating its policy and processes governing cost estimates in FY 2015, and issued updated procedures in January 2016. These procedures will improve the accuracy and consistency of cost estimates by ensuring greater uniformity among all DoD Components.

Causes of Increases in Cleanup Estimates

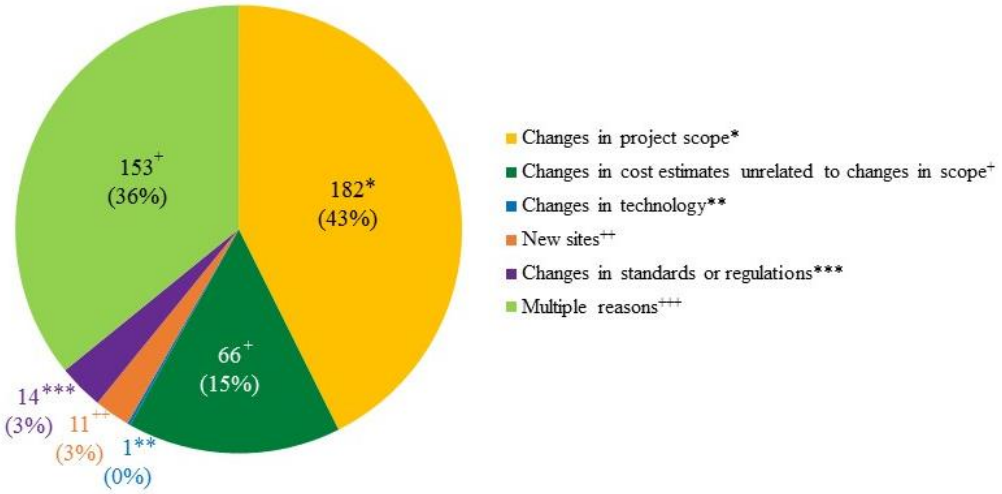
Appendix B lists the DoD installations and FUDS properties where the FY 2015 cost estimate increased by 10 percent or more over the FY 2014 estimate, and the reason(s) for the increase.[4] Again, the FY 2014 estimates are adjusted for inflation and work completed in FY 2015 for a more accurate comparison.

As indicated in Figure 2 below, cost estimates at 290 DoD installations and 137 FUDS properties increased by 10 percent or more from FY 2014 to FY 2015. The two primary reasons

[4] If a location's liability was not reduced by the amount of funding invested in FY 2015 but the cost estimate change was less than $25,000, DoD did not provide an explanation because it considers $25,000 to be within the margin of error for that location.

for this are: (1) changes in project scope; and (2) changes in cost estimates unrelated to changes in scope. These reasons account for 58 percent of the cost estimate increases at the locations listed in Appendix B. The remaining reasons are divided between changes in technology, new sites, and changes in standards or regulations. Additionally, there were multiple reasons why the cost estimates increased by 10 percent or more from FY 2014 to FY 2015 at 36 percent of the locations that require an explanation; for example, the cost estimates increased at some locations because of changes in both project scope and standards or regulations.

Figure 2: DoD Installations and FUDS Properties Where the FY 2015 Cost Estimate Increased by 10 Percent or More Since FY 2014



Changes in project scope resulted in cost estimate increases of 10 percent or more at 86 DoD installations and 96 FUDS properties (43 percent of the locations requiring an explanation, plus an additional 110 DoD installations and 17 FUDS properties where a change in project scope was one of multiple reasons why the cost estimate increased by 10 percent or more since FY 2014). Cost estimates increased significantly for Bainbridge NTC, Maryland, and the F.E. Warren AFB Facility Site 4, Wyoming, as mentioned previously. Additionally, at the F.E. Warren AFB Facility Site 3, Wyoming, the cost estimate increased by $56 million (4,102 percent) because USACE identified additional cleanup requirements.

Changes in cost estimates unrelated to changes in scope affected the cost estimates at 55 DoD installations and 11 FUDS properties (15 percent of the locations requiring an explanation, plus an additional 104 DoD installations and 9 FUDS properties where a change in the cost estimate unrelated to a change in project scope was one of multiple reasons why the cost estimate increased by 10 percent or more since FY 2014). As noted above, examples include updates to cost estimating models and the actual cost for a portion of the work exceeding the original estimate. There were significant increases in the cost estimates for Dover AFB, Delaware, and the Culebra property, Puerto Rico, as mentioned previously. Additionally, at Sierra Army Depot, California, the cost estimate increased by $7 million (30 percent) because

the actual cost for a portion of the work exceeded the estimate, causing an increase in the estimate for future work.

Conclusion

The Department is making steady and measurable progress in its environmental restoration efforts, successfully moving sites through the cleanup process toward achieving program goals while actively reducing its liability. To date, DoD has completed cleanup at over 32,000 sites. We focus on continuous improvement in the cleanup program: developing new technologies to reduce costs and accelerate cleanup; refining and standardizing our cost estimating as the program matures; and reducing overhead costs. Each of these initiatives helps ensure that we make the best use of our available resources to complete cleanup.

The cost estimates for nearly half of the DoD installations and FUDS properties where DoD invested funding during FY 2015 decreased accordingly, and many of those have no remaining cost, signifying that cleanup is complete. For the remaining sites the cleanup may be more expensive because the cleanup of these sites is more technically complex and consequently will require more time, regulatory involvement, and funding. Some of these sites, such as complex groundwater sites, will require many years of cleanup, as progress is still limited by the need for more advanced technology. As the Environmental Restoration Program matures, however, we continue to increase our understanding of the remaining sites and refine our cost estimates to include new data. Finally, as we add new environmental restoration sites to the program – a seamless process under current DoD policy – our future liability increases.

In FY 2015, we continued to evaluate our policy and processes governing cost estimates and issued updated procedures in January 2016. These procedures present a forward-looking approach to financial management and will improve the consistency and transparency of the cost estimating process.