Department of the Army Historical Summary

Fiscal Year 2017

CENTER OF MILITARY HISTORY
UNITED STATES ARMY
WASHINGTON, D.C.

Department of the Army Historical Summary

Fiscal Year 2017

William M. Donnelly
General Editor

Anthony J. Cade
William M. Donnelly
Stephen W. Lehman
Matthew J. Margis
Eric B. Setzekorn
William M. Yarborough

CENTER OF MILITARY HISTORY
UNITED STATES ARMY
WASHINGTON, D.C., 2020

Cover: Soldiers from 10th Special Forces Group prepare to load onto an MH–47 Chinook helicopter during predeployment training at Fort Carson, Colorado, 22 June 2017.
(U.S. Army photo by Sgt. Connor Mendez)

The Library of Congress has cataloged
this serial publication as follows:

Library of Congress Catalog Card 75–09647561

ISSN 0092–7880

CMH Pub 101–48–1

Contents

Chapter *Page*

1. INTRODUCTION 1

2. ORGANIZATION, MANAGEMENT, AND BUDGET 3
   - Organizational Changes 3
   - Management 7
   - Budget 11

3. PERSONNEL 19
   - Army Strength and Distribution. 19
   - Officers 19
   - Enlisted Personnel 20
   - Civilian Personnel 21
   - Special Topics 22
   - Medal of Honor 28

4. FORCE DEVELOPMENT, TRAINING, AND OPERATIONAL FORCES. 29
   - Force Structure 29
   - Multi-Domain Battle 30
   - Cyber 31
   - Training 31
   - Operational Forces 33
   - Afghanistan 33
   - Southwest Asia. 34
   - U.S. Army South 37
   - U.S. Army Africa. 37
   - Asia Pacific. 38
   - U.S. Army Europe 40

5. RESERVE COMPONENTS. 43
   - Organizational Structure 43
   - Reserve Component Mobilization 45
   - Readiness 45
   - State Partnership Program 48
   - Hurricane Response 49

Chapter *Page*

6. LOGISTICS 51
Initiatives 51
Research, Development, and Acquisition 52
Foreign Military Sales 59

7. SUPPORT SERVICES 61
Installation Management 61
Public Affairs 62
Chaplain Corps 63
Safety 63
Army and Air Force Exchange Services 65
Morale, Welfare, and Recreation 66

8. SPECIAL FUNCTIONS 69
Surgeon General 69
Army Audit Agency 71
Army National Military Cemeteries 72
Civil Works 74
Environmental Protection 77
Legal 79

9. CONCLUSION 83

BIBLIOGRAPHICAL NOTE 85

ABBREVIATIONS AND ACRONYMS 87

INDEX 89

Tables

No.

1. Total Obligational Authority Base Budget Request, FY 2017 12
2. Total Obligational Authority Overseas Contingency Operations Request, FY 2017 13
3. Total Obligational Authority Approved Base Budget, FY 2017 14

Page

4. Total Obligational Authority Approved Overseas Contingency Operations, FY 2018 15
5. Total Obligational Authority Base Budget Request, FY 2018 17
6. Total Obligational Authority Overseas Contingency Operations Request, FY 2018 18
7. Composition of the Army Civilian Workforce, FY 2017 22
8. Army National Guard Mobilization, FY 2017 44
9. Army Reserve Overseas Mobilization, FY 2017 44
10. Associated Unit/Pilot Program Units, FY 2017 47
11. Courts-Martial Statistics, FY 2017 80
12. Discharges Approved, FY 2017 80
13. Record of Trial Received for Review by OTJAG, FY 2017 81
14. Nonjudicial Punishments, FY 2017 81

Illustrations

Secretary of Defense James N. Mattis swears in Ryan D. McCarthy 4
ARCYBER personnel case the Second Army colors during a ceremony 6
McCloughan gives remarks during a Medal of Honor induction ceremony 28
A CH–47 Chinook helicopter operates near Jalalabad, Afghanistan 35
A mortar crew prepares for a fire mission 36
Soldiers train during SHARED ACCORD 17 39
M1A2 Abrams main battle tanks at the Presidential Range in Swietoszow, Poland 41
Soldiers during premobilization training at Camp Gruber, Oklahoma 43
A soldier completes basic live fire during Operation COLD STEEL at Fort McCoy 48
Soldiers clear a roadway in Cayey, Puerto Rico, in the aftermath of Hurricane Maria 49
An Army Reserve flight paramedic escorts passengers off of a Black Hawk helicopter 50
Ceremony at the APS site at Eygelshoven, Netherlands 51

Page

A High Mobility Multipurpose Wheeled Vehicle and a Joint Light Tactical Vehicle 54
The M109A7 Paladin undergoes testing in Alaska. 56
A soldier participates in the XM17 Modular Handgun System's initial operational testing 57
A soldier participates in a Rapid Fabrication via Additive Manufacturing 58
101st Airborne Division Chaplain Assistant of the Year 64
Demonstration of virtual health 70
Wreath laying at the Nurses Memorial in Arlington National Cemetery 73
First "blue roof" installed after Hurricane Irma 76
Fort Hood renewable energy project ceremony on the Phantom Solar Field 78

All illustrations are from the files of the Department of Defense

DEPARTMENT OF THE ARMY HISTORICAL SUMMARY

FISCAL YEAR 2017

1
Introduction

The U.S. Army entered fiscal year (FY) 2017 operating on a continuing resolution instead of an approved National Defense Authorization Act. Nevertheless, the service continued building a force able to successfully engage opponents—including those with similar or even superior high-intensity combined arms capabilities—in an increasingly uncertain and complex environment. During this time, the demand from combatant commands for Army forces remained high, and American soldiers continued to be killed and wounded in action.

2
Organization, Management, and Budget

Organizational Changes

In January 2017, with the transition to a new presidential administration, Army leadership underwent multiple changes. Secretary of the Army Eric K. Fanning and Under Secretary of the Army Patrick J. Murphy both resigned. Robert M. Speer, the assistant secretary of the Army for financial management and comptroller, became the acting secretary of the Army. In December 2016, President-elect Donald J. Trump selected Vincent Viola to be the next secretary of the Army, but in February 2017 Viola withdrew his nomination. The president nominated Mark E. Green in April 2017; however, Green withdrew his nomination the next month. In July 2017, the president nominated Mark T. Esper to be the next secretary. Ryan D. McCarthy replaced Speer as the acting secretary of the Army on 1 August 2017 after the Senate confirmed McCarthy as the under secretary of the Army. McCarthy served as the acting secretary of the Army for the remainder of fiscal year (FY) 2017 as Esper completed the confirmation process.

A Department of the Army general order in January 2017 made several organizational changes to the organization of Headquarters, Department of the Army (HQDA), and its principal officials' responsibilities, superseding the general order issued in 2012. The executive director, Army National Military Cemeteries, was added to the Secretariat, while the director of Small Business Programs was removed from the Secretariat. The 2017 general order also deleted the list of responsibilities ascribed to the vice chief of staff, Army, leaving only the initial paragraph from the 2012 general order stating that the vice chief of staff has such authority and duties as the chief of staff, Army, with the approval of the secretary of the Army, delegates to that position.

The National Commission on the Future of the Army released its final report in January 2016. Congress established the commission in the FY 2015 National Defense Authorization Act (NDAA) in large part over two concerns. The first concern addressed how the Army should best organize and employ its three components with declining

Secretary of Defense James N. Mattis swears in Ryan D. McCarthy as the thirty-third under secretary of the Army during a ceremony at the Pentagon, 5 September 2017.

resources. The second concern addressed whether the service should proceed with the transfer of AH–64 Apache helicopters from the reserve component to the Regular Army as directed by the Army's Aviation Restructure Initiative.

Congress directed the commission to undertake a comprehensive study of the structure of the Army to assess the size and force mix of the Regular Army, Army National Guard, and Army Reserve, and make recommendations in those areas where the commission thought appropriate. The commission was to consider anticipated mission requirements for the Army at acceptable levels of national risk, in a manner consistent with available and anticipated resources. Additionally, Congress specifically directed the commission to study the transfer of all the Army National Guard's AH–64 Apache helicopters to the Regular Army.

In April 2016, the Army provided an initial assessment of the commission's recommendations to the secretary of defense and to Congress. The House Armed Services Committee directed the secretary of defense, the chairman of the Joint Chiefs of Staff, and the chief of staff, Army, to provide written assessments of the commission's recommendations by 1 December 2016. Because the timing of this directive fell in the midst of departmentwide preparations for the FY 2018 budget request, the Army decided to

delay the report because it would not have fulfilled the request by Congress. The director of the Army Staff sent an interim response to the House and Senate Armed Services Committees, notifying them that the service would submit the report with, or shortly after, the FY 2018 budget request.

For each of the commission's recommendations, the Army formed an operational planning team with representatives from relevant stakeholders. The teams assessed the recommendations, identified and evaluated options, and presented their proposed course of action to senior Army leaders. A council of colonels and a general officer steering committee monitored and guided the teams' work. Both the council and the committee included representatives from the three Army components and the state adjutants general. After review by the secretary of the Army and the secretary of defense, the Army submitted the required report to the two congressional committees on 6 September 2017.

The Army reported significant progress on assessing and implementing the commission's forty-three recommendations since the initial report provided in April 2016. The service closed thirty-two recommendations. It rejected one recommendation: inactivating two Regular Army infantry brigade combat teams and using these personnel spaces to address shortfalls the commission found in other capabilities. As the remaining ten recommendations will require additional time to fully assess or implement, their expected completion dates range from the end of FY 2017 to FY 2020.

Second Army was inactivated for the fourth time in its nearly 100-year history on 31 March 2017, after three years in service. It had been activated in 2014 to improve command and control between Army Cyber Command (ARCYBER) and the Army's Network Enterprise Technology Command (NETCOM). The ARCYBER commander was dual-hatted as the commander of Second Army, and NETCOM was assigned to Second Army. No soldiers were actually assigned to Second Army, since the ARCYBER commander chose to use his existing staff to also run Second Army. Although Second Army served an important role by facilitating the relationship between ARCYBER and NETCOM, that role was diminished by a later decision for NETCOM to report directly to ARCYBER.

On 29 November 2016, ARCYBER conducted a groundbreaking ceremony for construction of the Army Cyber Command Complex at Fort Gordon, Georgia. Currently, ARCYBER headquarters is split between Fort Belvoir, Virginia; Fort Meade, Maryland; and Fort Gordon. Within four years, the headquarters will consolidate at Fort Gordon. The new facilities will support more than 1,300 soldiers and

*ARCYBER commander Lt. Gen. Paul M. Nakasone (*left*) and Cmd. Sgt. Maj. William G. Bruns prepare to case the Second Army colors during a ceremony at Fort Belvoir, 31 March 2017.*

civilian employees, and are projected to be ready in summer 2020. ARCYBER is expected to be fully operational at Fort Gordon by 2022.

Currently, the Army has fifty-seven museums and the Army National Guard has forty-eight designated museum activities. Since 2000, the Army's collection of artifacts has increased dramatically in size, even as museum staff numbers have declined. In response, in December 2016 the service established the Army Museum Enterprise (AME), a management framework for museums executed by the Center of Military History (CMH). The framework applies to all Regular Army and Army Reserve museums. Its policies and procedures also apply to the accountability and security of Army property in Army National Guard museums.

The AME is a network of museums, training support facilities, historical collections, heritage displays, and support centers that perform education, training, research and development, conservation and preservation, unit heritage activities, and public outreach for the Army. Daily operations of AME museums remain under the direction of the museum's local commander. The AME General Officer Steering Committee will provide senior leader oversight and will be supported by the AME Working Group. As

the Army's proponent for museums, CMH provides centralized control, with decentralized execution at the command level. The center also provides expertise in governance, funding, structure, program development, human resources management, and materiel management. CMH recommends management decisions regarding the AME to the AME Working Group for the General Officer Steering Committee to consider.

Management

In July 2017, the General Fund Enterprise Business System (GFEBS) upgraded its technical infrastructure and moved its Business Warehouse capability to an in-system memory database. These upgrades, along with upgrades across the Defense Information Systems Agency (DISA)/ Army network, introduced excessive periods of unexpected latency that affected system availability for users. The GFEBS Program Management Office, the Office of the Assistant Secretary of the Army (Financial Management and Comptroller), DISA, and the Army Data Center all worked with IBM, the GFEBS system integrator, to make adjustments to both GFEBS and the overall network. These adjustments stabilized the system for year-end processing.

An independent public accounting firm, in November 2016, reported on its audit of the Army's General Fund Schedule of Budgetary Activity. The scope of the audit included FY 2015 and FY 2016 appropriation activity and an evaluation of information technology controls over the general ledgers in various systems. The firm did not issue an opinion, but it did close 100 findings from the prior year audit and noted the service's success in remediating audit impediments. During the FY 2016 Schedule of Budgetary Activity audit, the Army responded to nearly 24,500 audit samples and auditor requests.

The statement of budgetary resources is a financial statement that summarizes the flow of funds in and out of the Department of the Army. The FY 2017 statement of budgetary resources audit by an independent public accounting firm identified several deficiencies. Risks associated with these findings included misstatement of balances reported on financial statements, inadequate reconciliation of data originating from various financial management systems, and insufficient controls related to the reconciliation of transactional data populations. In response to these findings, the Army initiated multiple corrective actions.

In April 2017, the acting secretary of the Army directed that HQDA establish a process for providing Army senior leaders

greater situational understanding of information technology (IT) programs, investments, and resourcing. He directed the establishment of a senior review board, known as the Information Technology Oversight Council, cochaired by the under secretary of the Army and the vice chief of staff, Army. The council will integrate activities and assessments in the network mission areas: War fighting, intelligence, enterprise information environment, and business. The acting secretary designated the Army's chief information officer/G–6 (CIO/G–6) the lead integrator, responsible for establishing a standards-based architecture. The Mission Command Center of Excellence will be responsible for synchronizing all tactical network requirements. The chief of staff, Army, will be the final approval authority responsible for reviewing and validating requirements with operational needs through the Army Requirements Oversight Council.

The CIO/G–6 maintained ten enterprise license agreements (ELA) for software products from several corporations. During this fiscal year, the Army created a new Microsoft ELA, replacing the one in effect since 2012. The new ELA provided all Army users a standard, secure desktop environment at a cost savings of more than 50 percent compared to General Services Administration pricing. In accordance with Office of Management and Budget category management objectives, the Microsoft ELA streamlines and simplifies software license management and provides a no-cost migration path to future cloud services. It also delivers enterprise strategy advisory consulting services and technical training opportunities to further support the Windows 10 software migration and deployment. This support was a valuable benefit at no additional cost to the contract. Furthermore, the Army did not incur additional desktop licensing cost to migrate to Windows 10.

In late FY 2016, the CIO/G–6 began developing a plan for the transformation of Army Knowledge Online capabilities. The transformation plan, approved in early FY 2017, consisted of three two-year increments. The major objectives of the first increment is to replace the legacy Single Sign On capability and upgrade the portal with modern capabilities, personalization, and support for mobile devices. The replacement for Single Sign On will be the Enterprise Access Management System-Army (EAMS-A), which will become the cornerstone of the transition to using public key infrastructure credentials for authentication to all the various Army services. EAMS-A is decoupled from the AKO system and its portal, enabling the portal to be completely overhauled and upgraded. The transition to EAMS-A is expected to occur early in FY 2018. Late in FY 2017, a

contract was awarded to overhaul and upgrade the portal; the work is scheduled for completion in FY 2018.

In June 2014, the undersecretary of the Army issued guidance to establish the Army Application Migration Business Office and outlined a process for migrating enterprise systems to core data centers. However, progress in system and application virtualization and rationalization was slow, and the Army did not reach its FY 2016 data center closure target. Additionally, in February 2016, the deputy secretary of defense directed the Department of Defense (DoD) to complete a rapid deployment and transition to Microsoft Windows 10 to strengthen the department's cybersecurity posture and concurrently streamline the IT operating environment. These issues led to a December 2016 directive from the secretary of the Army establishing a plan for rationalizing and modernizing IT systems and applications, migrating them to approved hosting environments, and closing or consolidating data centers.

The directive set several objectives. All enterprise systems and applications were to be migrated to enterprise hosting environments no later than 30 September 2018, contingent upon the availability of enterprise hosting environments. Army enterprise resource planning (ERP) systems, if not already migrated, would be migrated to a DISA Defense Enterprise Computing Center as part of the Army ERP enclave. The suspense for ERP migration, subject to availability of funds, was 30 September 2018. By that same date, only legacy systems and applications with scheduled terminations by 30 September 2020, and with approved waivers and a supporting plan of action and milestones, would remain on Army networks. Waivers were contingent upon these systems and applications continuing to meet the requirements for operating on an Army network.

Installation processing nodes identified in the directive are required to close, as well as any additional nodes identified later, by 30 September 2025. By that date, all Army commands and installations must be compliant with the data center closure targets and procedures in place to monitor establishment of new data centers. The end-state will have ten Army Enterprise Data Centers by 2025. Six of those will be located outside the continental United States. The other four will be located at Redstone Arsenal, Alabama; Fort Carson, Colorado; Fort Knox, Kentucky; and Fort Bragg, North Carolina.

The final objective set in the December 2016 directive was completion of the transition to Microsoft Windows 10 by no later than 31 January 2017. Organizations unable to meet the suspense date could request a waiver through the appropriate process established by the Army CIO/G–6 and DoD. Later in FY 2017, it became clear

this deadline could not be met, and the DoD CIO established a new deadline of 31 March 2018. Organizations were to procure replacement hardware for any Windows 10–incompatible devices by 1 November 2017; those purchases were to comply with the 7 June 2017 CIO/G–6 guidance for life-cycle replacement.

Global Combat Support System–Army is a logistics and financial system for both units and installations. It tracks supplies, spare parts, organizational equipment, unit maintenance, and financial transactions related to logistics. The system is based on a commercial software program and is fielded in two waves to avoid disrupting operations. The first wave, completed in November 2015, replaced the Standard Army Retail Supply System and the associated financial management information systems. The second wave, which commenced in 2015, will replace the Property Book Unit Supply Enhanced and Standard Army Maintenance System–Enhanced. Completion of the second wave is expected during the first quarter of FY 2018.

The Program Office, Army Enterprise Staff Management System, was established in October 2016. Its first undertaking was digitizing the HQDA staff action process. In June 2017, the office replaced HQDA's Tasker Tracking System with a proprietary, commercial-off-the-shelf Task Management Tool system for both Non-Secure and Secure Internet Protocol Networks. This tool eliminates all paper copies in the staffing process—documents can be created, edited, routed, and signed digitally. The tool also provides transparency and accountability for work in progress, creates an archive of completed staff actions, and interfaces with Office of the Secretary of Defense's (OSD) Correspondence and Task Management System.

A December 2016 memorandum from the administrative assistant to the secretary of the Army established a policy for HQDA principal officials on procuring and presenting custom minted or manufactured emblazoned coins. These coins recognize acts of exceptional or unique service among HQDA employees. The policy authorized these officials to spend up to $3,000 in appropriated funds each fiscal year to purchase coins. Except for the secretary of the Army; the chief of staff, Army; the under secretary of the Army; the vice chief of staff, Army; and the sergeant major of the Army, the administrative assistant to the secretary of the Army must approve any purchases exceeding $3,000 in a fiscal year. Except for the secretary of the Army; the chief of staff, Army; the under secretary of the Army; the vice chief of staff, Army; and the sergeant major of the Army, personalized coins with the name of the principal official on the coin

are not authorized. All officials are required to maintain a record of coin expenditures by fiscal year. Coins may not be presented to contractors, and those receiving coins must be employees paid from appropriated funds.

Budget

Congress had not approved a budget for FY 2017 by the end of FY 2016. Instead, for the eighth consecutive time, the Army began a new fiscal year funded by a continuing resolution. This measure permitted operations at the rate provided for in the FY 2016 appropriations act (*Tables 1, 2, 3*, and *4*). No funding could be used to start new programs or expand ongoing programs. No new multiyear procurements could be made utilizing advance procurement funding for economic order quantity procurement. The uncertainty of funding levels created challenges for leaders at all levels in planning and executing their programs efficiently. These challenges continued for the majority of the year, as FY 2017 saw the longest period to date—216 days—in which the Army operated under a continuing resolution. Only on 6 May 2017 did the FY 2017 appropriations act become law.

Military personnel appropriations were almost completely spent by fiscal year's end. The direct Army civilian pay for FY 2017 was $14.1 billion and the budgeted pay was $14.3 billion. Direct full-time equivalent execution was 130,000 and the budgeted full-time equivalent was 129,400. Executed civilian pay was lower than budgeted pay because of a hiring freeze in the second quarter of the fiscal year and extended operations under a continuing resolution. The operations and maintenance appropriations had unexecuted balances of $78 million in the base budget and $48.8 million in overseas contingency operations appropriation at the end of FY 2017. Most of the remaining balance in the operations and maintenance accounts was because Congress refused to allow it to be reprogrammed to other accounts.

In the FY 2017/2019 procurement appropriations, the Army obligated 70 percent of the funds. The service missed the 80 percent obligated in the first year of availability goal set by OSD primarily because the appropriations were not available until 5 May. As a secondary cause, the Army Budget Office emphasized obligating the FY 2016/2018 procurement appropriations. This emphasis produced a 93 percent obligation of these funds, exceeding the OSD goal of 90 percent. The Army obligated 99.6 percent of its expiring procurement appropriations from FY 2015/2017. It expended 42 percent of its

TABLE 1—TOTAL OBLIGATIONAL AUTHORITY BASE BUDGET REQUEST, FY 2017 (*MILLIONS OF DOLLARS*)

Military Personnel	
Military Personnel, Army	40,034
Military Personnel, Army Reserve	4,580
Military Personnel, Army National Guard	7,956
Medicare-Eligible Retiree Health Care Fund, Army	1,794
Medicare-Eligible Retiree Health Care Fund, Army Reserve	342
Medicare-Eligible Retiree Health Care Fund, Army National Guard	589
Operation and Maintenance	
Operation and Maintenance, Army	35,384
Operation and Maintenance, Army Reserve	2,727
Operation and Maintenance, Army National Guard	6,885
Environmental Restoration	170
Procurement	
Aircraft	3,615
Missiles	1,670
Weapons and Tracked Combat Vehicle	2,265
Ammunition	1,513
Other Procurement	6,036
Research, Development, Test, and Evaluation	
Military Construction	
Military Construction, Army	503
Military Construction, Army Reserve	68
Military Construction, Army National Guard	233
Army Family Housing	
Operation	326
Construction	201
Army Working Capital Fund	56
Arlington National Cemetery	71
Base Realignment and Closure	14
Chemical Agents Demilitarization	551
Total	125,084

Numbers may not add because of rounding.
Source: Assistant Secretary of the Army (Financial Management and Comptroller), *FY 2017 President's Budget Highlights*, February 2016.

Table 2—Total Obligational Authority Overseas Contingency Operations Request, FY 2017 (*Millions of Dollars*)

Military Personnel	
Military Personnel, Army	2,052
Military Personnel, Army Reserve	24
Military Personnel, Army National Guard	152
Operation and Maintenance	
Operation and Maintenance, Army	13,735
Operation and Maintenance, Army Reserve	24
Operation and Maintenance, Army National Guard	67
Procurement	
Aircraft	313
Missiles	483
Weapons and Tracked Combat Vehicle	154
Ammunition	302
Other Procurement	1,211
Research, Development, Test, and Evaluation	101
Military Construction, Regular Army	19
Army Working Capital Fund	47
Afghanistan Security Forces Fund	3,449
Iraq Train and Equip Fund	630
Syria Train and Equip Fund	250
Total	23,011

Numbers may not add because of rounding.
Source: Assistant Secretary of the Army (Financial Management and Comptroller), *FY 2017 President's Budget Highlights*, February 2016.

FY 2017 Research, Development, Test, and Evaluation against a 55 percent OSD goal.

In the military construction, Army, appropriation, fifty-four of sixty-eight projects were awarded. Two of the remaining fourteen projects were no longer required owing to operational changes. Funding from these cancelled projects was reprogrammed to offset cost overruns in other military construction projects. The remaining twelve projects were not awarded because of environmental, site, or solicitation issues, and are projected to be awarded in FY 2018. In the military construction, National Guard, appropriation, forty-eight of fifty projects were awarded. The remaining two projects

TABLE 3—TOTAL OBLIGATIONAL AUTHORITY APPROVED BASE BUDGET, FY 2017 (*MILLIONS OF DOLLARS*)

Military Personnel	
Military Personnel, Army	40,034
Military Personnel, Army Reserve	4,543
Military Personnel, Army National Guard	7,944
Medicare-Eligible Retiree Health Care Fund, Army	2,986
Medicare-Eligible Retiree Health Care Fund, Army Reserve	376
Medicare-Eligible Retiree Health Care Fund, Army National Guard	654
Operation and Maintenance	
Operation and Maintenance, Army	36,272
Operation and Maintenance, Army Reserve	2,753
Operation and Maintenance, Army National Guard	6,988
Environmental Restoration	170
Procurement	
Aircraft	4,881
Missiles	2,251
Weapons and Tracked Combat Vehicle	2,291
Ammunition	1,931
Other Procurement	6,432
Research, Development, Test, and Evaluation	8,401
Military Construction	
Military Construction, Army	582
Military Construction, Army Reserve	106
Military Construction, Army National Guard	312
Army Family Housing	
Operation	326
Construction	157
Army Working Capital Fund	196
Arlington National Cemetery	71
Base Realignment and Closure	29
Chemical Agents Demilitarization	651
Total	130,310

Numbers may not add because of rounding.
Note: Base amount includes $6.2 billion in Overseas Contingency Operations funding for Base requirements in Military Personnel, Operation and Maintenance, and Research, Development, Test, and Evaluation accounts.
Source: Assistant Secretary of the Army (Financial Management and Comptroller), *FY 2018 President's Budget Highlights*, May 2017.

Table 4—Total Obligational Authority Approved Overseas Contingency Operations, FY 2017 (*Millions of Dollars*)

Military Personnel	
Military Personnel, Army	2,322
Military Personnel, Army Reserve	24
Military Personnel, Army National Guard	152
Operation and Maintenance	
Operation and Maintenance, Army	16,039
Operation and Maintenance, Army Reserve	24
Operation and Maintenance, Army National Guard	65
Procurement	
Aircraft	336
Missiles	497
Weapons and Tracked Combat Vehicle	396
Ammunition	291
Other Procurement	1,542
Military Construction, Army	30
Army Working Capital Fund	48
Research, Development, Test, and Evaluation	3,610
Afghanistan Security Forces Fund	4,263
Counter-ISIS Train and Equip Fund	1,606
Iraq Train and Equip Fund	290
Total	28,021

Numbers may not add because of rounding.
Note: $6.2 billion used for base budget requirements in Military Personnel, Operation and Maintenance, and Research, Development, Test, and Evaluation accounts.
Source: Assistant Secretary of the Army (Financial Management and Comptroller), *FY 2018 President's Budget Highlights*, May 2017.

were not awarded because of environmental, site, or solicitation issues, and are projected to be awarded in FY 2018. In the military construction, Army Reserve, appropriation, forty-two of forty-five projects were awarded. The three remaining projects were not awarded because of environmental, site, or solicitation issues. Two of the remaining projects are scheduled for award in FY 2018 and one in FY 2019.

The Army Working Capital Fund ended FY 2017 with a balance of $1,574.3 million, $226.1 million more than the year's beginning

balance. The change is the result of receiving $225 million in direct appropriations, a congressionally directed reprogramming of $336.0 million, and a cash balance increase of $317.1 million.

In FY 2017, the Army submitted fifteen reprogramming packages, totaling $3.69 billion, requiring congressional approval, a 3.9 percent decrease from the $3.84 billion submitted in FY 2016. Congress rejected six packages, seven were executed in September 2017, one will be implemented in October 2017, and one is still pending congressional action. During FY 2017, the Army reprogrammed an additional $1.72 billion in amounts below the statutory limits requiring congressional approval.

Congress had not approved a budget for FY 2018 by the end of FY 2017. Instead, for the ninth consecutive time, the Army began a new fiscal year funded by a continuing resolution (*Tables 5* and *6*). Although the continuing resolution does not force any immediate program cancellations, it permits operations only at the rate provided for in the FY 2017 appropriations act.

TABLE 5—TOTAL OBLIGATIONAL AUTHORITY BASE BUDGET REQUEST, FY 2018 (*MILLIONS OF DOLLARS*)

Military Personnel	
Military Personnel, Army	41,534
Military Personnel, Army Reserve	4,805
Military Personnel, Army National Guard	8,379
Medicare-Eligible Retiree Health Care Fund, Army	2,193
Medicare-Eligible Retiree Health Care Fund, Army Reserve	417
Medicare-Eligible Retiree Health Care Fund, Army National Guard	721
Operation and Maintenance	
Operation and Maintenance, Army	38,945
Operation and Maintenance, Army Reserve	2,907
Operation and Maintenance, Army National Guard	7,307
Environmental Restoration	216
Procurement	
Aircraft	4,150
Missiles	2,519
Weapons and Tracked Combat Vehicle	2,424
Ammunition	1,879
Other Procurement	6,469
Research, Development, Test, and Evaluation	9,425
Military Construction	
Military Construction, Army	920
Military Construction, Army Reserve	74
Military Construction, Army National Guard	211
Army Family Housing	
Operation	347
Construction	183
Army Working Capital Fund	84
Arlington National Cemetery	71
Base Realignment and Closure	58
Chemical Agents Demilitarization	962
Total	137,198

Numbers may not add because of rounding.
Source: Assistant Secretary of the Army (Financial Management and Comptroller), *FY 2018 President's Budget Highlights*, May 2017.

TABLE 6—TOTAL OBLIGATIONAL AUTHORITY OVERSEAS CONTINGENCY OPERATIONS REQUEST, FY 2018 (*MILLIONS OF DOLLARS*)

Military Personnel	
Military Personnel, Army	2,635
Military Personnel, Army Reserve	25
Military Personnel, Army National Guard	185
Operation and Maintenance	
Operation and Maintenance, Army	16,126
Operation and Maintenance, Army Reserve	25
Operation and Maintenance, Army National Guard	108
Procurement	
Aircraft	425
Missiles	559
Weapons and Tracked Combat Vehicle	1,191
Ammunition	193
Other Procurement	406
Research, Development, Test, and Evaluation	119
Military Construction, Army	140
Army Working Capital Fund	50
Afghanistan Security Forces Fund	4,938
Counter-ISIS Train and Equip Fund	1,769
Total	28,894

Numbers may not add because of rounding.
Source: Assistant Secretary of the Army (Financial Management and Comptroller), *FY 2018 President's Budget Highlights*, May 2017.

3
Personnel

Army Strength and Distribution

When the fiscal year began, the Army was trending toward a total end strength of 980,000 soldiers in the active and reserve components. The National Defense Authorization Act (NDAA) for FY 2017 increased the Army's authorized total end strength to 1,018,000 soldiers. As of 30 September 2017, the Army's total strength stood at 1,014,166 officers and enlisted personnel. The active component end strength was 476,245 personnel: 77,448 commissioned officers, 14,348 warrant officers, 379,868 enlisted soldiers, and 4,581 military academy cadets. Women constituted 15 percent of the Regular Army force structure, and racial and ethnic minorities constituted 44 percent.

The Army National Guard end strength on 30 September 2017 was 343,603 personnel: 37,234 commissioned officers, 8,628 warrant officers, and 297,741 enlisted soldiers. Women constituted 17 percent of the Army National Guard, and racial and ethnic minorities constituted 31 percent. The Army Reserve end strength on 30 September 2017 was 194,318 personnel: 34,118 commissioned officers, 3,455 warrant officers, and 156,745 enlisted soldiers. Women constituted 23 percent of the Army Reserve, and racial and ethnic minorities constituted 48 percent.

Officers

The upward shift in manpower during FY 2017 authorized an increase of nearly 1,000 officer accessions and retentions. The Regular Army brought in 6,017 new officers, while the Army Reserve commissioned 1,967 new officers. An additional 2,228 new officers entered the Army National Guard. In each component, new officer commissions exceeded mission goals. Of the new commissioned officers, 5,420 came from Reserve Officers' Training Corps programs: 3,183 Regular Army, 906 Army Reserve, and 1,221 Army National Guard. The U.S. Military Academy produced 918. The In-Service Officer Candidate School (OCS) program commissioned 332: 203 Regular Army, 14 Army Reserve, and 115 Army National Guard. The OCS College Option produced 502: 419

Regular Army and 83 Army Reserve. Another 243 Army National Guard officers commissioned through state-based OCS. Across the three components there were 224 direct commissions into the Judge Advocate General Corps, 2,334 into the Army Medical Department, and 183 into the Chaplain Corps.

The secretary of the Army directed Lt. Gen. Edward C. Cardon, director, Office of Business Transformation, to review the health of the service's general officer corps. Several recent instances of general officer misconduct and the suicide of a major general in July 2016 prompted the review. The review concluded the Army did not have a holistic program focused on the comprehensive health of its general officers. It must better help these officers manage stress, make time for physical fitness, and take appropriate amounts of leave. Senior officers, like other soldiers, need mentors or coaches. A key effort is developing ways to reinforce ethical behavior by developing greater self-control and self-awareness. Pilot programs based on the review's findings and recommendations will be trialed in FY 2018.

The FY 2017 NDAA reduced the statutory limit on general officers and flag officers across all services. However, the Department of Defense (DoD) did not fill all general officer and flag officer billets—and the legislation also allowed for an additional thirty of these billets for overseas contingencies—the limit reduction did not result in cuts. The services, however, could not expand general officer and flag officer billets as their numbers expanded. The law did not include any cuts or caps on Army National Guard or Army Reserve general officers.

Enlisted Personnel

Despite a low nationwide unemployment rate and a mid–calendar-year mission increase, the Army met its FY 2017 enlistment recruiting goal for the Regular Army by accessioning 68,862 enlisted personnel (65,713 of them nonprior service). This number was above the original October 2016 goal of 62,500. Almost 96 percent of new recruits were high school graduates, and 6,900 entered the Army already possessing a college degree. However, 1.9 percent belonged to "Category 4," meaning they scored between 10 and 30 points on the Armed Services Vocational Aptitude Battery examination. The Army also granted 506 waivers for new recruits who admitted to previous marijuana use in FY 2017. Women comprised 17 percent of new recruits, and 47 percent were racial and ethnic minorities.

The Army National Guard began the fiscal year with a recruiting goal of 40,000. It did not meet this goal, accessioning 30,491 nonprior service recruits and another 3,807 prior service

soldiers, for a total of 34,298 new accessions. The Army Reserve recruiting objective was 14,000. It accessioned 13,272 personnel; 12,468 were nonprior service. Enlistment bonuses across the Army averaged $12,800, and those who entered high-demand specialties drew bonuses as high as $40,000.

As a means of cutting attrition rates during initial military training, the Army implemented the gender-neutral Occupational Physical Assessment Test (OPAT). This test assessed a new recruit's fitness for various occupational specialties. Ideally, recruits who score higher on the OPAT will have fewer injuries during initial military training, and will be more apt to complete training. By the end of FY 2017, the OPAT's results were preliminary. A review will take place early in FY 2018. OPAT worked in conjunction with new recruiting efforts aimed at targeting potential recruits with new ad and marketing campaigns. These efforts were the result of statistics indicating that there were approximately 136,000 potential recruits out of a pool of more than 33 million. Factors for this low number related to medical or physical disqualifications, obesity, previous drug use or misconduct, and low mental aptitude among the ages seventeen to twenty-four demographic.

Civilian Personnel

At the end of FY 2017, there were 266,584 appropriated-fund and 26,780 nonappropriated-fund civilian employees. Army civilians worked in nearly 500 job series. Some civilians were foreign nationals who were funded directly by the U.S. Army; other foreign national employees were funded indirectly by their host nation (*Table 7*).

In FY 2017, the Army mirrored or exceeded the representation of the total U.S. labor force in three out of five diversity categories (veteran, disability, and minority). Half of the Army's civilians were military veterans, compared to only 6 percent of the entire labor force. Ten percent of civilian personnel reported having a disability compared to 4 percent in the total labor force. Army minority representation was 32 percent, in line with the total labor force at 31 percent. However, the number of female civilian employees, at 37 percent, was 10 percentage points below the national average. The Army's overall workforce median age (age 50) was eight years higher than the overall labor force.

On 23 January 2017, the president issued a memorandum that directed all federal agencies to implement an across-the-board civilian hiring freeze. The Office of Personnel Management issued hiring freeze guidance on 31 January 2017, and the deputy secretary of defense issued additional guidance the next day. This guidance authorized the

Table 7—Composition of the Army Civilian Workforce, FY 2017

Direct Hire in Military Function	196,268
National Guard Technicians	26,865
Foreign National Direct Hire in Military Function	6,936
Foreign National Indirect Hire in Military Function	12,861
Direct Hire in Civil Function	23,484
Direct Hire Cemeterial Function	170
Nonappropriated Fund Employees	26,780
Total	293,364

Source: Assistant G–1 for Civilian Personnel

acting secretary of the Army to grant certain exceptions to the hiring freeze. During the freeze, which lasted until 4 May 2017, there were more than 1,050 exemption requests in the Army. Cumulatively, the freeze affected roughly 46,000 civilian positions across the service.

Special Topics

The Army extended the contracts of all Military Accessions Vital to National Interest (MAVNI) recruits in the U.S. Army Reserve Delayed Training Program by one year to allow time for security vetting. The Army implemented the MAVNI program in 2009 to recruit personnel into critical skills, primarily language and health care, outside of the population normally authorized for enlistment to meet those needs. It allowed for the enlistment of certain legally present noncitizens who held visas. From 2015, those granted employment eligibility under the Deferred Action for Childhood Arrivals policy were eligible for the MAVNI program. In FY 2017, the Army increased MAVNI program vetting and clearance requirements. Owing to procedural delays and the sheer volume of soldiers requiring additional vetting, many MAVNI recruits became subject to discharges from the Army Reserve because of their extended time in the Delayed Entry Program. In FY 2017, the Army did not clear any individuals who accessed through the MAVNI program. The acting secretary of the Army in July 2017 extended the contracts of all MAVNI recruits in the Army Reserve Delayed Training Program by one year to allow time for their security vetting. As a result of the increased vetting—as well as a series of class-action lawsuits—the Army Board for the Correction of Military Records adjusted the

enlistment contracts of all Regular Army MAVNI accessions in the Delayed Entry Program by one year to allow for security vetting and avoid unnecessary discharges.

The deputy chief of staff, G–1, established a division to implement Army policy on the screening and vetting processes for suitability, fitness, and Homeland Security Presidential Directive-12. The Army Suitability Program encompasses various avenues for determining individual suitability for government employment. The program examines an individual's conduct, character, and any derogatory information that may make someone unsuitable for a government position.

On 30 June 2016, the secretary of defense issued guidance on the retention, accession, separation, in-service transition, and medical coverage for transgender personnel serving in the military. The Army established a Transgender Service Implementation Group to develop policies and procedures for transgender service. At the start of FY 2017, the Army directed that no otherwise qualified soldier may be involuntarily separated, discharged, or denied reenlistment on the basis of their gender identity. The directive further established that Army medical providers could diagnose and provide medically necessary care and treatment for transgender soldiers. This care included allowing for a gender transition while in the Army.

Along with this initial directive, the Army established protocols where a soldier would begin a transition with a medical diagnosis, and end the transition with an altered gender marker in the Defense Enrollment Eligibility Reporting System. If a soldier completed the transition, the Army required said soldier to meet all standards for uniform and grooming, body composition, physical readiness testing, and other military standards for applied genders. On 30 June 2017, the secretary of defense delayed implementation of the transgender policies for an additional six months to further evaluate their effects on lethality and readiness.

In February 2017, the Office of the Assistant Secretary of the Army (Manpower and Reserve Affairs) issued guidance for soldiers, civilian employees, and contractors concerning their online conduct. Guidance advised using a "Think—Type—Post" model when using electronic communications devices. Before posting, one should think about the message they are communicating and who might view it. The message should be consistent with Army values, and include only messages that demonstrate dignity and respect for all. Personnel experiencing or witnessing online misconduct should promptly report the incident to their chain of command or through other avenues, such as family support services, equal opportunity

offices, inspector general channels, Army law enforcement offices, and those used for reporting sexual harassment.

The guidance directed a number of actions by HQDA to reinforce professional online conduct. Programs tracking misconduct in areas such as equal opportunity and sexual harassment, as well as inspector general and law enforcement investigations, will update their systems to track online incidents. Steps will be taken to raise awareness of online conduct, misconduct, and response actions. The standardized programs of instruction and training plans for equal opportunity, treatment of persons, sexual harassment, and response to sexual assault will be updated with discussion points and vignettes concerning electronic communications and online conduct. The Office of the Chief of Public Affairs will revise the social media handbook with an expanded discussion of online responsibilities, protection, and leader response options.

In 2014, the assistant secretary of the Army (manpower and reserve affairs) established a working group to examine operational, security, and ethical considerations related to using the human capital big data maintained by the service. The working group's efforts produced the Army Human Capital Big Data (HCBD) strategy in November 2016. The HCBD strategy defines an overarching human data use policy and expands an existing technology—Person-event Data Environment—as an enterprise platform for integrating data across the human capital enterprise. This technology links people, data, and tools, and ensures that the Army follows human subject protection regulations and privacy rules and that Army human data use can be audited.

After publishing the HCBD strategy, the working group prepared the HCBD implementation plan, which was approved in August 2017. The plan addressed governance, ethical oversight, phasing and tasks for implementation, data management, and associated technical processes needed to support the HCBD enterprise. The plan established the HCBD Steering Committee as subordinate to the Army Data Board. It consists of representatives from the assistant secretary of the Army for manpower and reserve affairs; the deputy chief of staff, G–1; and the deputy chief of staff, G–8. The committee is tasked with directing the HCBD data governance process. The plan also established three categories of analyses supported by HCBD: descriptive statistics, policy analysis, and research.

During FY 2017, the Army continued developing a new personnel system based on the concept of talent management. Talent management capitalizes on the unique talent of soldiers;

talent is defined as the intersection of knowledge, skills, behaviors, and preferences in every soldier. At the end of FY 2016, the Army published a talent management strategy. In FY 2017, the Army began the Assignment Interactive Module pilot program, implementing part of that strategy. This module is a Web-based portal designed to enhance officer talent management processes. It exercises a regulated market mechanism that enables interaction among the soldier, the unit, and assignment managers within an intuitive marketplace. This marketplace allows both officers and units to advertise themselves, express their preferences, and interact with one another in order to shape both parties' interests to increase satisfaction and meet requirements. The portal greatly increases information about an officer, offering a resume with relevant information not otherwise contained in the traditional officer record brief. Similarly, units are able to share detailed information about each of the jobs in the marketplace.

The FY 2016 NDAA directed the implementation of a new blended military retirement system (BRS) by 1 January 2018. This system will blend the traditional pension with a defined contribution system of automatic and matching government contributions through the Thrift Savings Plan. The current system provides retirement benefits to the approximately 15 percent of soldiers who serve more than 20 years. Under BRS, all soldiers who serve honorably for at least two years will have some retirement benefits when they leave the service.

The DoD released its BRS implementation guidance in January 2017, and the Army began a program to educate soldiers on their options. Soldiers with twelve years or more active duty service—and National Guard and Reserve members with 4,320 or more points—will be grandfathered into the current system. Soldiers with less than twelve years active duty service—and National Guard and Reserve members with less than 4,320 points—will have until 31 December 2018 to choose whether to remain in the current system or opt into the BRS. Any soldier who does not opt in by 31 December 2018 will remain enrolled in the previous retirement system. Soldiers who enter the service after 1 January 2018 will automatically contribute part of their pay into the Thrift Savings Plan.

To signify the entrance of a soldier into the profession of arms, in FY 2017 the Army began presenting a certificate to all enlisted and officer trainees graduating from initial entry training courses. An initiative begun by the Soldier for Life working group, the Soldier's Certificate officially recognizes the earned right to be called a soldier. Signed by the chief of staff, Army, and the sergeant major

of the Army, the certificate also symbolizes the Army's promise to take care of soldiers and their families.

In October 2016, the Army revised its procedures for processing and tracking requests for religious accommodations that require a waiver of Army Regulation (AR) 670–1, *Wear and Appearance of Army Uniforms and Insignia*. Persons intending to enter the Army may now submit a preaccession request for a religious accommodation waiver of AR 670–1 and receive a decision before entry. Requests for a religious accommodation waiver of AR 670–1 may be approved or disapproved only by the secretary of the Army or his designee.

Starting in January 2017, soldiers from Jewish, Muslim, Sikh, and Rastafarian faiths could request approval through their brigade commander to modify their uniform to include beards, turbans with unshorn hair, hijabs, and dreadlocks. Soldiers who receive such accommodations must still be able to wear the combat helmet and other protective headgear. Because testing has shown that a beard degrades the protection factor provided by current protective masks, soldiers with a religious accommodation allowing a beard may not attend schools requiring toxic chemical agent training, and may not be assigned to positions requiring compliance with biological, chemical, or nuclear safety requirements. Commanders may require a soldier to shave if the unit is in, or about to enter, a tactical situation where use of a protective mask is required and where the inability to safely use the mask could endanger the soldier and the unit.

Also starting in January 2017, female soldiers may wear dreadlocks/locks in accordance with the guidance in AR 670–1 for braids, cornrows, and twists. Additionally, religious bracelets, similar in style to medical alert, missing in action, prisoner of war, or killed in action identification bracelets, may now be worn in uniform or in civilian clothes on duty in accordance with the guidance in AR 670–1.

In June 2017, the undersecretary of defense (personnel and readiness) directed the military services to establish additional measures to ensure appropriate and timely recognition of extraordinary acts of valor. In August, Human Resources Command issued guidance to implement this directive. All valor award recommendations from the field will be processed for endorsement within ten calendar days of receipt at each echelon in the chain of command above the initiating unit through the approval authority. In recognition of the inherent challenges associated with any event that results in valor award recommendations, the ten-calendar-day requirement does not apply to the initiating unit, but that unit is still required to exercise due diligence in preparing a recommendation in a timely manner. For

Medal of Honor and Distinguished Service Cross recommendations, the first colonel (or general officer if a colonel is the recommender) to endorse the award recommendation will forward a copy of the entire recommendation to the Human Resources Command's Awards and Decorations Branch upon signature. This step provides the opportunity for administrative corrections to occur early in the process. Commanders with wartime awards approval authority will report monthly to Human Resources Command with a rollup of all awards, including all valor awards awarded by subordinate headquarters if wartime award approval authority was delegated.

On 7 January 2016, the secretary of defense approved the creation of the C (for combat) and the R (for remote) devices. The creation of the C and R devices is the result of the DoD Military Decorations and Awards Review. The review found that some medals, such as valor awards, are inherently for combat service, while other medals are not so distinct. The C device was created to distinctly recognize those service members performing meritoriously under combat conditions, and the R device was created to recognize personal performance in remote service that directly impacts combat operations.

Human Resources Command, in March 2017, issued guidance on the awarding of these devices. Award of the devices is retroactive to the date when the secretary of defense approved their creation. To qualify for the C device, a soldier must be in an active area of combat where the soldier was personally exposed to hostile action or in an area where other soldiers were actively engaged. The R device is rated when a soldier's actions from outside the operational area directly affect combat operations. The C and R devices will be awarded with the Army Achievement Medal, the Army Commendation Medal, the Air Medal, the Distinguished Flying Cross, the Distinguished Service Medal, and the Legion of Merit.

A directive from the secretary of defense in 2016 required the military departments, by the end of FY 2017, to review Distinguished Service Cross, Navy Cross, Air Force Cross, and Silver Star nominations from Operations Enduring Freedom, Iraqi Freedom, New Dawn, Freedom's Sentinel, and Inherent Resolve. The Army's review was a three-phased process. Phase I consisted of an internal review by the Human Resources Command's Awards and Decorations Board. Phase II consisted of a Special Army Awards and Decorations Board review. Nominations that prompted further review moved to Phase III for a Senior Army Decorations Board review. Of the 784 reviewed Distinguished Service Crosses and Silver Star nominations, the Senior Army Decorations Board recommended 23 for upgrade consideration: 10 Distinguished Service Crosses to Medal of Honor, and 13 Silver

Stars upgraded to Distinguished Service Crosses. Action on these recommendations will occur in FY 2018.

Medal of Honor

On 31 July 2017, the president awarded former Specialist Fifth Class James C. McCloughan the Medal of Honor for his actions between 13–15 May 1969, serving as a medic in Company C, 3d Battalion, 21st Infantry, 23d Infantry Division (Americal). During this engagement, roughly 2,000 enemy soldiers surrounded McCloughan's company. Despite multiple fragment and bullet wounds, Specialist McCloughan repeatedly risked his own life to save others. Over the course of forty-eight hours, he rescued ten American soldiers and tended to countless others.

Former Specialist Fifth Class James C. McCloughan gives his remarks during the Medal of Honor induction ceremony at the Pentagon, 1 August 2017.

4
Force Development, Training, and Operational Forces

Force Structure

The Program Objective Memorandum for Fiscal Years 2019/2023 incorporated recommendations made by the National Commission on the Future of the Army. The commission's report served as a blueprint and justification for much of the force structure growth initiated in FY 2017. One commission recommendation was making additional armored brigade combat teams available for deployment to Europe and the Republic of Korea. In November 2016, the Army announced the 2d Brigade Combat Team, 3d Infantry Division, would convert from an infantry brigade combat team to an armored brigade combat team. This conversion, expected to be completed in FY 2019, will increase the number of armored brigade combat teams to fifteen—ten in the Regular Army and five in the Army National Guard. In addition, provisions in the FY 2017 National Defense Authorization Act and the FY 2019/2023 Program Objective Memorandum allowed the Army to begin planning the creation of a sixteenth armored brigade combat team, to be converted from an infantry brigade combat team.

In February 2017, the Army announced plans to create six security force assistance brigades. These brigades will be the Army's first permanent unit of this size dedicated to advising and assisting partner nations in developing their security force capabilities. For more than ten years, brigade combat teams conducted this mission. The security force assistance brigades will relieve the brigade combat teams and permit them to focus on combat-related tasks. The new units will also allow the Army to institutionalize the expertise gained since 2001 in advising and assisting partner nations. Early in FY 2018, the 1st Security Force Assistance Brigade will be activated at Fort Benning, Georgia. Additionally, in February 2017, the Army announced it would establish a Military Advisor Training Academy at Fort Benning. The U.S. Army Maneuver Center of Excellence, the proponent for brigade-level security force assistance, will oversee the new

academy. The first six-week course at the academy is scheduled to begin early in FY 2018.

The Army established readiness enhancement accounts in all three components, which added authorizations in specific military occupation specialties to increase staffing and readiness levels. The specific specialties and grades are based on greatest need in brigade combat teams and, therefore, are most likely to improve combat readiness. These authorizations are not linked to existing units and locations. Planners can recruit and resource using these authorizations in order to prevent hollow formations in critical units.

Because of the increased authorized personnel end strength, a number of units scheduled for inactivation were retained in FY 2017, including: the 4th Brigade Combat Team (Airborne), 25th Infantry Division, at Joint Base Elmendorf-Richardson, Alaska; the headquarters of the 18th Military Police Brigade in Germany; the 206th Military Intelligence Battalion at Fort Hood, Texas; a maintenance company; and a combat aviation brigade in Korea. Additionally, the 166th Aviation Brigade, which was inactivated in 2015, will be reactivated at Fort Hood in FY 2018 to train Army Reserve and National Guard aviation units. The Army also began planning to station additional units overseas: a field artillery brigade headquarters with a Multiple Launch Rocket System (MLRS) battalion and accompanying support units, two MLRS battalions with accompanying support units, a short-range air defense battalion, a theater movement control element, a petroleum support company, and an ammunition platoon. Finally, Training and Doctrine Command received an increase of 1,300 personnel spaces in order to mitigate personnel shortfalls in the training and recruiting base.

Multi-Domain Battle

In October 2016, the Army announced it began developing the Multi-Domain Battle concept, which is intended to keep the service ahead of potential adversaries around the world. Since the end of the Cold War, American forces have enjoyed considerable freedom of action in the air, land, maritime, space, and cyberspace domains. However, an increasing number and range of actors are capable of denying or disrupting American forces' access to and action within air, maritime, space, and cyberspace domains from extended distances. These capabilities threaten American forces' ability to achieve the military and political objectives assigned to them.

The Multi-Domain Battle concept evolved out of the Army operating concept published in 2014. It will be a joint-combined arms

concept that includes capabilities in the physical domains and places greater emphasis on space, cyberspace, and other contested areas such as the electromagnetic spectrum, the information environment, and the cognitive dimension of warfare. To guide development of this concept, Training and Doctrine Command has pinpointed eight capabilities on which to concentrate: cross-domain fires, combat vehicles, expeditionary mission command, advanced protection, cyber electromagnetic, future vertical lift, robotics/autonomous systems, and soldier team performance and overmatch. In early 2017, the Army and the U.S. Marine Corps issued a joint white paper on the Multi-Domain Battle concept and established a joint task force to develop it. A publication outlining the concept is expected early in FY 2018.

Cyber

The development of a capable cyber force remained critical to the Army's long-term effort to build cyberspace capability. The U.S. Army Research Laboratory at Adelphi, Maryland, opened a Cyber-research Analytics Laboratory. It provides industrial and federally funded partners access to sensitive, live cybersecurity data in order to develop strong partnerships with U.S. Army Cyber Command. The Army activated the National Guard's first cyber brigade, the 91st Cyber Brigade, in Virginia. The new brigade serves as the higher headquarters for several National Guard cyber units on the east coast. In addition, the Army continued to integrate cyber soldiers into its regular formations. For example, cyber-electromagnetic activity teams were part of the Support to Corps and Below initiative during a rotation of the 2d Brigade Combat Team, 1st Infantry Division, at the National Training Center at Fort Irwin, California.

Training

During FY 2017, the Army initiated several new training efforts aimed at building and maintaining unit readiness. More brigade combat teams (including National Guard brigades) completed rotations at combat training centers. In 2016, the Army ran eighteen rotations at combat training centers at Fort Irwin, California; Fort Polk, Louisiana; and Hohenfels, Germany. In 2017, nineteen were planned and by 2020 the Army hoped to increase rotations to twenty per year.

One notable training exercise conducted during FY 2017 involved a rare convoy of more than 1,200 vehicles, including 325 Stryker armored vehicles, and 5,750 soldiers of the 1st Brigade Combat Team,

4th Infantry Division. As part of an exercise dubbed Operation Raider Focus, the convoy traveled from their home station of Fort Carson, Colorado, to Piñon Canyon Maneuver Site. Typically, the division conducted the 140-mile trip by rail, but the unit's leaders wanted to test the brigade's equipment and capabilities. Preparations for the trek took nearly a year. At the completion of the two-week exercise, the brigade returned by road to Fort Carson.

The Army's first gender-integrated infantry one station unit training class started in February 2017 with 149 male and 32 female recruits. The class graduated in May with 115 male and 18 female soldiers.

In October 2016, the Army published Field Manual 7–0, *Train to Win in a Complex World*. A digital-only publication, the manual explains training strategies and new initiatives for assessing training readiness. Embedded in the manual are links to Army Training Network resources such as instructional videos, mission-essential task lists, training and evaluation outlines, and best training practices. The new manual reflects the Army's transition from preparing units for a specific mission in Iraq or Afghanistan to preparing for a range of contingencies. It also makes training proficiency ratings more specific and more objective. The old proficiency ratings of T (trained), P (needs practice), and U (untrained) have been replaced with T (fully trained), T− (trained), P (practiced), P− (marginally practiced), and U (untrained). The change is designed to give leaders a more accurate picture of their unit's readiness.

In April 2017, Army Techniques Publication 3–01.81, *Counter-Unmanned Aircraft System Techniques*, was released. It provides planning considerations for defending against low, slow, small unmanned air threats during operations. The publication also provides guidance on how to plan for and incorporate counter-unmanned aircraft system tactics, techniques, and procedures into unit training. Additionally, trainers and educators will use this publication in developing and presenting instruction on combined arms air defense.

Incorporating cyberspace electromagnetic activities throughout all phases of an operation is key to obtaining and maintaining freedom of maneuver in cyberspace and the electromagnetic spectrum, while denying the same to adversaries. In April 2017, the Army updated its doctrine on these activities with publication of Field Manual 3–12, *Cyberspace and Electronic Warfare Operations*. The manual provides tactics and procedures for the coordination and integration of Army cyberspace and electronic warfare operations to support unified land operations and joint operations. Because of the rapidly evolving cyberspace domain, the Cyber Center of Excellence intends to review and update the manual and supporting

publications on a frequent basis to keep pace with a continuously evolving cyberspace domain.

Operational Forces

In FY 2017, the service continued a program to rotate combat units from the continental United States to Europe. At the end of the fiscal year, the Army had nearly 30,000 personnel stationed in Europe, with 21,331 soldiers in Germany. Italy had the second largest total with 4,302 personnel, mostly associated with the 173d Airborne Brigade Combat Team stationed in Vicenza. In Belgium, 586 personnel supported NATO headquarters, and the Army had 219 soldiers assigned in the United Kingdom. Additionally, 657 personnel supported the Kosovo Force peacekeeping operations.

The Army had nearly 20,000 soldiers stationed in East Asia and the Pacific at the end of the fiscal year. Of these, the United States had 2,704 soldiers stationed in Japan, either at Camp Zama outside of Tokyo or on Okinawa. The Army stationed 44 personnel in Thailand to help coordinate training exercises between the Royal Thai Armed Forces and the United States. There were 15,558 soldiers stationed in the Republic of Korea.

In the western hemisphere, the Army had 131 soldiers assigned to Naval Station Guantanamo Bay, Cuba, 215 personnel in Honduras, and 26 in Columbia. The majority of countries in the western hemisphere had very small numbers of Army personnel, usually less than three, assigned to embassy staff elements.

Afghanistan

Operation Freedom's Sentinel in Afghanistan continued to require significant Army support during FY 2017. In September 2016, the number of personnel deployed to Afghanistan was 6,846 Regular Army, 609 mobilized Army National Guard, and 677 mobilized Army Reserve personnel. By the end of September 2017, that number had increased to 9,371 Regular Army, 799 mobilized Army National Guard, and 620 mobilized Army Reserve. Army casualties for Operation Freedom's Sentinel during FY 2017 were eighteen killed and ninety-eight wounded.

American forces in Afghanistan during FY 2017 had two missions: a counterterrorism mission against the remnants of al-Qaeda and a train, advise, and assist mission supporting Afghan security forces. During FY 2017, the Army maintained elements of two division headquarters in Afghanistan. The 1st Cavalry Division headquarters remained in country until August 2017 when the 3d Infantry

Division headquarters replaced it and assumed its mission of serving as the U.S. Forces–Afghanistan's National Support Element. The deployment of an element of the 36th Infantry Division headquarters in June 2016 to serve as the Train Advise Assist Command–South marked a historical moment, as it was the first such National Guard division headquarters to assume such a mission. Responsibility for this mission remained with the 36th Infantry Division during FY 2017 when a second headquarters element from that unit arrived in Afghanistan in March 2017.

In addition, five augmented brigade combat teams served in Afghanistan during the fiscal year to conduct security force assistance operations. The 2d Brigade Combat Team, 4th Infantry Division, remained in Afghanistan until November 2016. The 3d Brigade Combat Team, 101st Airborne Division, deployed from October 2016 until July 2017. The 1st Brigade Combat Team, 1st Armored Division, a Stryker brigade combat team, served from January to October 2017. Finally, in July and September 2017 the Army deployed two airborne brigade combat teams to Afghanistan: the 1st Brigade Combat Team, 82d Airborne Division, and the 4th Brigade Combat Team, 25th Infantry Division. When the Army announced both deployments in April 2017, they were to consist of a regular rotation of approximately 1,500 soldiers. However, on 21 August 2017, President Donald J. Trump announced a surge of an additional 4,000 troops to Afghanistan to bolster the Afghan government forces amidst a deteriorating security situation. As a result, by September both brigades had deployed more than 2,000 soldiers each to Afghanistan.

Southwest Asia

During FY 2017, the Army remained heavily committed in U.S. Army Central's Southwest Asia region, especially in Iraq, Syria, and Kuwait. The Army began the fiscal year with more than 15,000 soldiers deployed to the region. By the end of FY 2017, that number increased to nearly 22,000. The most significant operations occurred in the continuing fight against the Islamic State in Iraq and Syria (ISIS) as part of Operation Inherent Resolve. In addition, the Army maintained forces with theaterwide responsibilities as part of Operation Spartan Shield.

The most direct threat to Iraq remained ISIS. Operation Inherent Resolve began in June 2014, in conjunction with coalition and partner forces, to defeat ISIS in Iraq and Syria and set conditions for follow-on operations to increase regional stability. The Army primarily provided command-and-control, fires, logistical support,

A CH–47 Chinook helicopter of Task Force Flying Dragons, 16th Combat Aviation Brigade, operates near Jalalabad, Afghanistan, 5 April 2017.

and security force assistance. During FY 2017, the major objective in Iraq involved the liberation of the northern city of Mosul. Operations to retake the city began on 16 October 2016, and by 24 January 2017, Iraqi security forces had cleared the portions of the city east of the Tigris River. Coalition forces launched operations to secure the western part of the city on 19 February 2017, and secured it by the end of July. The subsequent liberation of Tal Afar and northern Ninawa Province from 20–31 August 2017 effectively ended ISIS's presence in northern Iraq.

Concurrent with the operations in Iraq, the U.S.-backed Syrian Democratic Forces, with Inherent Resolve coalition support, captured Raqqa, where ISIS had located its capital. Coalition forces spent the first half of the year isolating the city. As part of the operation, an air assault behind enemy lines used American helicopters to transport 500 local troops and coalition military advisers across the Euphrates River and Lake Assad to capture the town of Tabqa and the nearby Tabqa Dam. The assault on Raqqa began on 6 June 2017 and was expected to be concluded in early FY 2018.

During FY 2017, the Army maintained a corps headquarters, division headquarters, and a brigade combat team in the region as part of Operation Inherent Resolve. In September 2017, the III Corps assumed authority of Combined Joint Task Force–Operation Inherent Resolve from the XVIII Airborne Corps. In November 2016, the headquarters of the 101st Airborne Division relinquished command of the Combined Joint Forces Land Component Command–Iraq (CJFLCC-I) to the 1st

A mortar crew from the 2d Brigade Combat Team, 82d Airborne Division, prepare for a fire mission near Al Tarab, Iraq, 18 March 2017.

Infantry Division headquarters. During its nine-month tour commanding CJFLCC-I, the division headquarters was responsible for the command and control of the coalition troops as they trained, advised, assisted, and provided critical capabilities to the Iraqi security forces. In July 2017, the 1st Infantry Division passed command of CJFLCC-I to the headquarters of the 1st Armored Division. The 2d Brigade Combat Team, 82d Airborne Division, deployed to Iraq in January 2017. It replaced the 2d Brigade Combat Team, 101st Airborne Division, as the lead element for the CJFLCC-I's advise and assist mission.

The Army also maintained a division headquarters and an armored brigade combat team in Kuwait to support theaterwide commitments as part of Operation Spartan Shield. In December 2016, the National Guard's 29th Infantry Division headquarters deployed to Kuwait, becoming the first National Guard division to assume such a mission. The 29th Infantry Division relinquished command to the headquarters of the National Guard's 35th Infantry Division in July 2017. The 3d Brigade Combat Team, 1st Armored Division, passed off its role as the theater armored brigade combat team in March 2017 to the 3d Brigade Combat Team, 1st Cavalry Division.

Strength in Iraq on 30 September 2016 was 3,080 Regular Army, 259 mobilized Army National Guard, and 401 mobilized Army

Reserve. By 30 September 2017, Army personnel strength in Iraq had increased to 4,918 Regular Army, 763 mobilized Army National Guard, and 533 mobilized Army Reserve. Other areas of U.S. Central Command, particularly logistics and transportation hubs, continued to require Army personnel. In particular, total personnel deployed to Kuwait increased from 8,591 on 30 September 2016 to 10,816 by 30 September 2017. Army casualties for FY 2017 in Operation Inherent Resolve were thirteen killed and twenty-two wounded.

U.S. Army South

U.S. Army South is responsible for Army operations in Central and South America and the Caribbean. Approximately 4,000 soldiers supported military operations in these areas during FY 2017. They conducted security cooperation, contingency operations, and fulfilled requirements for Title 10 support and regional support missions for the Department of the Army and the U.S. Southern Command. The command maintained the Army's regional partnership programs and provided humanitarian disaster relief throughout the region.

Exercises in FY 2017 included: Beyond the Horizon, Panamax, medical readiness exercises, Tradewinds, and Fuerzas Aliadas Humanitarias. In February 2016, the Army assumed the two-year leadership role for the Conference of American Armies. As part of the conference's schedule of events, U.S. Army South and partner nations focused on four core military imperatives: respect for human rights, gender integration, professionalization of the noncommissioned officer corps, and improving joint capability. Missions of Joint Task Force–Bravo, stationed at Soto Cano Air Base, Honduras, and its primary unit, the 1st Battalion, 228th Aviation Regiment, included helicopter support to counter organized crime, medical readiness training, and disaster-relief support. During the year, the 525th Military Police Battalion and rotational military police units from the reserve components supported Joint Task Force–Guantanamo.

U.S. Army Africa

During FY 2017, the Army greatly expanded its presence in Africa in response to growing threats from extremist groups with ties to al-Qaeda and ISIS. Army forces participated in numerous training exercises for security cooperation logistics, peacekeeping operations, and infantry training. The U.S. Africa Command

renamed and expanded the Accord series of exercises to reflect a shift from regional training to training focused on improving operational and strategic conditions across the continent. The Eastern, Central, and Southern Accord exercises became the Justified, United, and Shared Accord exercises. Ethiopia, Ghana, and South Africa hosted these exercises, respectively. U.S. Africa Command also added the new Unified Focus exercise in Cameroon. All four of these exercises consisted of tabletop, command post, or field training. Army special operations units took part in the Flintlock exercise in Niger and medical personnel participated in four medical readiness training exercises in Senegal, Ghana, Chad, and Gabon. The Army also rotated units to Camp Lemonnier in Djibouti to serve with the Combined Joint Task Force–Horn of Africa and East Africa Response Force.

During FY 2017, the Army had approximately 2,000 soldiers deployed to Africa at any given time. In October 2016, the 1st Brigade Combat Team, 101st Airborne Division, replaced the 2d Brigade Combat Team, 3d Infantry Division, as the Army's brigade regionally aligned to Africa. Elements from the latter unit rotated to the continent throughout the year. The 3d Special Forces Group realigned to Africa in 2017, the group's historical area of operation. U.S. Army Africa also continued its efforts to establish its own full-time theater sustainment capability. Previously, it had relied on the 21st Sustainment Command in Germany. In FY 2016, the Army tapped the 79th Sustainment Command, an Army Reserve unit, to provide this capability by FY 2018. Until that time, the Army assigned a Regular Army expeditionary sustainment command to the theater. The 13th Sustainment Command from Fort Hood began operating under the operational control of U.S. Army Africa in early FY 2017.

Asia Pacific

During FY 2017, U.S. Army Pacific continued its ongoing regional training and readiness building activities. Chief among these was the Pacific Pathways initiative. Launched in 2014, it combined multiple preexisting exercises with partner nations into integrated operations. Pacific Pathways began as a rehearsal for deployments across the theater. By FY 2017, it expanded into three- or four-month deployments of brigades, which helped improve their readiness and the readiness of partner nation forces. The training exercises also provided the Army with an opportunity to test Multi-Domain Battle concepts. Among the exercises that were part of Pacific Pathways were: Cobra Gold and Hanuman Guardian with Thailand; Foal Eagle with South Korea;

Soldiers from the 2d Battalion, 327th Infantry Regiment, train during Shared Accord *17 at the South African Army Combat Training Center, 21 July 2017.*

Balikatan with the Philippines; Garuda Shield with Indonesia; and Keris Strike with Malaysia. U.S. Army Pacific also hosted a number of new "reverse" Pacific Pathways, whereby soldiers from partner nations traveled to the United States to participate in training exercises. For example, Singapore service members traveled to Hawaii to participate in the Tiger Balm exercise, the Canadian military took part in Arctic Anvil in Alaska, and the Japanese military joined the Rising Thunder exercise in Washington State.

In 2004, the United States and the Republic of Korea agreed to move all American forces to garrisons south of the Han River, most of which would be relocated to Camp Humphreys, about forty miles south of Seoul on the peninsula's west coast. During FY 2017, the relocation effort continued with construction of new facilities at Camp Humphreys and the installation's expansion from 1,041 to 3,453 acres. Army units began relocating to Camp Humphreys in FY 2017, including Eighth Army headquarters.

In July 2016, the DoD announced the United States and South Korea had reached an agreement to station a U.S. Army Terminal High Altitude Area Defense (THAAD) missile battery in Korea. The battery

contributed to the layered missile defense system that protected South Korea from North Korea's weapons of mass destruction and ballistic missile threats. In March and April 2017, Battery D, 2d Air Defense Artillery Regiment, from Fort Bliss, Texas, began deploying the first elements of its THAAD system to South Korea. After achieving initial operating capability, Battery A, 4th Air Defense Artillery Regiment, also from Fort Bliss, temporarily assumed responsibility for the THAAD mission in South Korea. This allowed Battery D to return to the United States and prepare for its permanent return to South Korea in early FY 2018 to reassume the THAAD mission.

During FY 2017, the Army had more than 71,000 soldiers in the Indo-Asia Pacific region to counter the myriad security challenges from regional adversaries, violent extremist organizations, and natural disasters. The Army also continued its program of rotating combat forces to South Korea for nine-month deployments. These forces supplemented combat formations permanently stationed on the peninsula. Rotation of armored brigade combat teams began in June 2015. In October 2016, the 1st Brigade Combat Team, 1st Infantry Division, from Fort Riley, Kansas, replaced the 1st Brigade Combat Team, 1st Cavalry Division. The 2d Brigade Combat Team, 1st Cavalry Division, from Fort Hood assumed responsibility in July 2017.

The Army was also rotating aviation and MLRS units to South Korea since October 2013 and May 2015, respectively. In January 2017, the 1st Infantry Division's 1st Squadron, 6th Cavalry Regiment, equipped with the AH–64D Longbow Apache attack helicopter, deployed from Fort Riley to replace the 82d Airborne Division's 1st Squadron, 17th Cavalry Regiment, which was the last Army aviation unit equipped with the OH–58D Kiowa Warrior scout helicopter. In September 2017, members of the 10th Mountain Division's 6th Squadron, 6th Cavalry Regiment, from Fort Drum, New York, began deploying to Korea to assume this rotational mission. In October 2016, the rotation of MLRS battalions from Fort Sill, Oklahoma, continued. The 2d Battalion, 18th Field Artillery Regiment, replaced the 3d Battalion, 13th Field Artillery. In June 2017, the 2d Battalion, 4th Field Artillery Regiment, assumed this mission.

U.S. Army Europe

U.S. Army Europe Operation Atlantic Resolve continued to demonstrate America's commitment to collective security in Europe. During FY 2017, the Army began to rebuild its presence in Europe to reassure allies and deter Russia. First, the Army launched a program of nine-month force rotation from the United States to Europe. These

forces included an armored brigade combat team, a combat aviation brigade, and support units. The units participated in numerous exercises in Eastern Europe with allied forces. Units deployed to Europe with their full complement of vehicles and equipment instead of utilizing pre-positioned activity sets. This helped the units' readiness by providing them with hands-on experience deploying an entire brigade worth of equipment.

During FY 2017, the Army contributed some 34,000 soldiers in support of United States European Command. In addition to the primary Army forces permanently stationed in Europe, the 2d Cavalry Regiment and the 173d Airborne Brigade Combat Team, regionally aligned and rotational forces supported missions in Europe. The headquarters of the 4th Infantry Division continued to supply a mission command element to oversee rotational units and provide a division-level command and control capability.

The first rotational units from the United States also began arriving in FY 2017. Previously, the 1st Brigade Combat Team, 3d Infantry Division from Fort Stewart, Georgia, provided units for short rotations to participate in multinational exercises in Europe. In January 2017, the 3d Brigade Combat Team, 4th Infantry Division, deployed from Fort Carson, Colorado. The brigade achieved a "ready to fight" status two weeks after arrival. During its nine-month deployment, the brigade's headquarters operated out of Poland, while its subordinate

M1A2 Abrams main battle tanks from 1st Battalion, 68th Armored Regiment, at the Presidential Range in Swietoszow, Poland, 16 January 2017.

units conducted exercises in the Baltic republics, Romania, Bulgaria, and Germany.

In March 2017, the first brigade-sized aviation unit deployed to Europe as part of Operation Atlantic Resolve. This nine-month deployment fulfilled the requirement for additional aviation assets in Europe, which had existed since FY 2015 when the Army reduced the Germany-based 12th Combat Aviation Brigade from seven to two battalions as part of the Aviation Restructuring Initiative. The deployment consisted of the brigade-sized Task Force Falcon, composed of the 10th Combat Aviation Brigade, 10th Mountain Division, from Fort Drum and the 1st Battalion, 501st Aviation Regiment, from Fort Bliss. The task force positioned the majority of its units in Germany, with forward presences in Latvia, Romania, and Poland. Task Force Falcon replaced the battalion-sized Task Force Apocalypse, which had deployed to Europe in June 2016 to reinforce the 12th Combat Aviation Brigade.

5
Reserve Components

Organizational Structure

In FY 2017, the Army National Guard (ARNG) comprised 34 percent of the Army's overall operational force. There were thirteen ARNG major commands: eight divisions, two sustainment command (expeditionary), one air and missile defense command, one military police command, and one theater sustainment. The ARNG troop unit list included two special forces groups, twenty-six brigade combat teams, forty-three multifunctional support brigades, and fifty-four functional support brigades and groups. The Army Reserve provides 78 percent of the Army's sustainment

Soldiers with the 2d General Support Aviation Battalion, 149th Aviation Regiment, Oklahoma Army National Guard, during premobilization training at Camp Gruber, Oklahoma, 15 January 2017, before deployment as part of Operation Inherent Resolve.

Table 8—Army National Guard Mobilization, FY 2017

Operation or Mission	*Soldiers Mobilized*
Joint Task Force Guantanamo	801
Kosovo Forces	374
Multinational Force and Observers Sinai	292
Operation Freedom's Sentinel	1,916
Operation Inherent Resolve	2,211
Operation Spartan Shield	6,557
Operation Enduring Freedom	1,863
National Capital Region—Integrated Air Defense System	265
Other named operations	1,053

Table 9—Army Reserve Overseas Mobilization, FY 2017

Operation or Mission	*Soldiers Mobilized*
Command and Control Chemical, Biological, Radiological, and Nuclear Response Enterprise	141
CONUS Support Base	2,297
Counterdrug/Counternarcotics	48
European Deterrence Initiative	497
Hurricane Harvey	280
Hurricane Irma	81
Hurricane Maria	539
Multinational Force and Observers Sinai	14
Operation Enduring Freedom (OEF) Trans-Sahara	26
OEF Guantanamo	741
OEF Horn Of Africa	249
Operation Central Skies	86
Operation Enduring Freedom	171
Operation Freedom's Sentinel	1,128
Operation Inherent Resolve	1,293
Operation Joint Guardian-KFOR	11
Operation Spartan Shield	2,965
Theater Security Cooperation SOUTHCOM	65
Warrior Transition Unit Support	109

capabilities, almost half its total maneuver support, and a quarter of its mobilization base-expansion capacity.

Reserve Component Mobilization

In FY 2017, mobilization of ARNG and Army Reserve personnel remained an important asset for meeting the demand from combatant commands for Army capabilities (*Tables 8* and *9*).

Readiness

A key readiness indicator is Equipment on Hand (EOH). In FY 2017, the ARNG had 94 percent of its required equipment, up from 93 percent in FY 2016. Additionally, for critical dual-use equipment—those items deemed necessary for both state and federal missions—the on-hand level was 89 percent, unchanged from FY 2016. The Army Reserve's EOH, excluding legacy substitute items (items handed down from the active component), was 82 percent for FY 2017. When including substitutes, EOH was 92 percent. The higher EOH with substitute items represents the post–Budget Control Act trend of reduced new procurement funding and increased reliance on Regular Army legacy equipment to fill Army Reserve shortages. This approach places less-capable equipment in Army Reserve formations, widens compatibility gaps with the other two components, and diminishes those units' ability to meet minimum standards for deployment.

During FY 2017, the ARNG continued to implement ARNG 4.0. In FY 2016, the Department of the Army directed the ARNG to rapidly provide increased combat and enabling capabilities to decrease risk in meeting operational plans and emerging contingency requirements. In response to this directive, the ARNG began ARNG 4.0 in September 2016. This designation reflects the fourth phase of the ARNG's development since the end of the Vietnam War, becoming an operational reserve force instead of a strategic reserve force.

ARNG 4.0 includes multiple initiatives. The ARNG will transition from a five-year training cycle to a four-year cycle. It will enhance readiness in capabilities such as air and missile defense; fires, armor and Stryker brigade combat teams; and attack reconnaissance battalions. Four combat training center rotations a year will be conducted to produce four brigade combat teams at company-level proficiency. Personnel strength in priority units will be increased to achieve 95 percent availability for deployment. Phase one of ARNG 4.0 will concentrate on building enhanced

levels of readiness in armor and Stryker brigade combat teams, selected infantry brigades, nondivisional field artillery units, and attack reconnaissance battalions. The number of increased training days over the current thirty-nine days will vary depending on the unit, with the objective of reducing postmobilization training requirements. Phase two will focus on increasing readiness of the remaining force.

The Associated Units Pilot Program began in FY 2016 as part of ARNG 4.0. It is a three-year test of a new concept to increase readiness and responsiveness of the Army as a total force. The program uses the secretary of the Army's authority to associate units of the Army Reserve and ARNG with Regular Army units for training oversight prior to mobilization. When the secretary of the Army designates associated units, the association relationship modifies administrative control. The gaining unit commander becomes responsible for approving the associated unit's training program, reviewing its readiness report, assessing its resource requirements, and confirming collective proficiency. Association also facilitates units from different components training together. Another key element of the pilot program is the exchange of personnel between the units—associated units will exchange a small number of officers and noncommissioned officers.

In addition to training with Regular Army units, reserve component units selected for the pilot are provided additional resources to sustain higher readiness. They have up to fifteen additional days of training each year, and more frequent rotations at combat training centers or other capstone training events based on their type of unit. Regular and reserve component units in an associated relationship will be staffed to ensure sufficient personnel execute the training strategy, exchange assigned personnel to enhance mutual understanding across components, as well as wear common patches. Associated units will not be required to maintain the exact same modernization levels, but they must be compatible to ensure they can train and fight together (*Table 10*).

The Army Reserve's Ready Force X program, launched in 2016, continued during FY 2017. The goal of Ready Force X is to build a force of selected units capable of deploying on short notice, rather than building readiness for predictable overseas rotations as had been done for the past fifteen years. Units with high-demand capabilities are identified to create a pool of soldiers who can deploy rapidly, some with as little as thirty days' notice. Examples of these capabilities include petroleum distribution, rail operations,

TABLE 10—ASSOCIATED UNIT/PILOT PROGRAM UNITS, FY 2017

Brigades Associated with Divisions	
48th Infantry Brigade Combat Team (BCT), Georgia ARNG	3d Infantry Division, Fort Stewart
81st Infantry BCT, Washington ARNG	7th Infantry Division, Joint Base Lewis-McChord
86th Infantry BCT, Vermont ARNG	10th Mountain Division, Fort Drum
3d BCT, 10th Mountain Division, Fort Polk	36th Infantry Division, Texas ARNG
Battalions Associated with Brigades	
1st Battalion, 143d Infantry Regiment, Texas ARNG	173d Airborne BCT, Vicenza, Italy
1st Battalion, 151st Infantry Regiment, Indiana ARNG	2d BCT, 25th Infantry Division, Schofield Barracks
100th Battalion, 442d Infantry Regiment, Army Reserve	3d BCT, 25th Infantry Division, Schofield Barracks
5th Engineer Battalion, Fort Leonard Wood	35th Engineer Brigade, Missouri ARNG
1st Battalion, 28th Infantry Regiment, Fort Benning	48th Infantry BCT, Georgia ARNG
Companies Associated with Brigades	
249th Transportation Company, Texas ARNG	1st Cavalry Division Sustainment Brigade, Fort Hood
1245th Transportation Company, Oklahoma ARNG	
1176th Transportation Company, Tennessee ARNG	101st Airborne Division Sustainment Brigade, Fort Campbell
2123d Transportation Company, Kentucky ARNG	
840th Engineer Company, Texas ARNG	36th Engineer Brigade, Fort Hood
824th Quartermaster Company, USAR	82d Airborne Division Sustainment Brigade, Fort Bragg

theater-level engineer and aviation operations, civil affairs, medical, and psychological operations.

As part of the Ready Force X initiative, during FY 2017, approximately 1,800 soldiers from approximately sixty Army Reserve units participated in Operation Cold Steel. Hosted by the 84th Training Command, the operation's purpose was to create more combat-ready units by training and qualifying soldiers on crew-served weapons during rotations lasting twelve days. Operation Cold Steel was a successful proof of principle, with a qualification rate of 93 percent. A larger operation, Cold Steel II, will be conducted in FY 2018.

State Partnership Program

In FY 2017, the ARNG continued to provide outreach and training to other nation's forces as part of the State Partnership Program. The program is a Department of Defense security cooperation program, managed and administered by the National Guard Bureau, executed and coordinated by the geographic combatant commands, with personnel provided by the National Guard of the respective partner states. Units are linked directly with

A soldier from the 366th Engineer Company completes basic live fire with an M2 machine gun during Operation Cold Steel at Fort McCoy, Wisconsin, 20 April 2017.

foreign military units to develop long-term relationships. Guard units took part in maneuver- and combat-related tasks; security; disaster response and mitigation; crisis management; interagency cooperation; border, port, and aviation security; fellowship-style internships; and combat medical training. In FY 2017, there were seventy-five partnerships, up from seventy in FY 2016, covering all six geographic combatant commands.

Hurricane Response

During the 2017 hurricane season (which extended into the first two months of FY 2018), the ARNG deployed units to Texas, Florida, Puerto Rico, and the Virgin Islands in response to Hurricanes Harvey, Irma, and Maria. By the end of FY 2017, more than 13,000 ARNG personnel were employed in support of Hurricane Harvey relief

Soldiers with the Puerto Rico Army National Guard's 190th Engineer Battalion work to clear a roadway in Cayey, Puerto Rico, in the aftermath of Hurricane Maria, 30 September 2017.

An Army Reserve flight paramedic from Company C, 7th Battalion (General Support), 158th Aviation Regiment, escorts a mother and her child off of a UH–60 Black Hawk helicopter, Conroe, Texas, 29 August 2017.

efforts, approximately 8,700 for Hurricane Irma, and more than 2,900 for Hurricane Maria.

Also during that period, 2,253 Army Reserve Soldiers—mobilized from forty units—conducted response operations. Under Immediate Response Authority, which allows the Army Reserve to directly respond to requests from civil authorities when time does not permit approval from a higher authority, Army Reserve soldiers provided hurricane support after Hurricane Harvey. They also provided immediate response in the aftermath of Hurricanes Irma and Maria, which included transportation support for port assessments, road clearance, and command and control teams. Units stationed in Puerto Rico provided capabilities required to move commodities, support mortuary affairs, restore power, and open roadways.

6
Logistics

Initiatives

A major logistics effort during FY 2017 was the expansion of Army Pre-positioned Stocks (APS). These are stores of equipment housed either afloat or ashore for rapid response use in a contingency operation. To better support a long-term deterrence presence in Europe, in December 2015, the deputy secretary of defense directed the Army to establish an APS in support of U.S. European Command. The Army previously had established equipment for one brigade to use while deployed as part of Operation Atlantic Resolve, a collection known as the European Activity Set. The Department of the Army published the execution order establishing APS-2 unit requirements in May 2016. U.S. Army Europe worked to obtain sites in Belgium, Germany, and the Netherlands. U.S. Army Europe also developed a European Activity Set timeline for equipment turn-in so these items could become a unit set in APS-2. In December 2016, an APS-2

General Tom Middendorp, Royal Netherlands Army, speaks at the ribbon-cutting ceremony for the APS site at Eygelshoven, Netherlands, 15 December 2016.

facility housing an armored brigade combat team equipment set opened in Eygelshoven, Netherlands. APS-2 is planned to have enough equipment by the end of FY 2020 for a reduced-strength division.

During FY 2017, the Army Staff's G–4 revised several Army Regulations (ARs). AR 735–5, *Property Accountability Policies*, was published in November 2016 and AR 702–6, *Ammunition Stockpile Reliability Program*, in December 2016. Released in March 2017 were AR 700–4, *Logistics Assistance*; AR 715–9, *Operational Contract Support Planning and Management*; AR 740–26, *Physical Inventory Control*; and AR 700–137, *Logistics Civil Augmentation Program*. AR 711–6, *Army Participation in the Defense Logistics Agency Weapons System Support Program*, was published in July 2017, and AR 750–1, *Army Materiel Maintenance Policy*, in August 2017.

As part of the ongoing restructuring of brigade combat team strength to increase firepower and readiness, logisticians worked to improve property accountability at the brigade level. More than 178,000 pieces of equipment were redistributed, and the Army divested 441,000 excess pieces of equipment worth more than $7.5 billion. Reducing the inventory of unneeded equipment will save the service more than $40 million annually in storage costs. Divesture of equipment achieves two objectives. It frees up material for units that have unfulfilled requirements, which improves their readiness, and it helps units with excesses become more mobile and deployable.

Research, Development, and Acquisition

In FY 2017, the Army Capabilities Integration Center (ARCIC) began conducting a two-part approach to help both the Army and industry prioritize future force development efforts. First, ARCIC introduced the Forum for Innovative Novel Discovery in October 2016. Its purpose is to provide small businesses with an opportunity to present their most innovative projects or ideas to key senior Army leaders and receive immediate feedback to refine technological solutions. The goal is to develop opportunities to discover potentially game-changing technologies through a novel approach with the industry. Second, ARCIC established the Capabilities Information Exchange (CIE). The CIE is a much broader forum than the Forum for Innovative Novel Discovery, open to all interested members of industry, and provides an opportunity to participate in one-on-one sessions with government subject matter experts and ask questions about the needs of Army's future force. The first CIE was held in December 2016. Both events will be held semiannually and will address the key capabilities that Training and Doctrine Command identified in FY 2016 as essential for

the Army to achieve tactical and operational overmatch in the future operating environment. These capabilities are overmatch in soldier and team performance; future vertical lift; robotic and autonomous systems; mission command, cyber, and electronic warfare; advanced protection; combat vehicles; and cross-domain fires.

The FY 2016 National Defense Authorization Act directed a comprehensive assessment of the current and future capabilities and requirements of the Army's mobile tactical communications and data networks. The Institute for Defense Analysis (IDA) conducted this assessment. At the same time, the Army conducted an assessment of its network and modernization plans in all four network mission areas—the enterprise information environment mission area, intelligence mission area, business mission area, and the war fighting mission area. The Army's assessment found the current network had been conceived, developed, and fielded for the static environments of Iraq and Afghanistan. It is too complex and fragile, not sufficiently mobile or expeditionary, and will not survive against current and future peer threats, or in contested environments. Also, it is not user-friendly, intuitive, or flexible enough to support the Army's missions in the most effective manner and demands a heavy reliance on industry field service representatives to operate and sustain these systems. The IDA study, as well as feedback from Department of Defense testing agencies, combat training center rotations, and operational commanders, corroborated these findings.

As a result of these findings, the Army in FY 2017 adopted a new network modernization concept. It will halt programs that do not remedy operational shortfalls, fix those programs required to "fight tonight," and then pivot to a new acquisition strategy of "adapt and buy" that allows for rapid insertion of new technologies. Under this concept, in FY 2018, the Army will halt procurement of the Mid-Tier Network Vehicular Radio and the Command Post of the Future. It will also halt procurement of War fighter Information Network-Tactical (WIN-T) Increment 2, although the WIN-T Increment 2 Tactical Communications Node–Lite and Network Operations Security Center–Lite will be fielded to infantry brigade combat teams, and fielding of WIN-T Increment 2 to Stryker brigade combat teams will be completed. Increment 2 will not be fielded to armored brigade combat teams. This approach allows the Army to reinvest $544.9 million to fix the network's most pressing interoperability and security concerns, and to adapt and buy better systems.

To mitigate oversight-related risk identified in the IDA study, the Army will provide clear governance and unity of command by establishing a senior review group, the Information Technology Oversight

Council, cochaired by the under secretary of the Army and the vice chief of staff. This council will integrate activities and assessments across all four network mission areas, provide guidance and direction, prioritize investments, and allocate resources. To improve horizontal integration, the Army will establish cross functional teams supporting integrated requirements and focused procurement. To improve standards and architecture governance, the Army Chief Information Officer/G–6 was designated the lead integrator for Army information technology integration and governance.

The Joint Light Tactical Vehicle (JLTV), a family of tactical wheeled vehicles and companion trailers, will replace the Army's fleet of High Mobility Multipurpose Wheeled Vehicles. The JLTV will have better armor and mobility, and is also built on a V-shaped hull, which is designed to deflect the blast of explosions away from the crew cabin. The Army received the first delivery of production JLTVs in October 2016. This initial order included 657 JLTVs and 25 trailers. The Army Test and Evaluation Command began Reliability Qualification Testing of the vehicle in January 2017. The Army plans to begin fielding the JLTV with units in 2019, with an approved acquisition objective of 54,599 vehicles.

The Armored Multipurpose Vehicle will replace the M113 armored personnel carrier in a variety of mission roles, including general purpose transport, command and control, mortar carrier, and medevac treatment. Design guidelines specify improved armor protection and increased mobility over that of the M113, and significant improvements in the communications, tracking, and networking technologies. The

*A High Mobility Multipurpose Wheeled Vehicle (*left*) and a Joint Light Tactical Vehicle (*right*)*

first Armored Multipurpose Vehicle prototype was rolled out on 15 December 2016. Full rate production is expected to begin in FY 2022.

Patriot is a mobile air and missile defense system that counters missile and aircraft threats. During FY 2017, the Army continued the initial operational test and evaluation program for Patriot Advanced Capability-3 Post Deployment Build-8. This program included live fire tests against ballistic and cruise missiles. Patriot successfully engaged all targets. The testing did show training remained inadequate to prepare operators for complex Patriot engagements and the system did have some classified effectiveness shortfalls. The initial operational test and evaluation program will continue into FY 2018.

In October 2016, the Army G–8 issued a requirement to procure, as a nondevelopmental item, and field by FY 2020, an active protection system. This procurement will provide a sufficient system for the Abrams tanks and Bradley fighting vehicles for one armored brigade combat team stored at an active protection system site in Europe as well as one Stryker battalion task force. This requirement supports the European Deterrence Initiative. The active protection system will improve the survivability of combat vehicles against antitank-guided missiles, rocket-propelled grenades, and recoilless-rifle threats. The system will use kinetic options to intercept and disrupt or defeat the incoming warhead. In February 2017, the Army Acquisition Executive authorized expedited assessment of three existing systems to assess maturity, performance, and integration risk. Selected for assessment were the Trophy system for Army M1A2 and Marine Corps M1A1 tanks, the Iron Fist system for Bradley vehicles, and the Iron Curtain system for Stryker vehicles. The Army divided active protection system testing into three phases. Phase one, the characterization phase, will determine the system's fundamental performance and limitations, and provide data on the effects of installing the system on the vehicle. Phase two, the urgent material release phase, will test the production representative active protection system installed on operationally representative vehicles under realistic combat conditions. Phase three, the program of record phase, will assess the effectiveness, suitability, and survivability of the vehicle equipped with a production representative system under realistic combat conditions against the spectrum of operationally relevant threats. The Army completed phase one Trophy testing in September 2017. Phase one Iron Curtain and Iron Fist testing continued into FY 2018. Phase two is expected to begin in January 2018. The start of phase three has not yet been determined.

The Army began the Paladin Integrated Management Initial Operational Test and Evaluation (IOT&E) in October 2016. The M109A7 Paladin self-propelled howitzer and M992A3 Carrier

Ammunition Tracked will replace the current M109A6 Paladin and M992A2 Field Artillery Ammunition Supply Vehicle. This modernization program will improve size, weight, power, cooling, readiness, force protection, and survivability. The IOT&E was suspended after toxic fumes released in the M109A7 cab affected twenty-eight soldiers. Analysis indicated the fumes were related to problems with the cannon breech. After developing measures to address the problems with cannon breech reliability, a second IOT&E will be conducted in March 2018.

The Program Executive Office Soldier released the final solicitation for the Modular Handgun System to industry in August 2015. This weapon will replace the M9 pistol. Vendors submitted nine proposal submissions. The Army selected the submission from SIG Sauer: a variant of the company's P320 handgun. It awarded the company a production contract in January 2017 for both the XM17 full-size variant and XM18 compact variant pistols. Another vendor filed a protest with the Government Accountability Office in February 2017, but the latter denied the challenge. The Army conducted operational and live fire testing for both variants in FY 2017. Analysis is ongoing

The M109A7 Paladin undergoes testing at the U.S. Army Cold Regions Test Center in Alaska.

XM17 Modular Handgun System initial operational testing at Fort Bragg, North Carolina.

of these weapons' operational effectiveness, operational suitability, and lethality.

In September 2017, the Army awarded a contract for the Maneuver Support Vessel (Light) engineering and manufacturing development phase and subsequent production and deployment phase. The Maneuver Support Vessel (Light) will replace the Army's fleet of Vietnam-era Landing Craft Mechanized-8 boats. The new vessel will be able to transport far larger loads than its predecessor, such as one M1A2 Abrams tank or four Joint Light Tactical Vehicles with trailers. It will have a top speed of 18 knots, 15 knots when fully loaded, and a range of about 350 miles. Over the next four years, the Army will work with the contractor as it produces a full-scale prototype for additional evaluation. A Milestone C decision and authorization for low-rate initial production of the first four vessels is scheduled for the end of FY 2021, followed by a full-rate production decision in FY 2023. The Army intends to acquire thirty-six vessels.

Additive manufacturing, also known as 3-D printing, is a technology that builds successive layers of materials to create a three-dimensional object. The Army plans to use this technology to improve readiness by repairing or producing spare parts or by creating new

parts in real-time as close to the point of need as possible. U.S. Army Research, Development and Engineering Command is developing additive manufacturing in three phases. Phase one will use additive manufacturing to repair or replace existing parts. Phase two will reduce multipart assembly from a series of parts to one part. Phase three will use additive manufacturing to create new parts that do not already exist.

By the end of FY 2017, sixteen of the Army's arsenals and depots had some 3-D printing capability. In October 2016, a program to create weapons and shells using additive manufacturing, the Rapid Additively Manufactured Ballistics Ordnance (RAMBO), was successful in trials. Project RAMBO demonstrated that more than 90 percent of the components for the M203 grenade launcher could be 3-D printed, as well as the ammunition shell casings. The Army is developing an expeditionary Rapid Fabrication via Additive Manufacturing on the Battlefield (R-FAB) system to produce critical supplies, parts, tools, and packaging at the point of need for sustainment supply activities. R-FAB Generation 1.0 was demonstrated at the Army Warfighting Assessment in October 2016 and R-FAB Generation 1.5 was used on Pacific Pathways 17-3 in August–September 2017.

The Army began fielding the Global Combat Support System–Army in February 2013 using the wave approach to not shock the logistics supply chain and cause disruption to ongoing operations.

A soldier participates in a Rapid Fabrication via Additive Manufacturing on the Battlefield demonstration during Pacific Pathways.

Global Combat Support System–Army is a logistics and financial system for both units and installations. It tracks supplies, spare parts, organizational equipment, unit maintenance, and financial transactions related to logistics. The system, based on a commercial software program, replaces the Standard Army Management Information Systems and integrates about 40,000 local supply and logistics databases. Wave one fielding was completed in November 2015. Wave two fielding, begun in August 2015, continued during FY 2017. It will replace the Property Book Unit Supply–Enhanced and the Standard Maintenance System–Enhanced. Wave two is scheduled for completion in November 2017.

Foreign Military Sales

The Army Foreign Military Sales (FMS) program was part of the U.S. Defense Security Assistance program, which transfers defense materials and services to foreign countries and international organizations. The FMS program supports U.S. foreign policy and national security goals by strengthening bilateral defense relationships. The Army's FMS program is managed by the Office of the Deputy Assistant Secretary of the Army, Defense Exports & Cooperation, which has authority over $14.8 billion in international sales of Army equipment, training, supplies and services during the year. In a signal of the importance of the programs, the Army received approval to exempt all FMS staff positions from personnel reductions in FY 2017 and beyond. Among the prominent FMS transactions in FY 2017 were contracts to provide: TOW missiles to Bahrain, High Mobility Artillery Rocket System and Patriot equipment to Romania, 120-mm. tank ammunition to Australia, JLTVs to the United Kingdom, Patriot Advanced Capability-3 missiles to the United Arab Emirates, CH–47D Chinook helicopters to Greece and Saudi Arabia, and AH–64 Apache helicopters to the United Arab Emirates.

7
Support Services

Installation Management

In preparing its part of the Army Strategic Readiness Assessment, the Office of the Assistant Chief of Staff for Installation Management (OACSIM) assessed significant risk to the installation tenet of readiness through FY 2017 and projected this risk to remain through FY 2021. The high number of facilities rated Q3 and Q4 on installation status reports contributed to the overall risk. A Q3-rated facility fails to meet the minimum level of Army standards for at least one major rated component, and the cost to improve is no more than 40 percent of the replacement value. A Q4 facility fails to meet the minimum level of Army standards for multiple rated components, but the cost to improve exceeds 40 percent of the replacement value.

The Facility Readiness Drivers framework was established in August 2017 to focus installation readiness reporting and to optimize facility investments based upon commanders' input. The framework will link facilities to war fighting readiness and lethality. Three sets of indicators will be used. The first is mission readiness: Can the installation provide infrastructure and services to support the missions of units assigned there? The second is soldier and family readiness: Can the installation provide infrastructure and services that enable soldier readiness, support soldier and family resilience, and allow soldiers to focus on the mission? The third is installation capacity: Does the installation have assured access to energy, water, and land and air space to support current and future missions?

Army Directive 2017–07, published in February 2017, established a policy for the security of installations' water and energy capabilities. The objective is for installations to be capable of providing, from their own resources, the energy and water necessary for them to conduct their critical missions for fourteen days after the interruption of energy and water from off-post sources. The Assistant Secretary of the Army (Installations, Energy and Environment), OACSIM, and the Deputy Chief of Staff, G–3/5/7, will develop business rules for defining and assessing energy and water security risks, and for prioritizing mitigation actions within existing authorities and

programs. Each landholding command will plan, program, budget, and execute energy and water projects that close energy and water security gaps and reduce risk. Landholding commands will prioritize projects in existing programs, including efficient use of third-party resources, operations and maintenance accounts, and military construction, as appropriate.

OACSIM developed a major revision of AR 5–9, *Installation Support Agreements*, and began work on creating a handbook with "how-to" procedures and training modules. The AR 5–9 revision consolidates AR 37–49, *Budgeting, Funding, and Reimbursement for Base Operations Support of Army Activities*, and AR 5–9, *Area Support Responsibilities*, to better define Army-wide roles for developing, funding, and managing installation agreements. The anticipated release date for the revised AR 5–9 is the third quarter of FY 2018.

During FY 2017, OACSIM conveyed 3,626 acres of excess installation property on behalf of the Army. During these conveyances, the Army transferred 2,496 acres of the former Fort Wingate, New Mexico, to the Department of Interior; completed almost all of the conveyance of the former Walter Reed Army Medical Center in Washington, D.C.; and closed three Army Reserve sites under the 2005 Base Realignment and Closure (BRAC). Revenues from land sales were transferred into the BRAC account and made available to accelerate the completion of environmental cleanup at BRAC installations.

In January 2015, the Department of Defense announced the European Infrastructure Consolidation program. The program will close twenty-nine Army sites in Europe with a total plant replacement value of approximately $2.7 billion and yield annual recurring savings of $180 million by FY 2024. The program will cost $338 million from FY 2016 to FY 2023. During FY 2017, the Army closed Giessen Army Depot in Germany. In this fiscal year, the Army saved $34 million from completion of eleven initial adjustments and three final actions in FY 2016.

Public Affairs

During FY 2017, the Army emphasized the importance of online conduct in both official and personal capacities consistent with the service's values and standards of conduct. Soldiers, their families, civilian employees, and contractors represent the Army online and offline and are personally responsible for all content they publish on social networking sites, blogs, and other Web sites. An All Army

Activities message in February 2017 directed the tracking of online misconduct incidents; providing information to soldiers' families to raise awareness of this issue; and updating mandatory annual training to include material regarding the online conduct policy. The following month, the acting secretary of the Army; the chief of staff, Army; and the sergeant major of the Army issued a message on proper online conduct.

In May 2017, the Army launched a new social media microsite for social media managers, soldiers, their families, and civilian employees. Created by the Office of the Chief of Public Affairs' Digital Media Division, the Army Social Media microsite replaced the "Social Media Handbook" PDF file. The new site provides policies, guidance, and recommendations on becoming more effective communicators and representatives of the Army. It will allow trusted information concerning the Army to be disseminated to the public in a timely manner. The site also includes information regarding security when using social media, ways to report scams, and techniques criminals use on social media.

Chaplain Corps

The transformation of the chaplain assistant military occupational specialty into the religious affairs specialist specialty continued during FY 2017. This change in designation will become effective 1 October 2017. It recognizes the current designation no longer fits the expectations now inherent in this specialty as a member of the unit ministry team both in operational matters and in providing religious care to soldiers. In August 2017, as part of this transformation, the Army Chaplain Center and School began publishing a professional journal for religious affairs specialists.

During FY 2017, the Chaplain Corps continued its Strong Bonds Program, training soldiers and their family members in relationship skills and in meeting the challenges of Army family life. With a budget of $35.4 million, the program provided 1,550 events for 32,322 soldiers and 40,399 family members. The program trained 316 chaplains and religious affairs specialists in the specifics of planning and conducting Strong Bonds events.

Safety

The on-duty ground Class A mishap rate increased 27 percent during FY 2017 and was slightly higher than the five-year average, but total associated soldier fatalities were at their lowest level since FY 2008. Army vehicle mishaps were primarily responsible for the increase in on-duty

Sgt. Maj. Reeves Winters, chaplain sergeant major for the 101st Airborne Division, congratulates Pfc. Boaz Koski, chaplain assistant for the 101st Special Troops Battalion, on earning the title of the 101st Airborne Division Chaplain Assistant of the Year.

Class A mishaps. Thirteen soldiers died in twenty-one Class A on-duty Army or private motor vehicle mishaps during FY 2017, compared to sixteen fatalities in thirteen vehicle mishaps the year prior. Approximately 64 percent of FY 2017's Class A–D Army vehicle mishaps were attributed to operator error, with speed, inattention, and poor judgment the most prevalent contributing factors. Passenger injury accounted for a further 16 percent, resulting from rough terrain, sudden stops, shifting cargo, or weapons systems or hatches. Vehicle fires increased during the past five years and made up 8 percent of all FY 2017 mishaps, a 3 percent increase from FY 2016. Three on-duty Class A weapons/explosives mishaps resulted in four soldier fatalities, an increase of one fatality from FY 2016. Two soldier fatalities occurred during physical fitness training and one soldier died during a night scuba dive.

The Army experienced seventy-six Class A–C manned aircraft mishaps during FY 2017, with nine Class A mishaps resulting in ten fatalities, as compared to seventy-three Class A–C mishaps, eight Class A mishaps, and eight fatalities in FY 2016. Manned mishap rates remained near historic lows through FY 2017, with no significant new causal trends. Human error caused approximately

80 percent of all manned aviation mishaps. For unmanned aircraft, there were seventy-four Class A–C and fifteen Class A mishaps, compared to fifty-five and fourteen, respectively, in FY 2016. Materiel failure remained the predominant causal factor in unmanned aviation mishaps.

Two Department of the Army civilian employees died in on-duty mishaps during FY 2017. Both fatalities—involving operation of heavy equipment—were attributed to "caught-in/between," one of the Occupational Safety and Health Administration's top four causal factors in construction operations. Overall, civilian employee injury claims were up in FY 2017, but data indicate no new loss trends or any significant changes to injury cause. The total injury and illness case rate fell from 2.02 in FY 2016 to 1.77 in FY 2017, and the lost-time injury and illness case rate dropped from 1.18 to 1.09.

Total off-duty soldier Class A mishaps increased from eighty-five in FY 2016 to ninety-three in FY 2017. Sustaining a decades-long trend, private motor vehicle mishaps—seventy-three in FY 2017—accounted for the majority of off-duty Class A mishaps. Sixty-five soldiers died in off-duty private motor vehicle mishaps. As in past years, the leading causal factors were speeding, failure to wear seat belts, alcohol use, and (for motorcycle mishaps) failure to wear protective equipment. Soldier fatality rates in private motor vehicle mishaps are lower than the nation as a whole. Eleven soldiers were killed in off-duty pedestrian mishaps during FY 2017, compared to four in FY 2016. Approximately a third of those mishaps involved alcohol, and all but one occurred after dark. Three soldiers were killed in off-duty weapons-handling mishaps. Of the remaining off-duty fatal mishaps, eight soldiers died during water-related activities, two in privately owned aircraft mishaps, two while participating in winter sports, two in a single cabin fire, and one while engaging in high-risk sexual behavior.

Army and Air Force Exchange Service

FY 2017 was another difficult year for the retail industry with thousands of store closures and multiple retailers filing for bankruptcy. In addition, several major e-commerce retailers continued to squeeze brick-and-mortar locations and drive up freight and shipping costs for other e-retailers. Despite this difficult environment, the Exchange's revenue this fiscal year was $8.6 billion, an increase of more than $300 million from FY 2016, with $376 million in dividend-eligible earnings. From those earnings, the Exchange provided $219 million in dividends to quality-of-life programs such as school lunches for

military children overseas, child care centers, youth programs, and jobs for veterans and military spouses.

The Exchange invested $208 million in total capital expenditures to improve the shopping experience for its customers. Roughly half of the total was related to upgrading stores and restaurants as well as enhancements to the supply chain. The other half was spent on technology assets associated with improving operational efficiencies.

To offer greater convenience and strengthen funding for critical quality-of-life programs, military commissaries began accepting the Exchange's MILITARY STAR credit card in October 2016. The Exchange administers the MILITARY STAR credit program for all military exchange systems and Defense Commissary Agency (DCA). In the first four months after this change, acceptance of the MILITARY STAR card at commissaries saved the DCA more than $860,000 in swipe fees associated with bank-issued credit cards. Additionally, the 1 percent the Exchange provides back to the DCA each month has resulted in a nearly $510,000 revenue stream for the commissaries. By the end of FY 2017, 170,000 commissary shoppers had used their MILITARY STAR card to buy nearly $51 million in groceries.

In January 2017, the Department of Defense announced a policy change that would extend limited online military exchange shopping privileges to all honorably discharged veterans of the military. This change will go into effect on Veterans Day in November 2017. Although this shopping privilege excludes the purchase of uniforms, alcohol, and tobacco products, it will provide veterans tax-free shopping and an average savings of 20 percent off manufacturers' suggested retail prices on a wide variety of brands. At maturity, the veterans program is expected to have added sales of about $200 million for the Army and Air Force Exchange Service, which will yield additional annual dividends of $20 million to support quality-of-life programs.

Morale, Welfare, and Recreation

A revised AR 608–10, *Child Development Services*, was published in May 2017. The revision removed exclusionary language and required reasonable accommodation for all children with special needs in child, youth, and school services programs. The Army is implementing new procedures to accommodate requests for the day-to-day care of children/youth with diabetes and other complex special medical needs. To ensure successful implementation, the assistant chief of staff for installation management and the Installation

Management Command are providing technical assistance to garrisons accommodating children with diabetes who require support for insulin dosage determination and administration, as well as other complex medical needs.

8
Special Functions

Surgeon General

In FY 2017, the Office of the Surgeon General (OTSG) completed its internal "One-Staff Reorganization" with U.S. Army Medical Command (MEDCOM). The intent of the reorganization was to make Army medicine more responsive to operational requirements. This reorganization had been initiated in 2016 with the consolidation of fifteen Regional Health Headquarters into four multidisciplinary Regional Health Commands.

The FY 2017 National Defense Authorization Act set out specific changes to the organization and functions of healthcare in the Department of Defense. The act mandated that the Defense Health Agency would take control of more than 400 military hospitals and clinics operated by the Army, Navy, and Air Force. This move ultimately would centralize the administration and functions of military treatment facilities, while allowing each individual service to retain its own autonomous medical departments. During FY 2017, the OTSG began to implement these legislative changes, with the goal of moving toward a more efficient and integrated military healthcare system.

The acquisition, development, employment, and retention of a broad and diverse spectrum of healthcare talent remained critical to conducting missions across multiple domains and to meeting the challenges of enduring requirements and unanticipated contingencies. The Army's reputation for superior clinical training and leadership development helped to boost recruiting and retention efforts. At 92 percent, the first-time medical board certification pass rate by Army personnel well exceeded the 86 percent national average.

In FY 2017, the Army began fielding a new organizational design to increase its forward-based medical capabilities. The conversion reconfigures the 248-bed combat support hospital into a 32-bed field hospital with three additional augmentation detachments: a 24-bed surgical detachment, a 32-bed medical detachment, and a 60-bed intermediate care ward detachment. The field hospital and the augmentation detachments will all operate under the authority of a headquarters hospital center. The new

design is based on more than a decade of combat in which combat support hospitals were too large and logistically difficult to deploy as a whole. Instead, they were usually deployed in "slices," and the field hospital design codifies that practice. In June 2017, the 10th Combat Support Hospital at Fort Carson, Colorado, became the first unit to convert to the new field hospital design. Over the next five years, the Army plans to convert the rest of the active duty combat support hospitals, Army Reserve hospitals that are part of the Medical Materiel Readiness Program, and Army Pre-positioned Sustainment stocks hospitals.

The OTSG also continued to stress the importance of virtual health capabilities. Virtual health involves use of medical devices such as electrocardiograms that can send information to healthcare providers over the internet, along with high-resolution video showing the patient in great detail. Virtual health allows specialists to diagnose and prescribe medication or treatment from a distance, to include allowing providers to walk medics who are on-site with an injured patient through emergency care. The OTSG was in the process of conducting more than forty pilot programs in virtual health, and the

Vice Chief of Staff of the Army General Daniel B. Allyn observes a demonstration of virtual health between Blanchfield Army Community Hospital, Fort Campbell, Kentucky, and Dwight Eisenhower Army Medical Center, Fort Gordon, Georgia, 26 May 2017.

Army Virtual Medical Center at Brooke Army Medical Center, Texas, is expected to open in FY 2018.

The OTSG placed special emphasis on issues of behavioral health through the Embedded Behavioral Health program. The program provides behavior health intervention and treatment to soldiers in close proximity to their unit area. They receive expedited evaluations and treatment from a single provider, which greatly improves continuity of care and facilitated close coordination with unit leaders. The enduring working relationship between the behavioral health provider and key battalion personnel also addressed the stigma commonly associated with this type of care. Overall use of behavioral healthcare increased from approximately 900,000 encounters in FY 2007 to more than 2.25 million in FY 2017. Between 2012 and 2017, 45 percent fewer soldiers with post-traumatic stress disorder were prescribed benzodiazepines, a potentially addictive group of medicines. Taking account of the Army family, improved behavioral health services also extended to a hundred on-post schools across eighteen installations in FY 2017.

The Army continued to make significant advances in medical research. In November 2016, doctors at the Walter Reed Army Institute of Research initiated a clinical trial of the ZPIV vaccine for the Zika virus. Within ten months, the Army had produced the ZPIV trial vaccine for use in animals and demonstrated its effectiveness in mice and monkeys. Researchers then began initiating clinical trials in humans to establish the vaccine's safety and to build the case for subsequent efficacy trials. Seventy-five healthy adults participated in the phase one trial.

Army Audit Agency

The Army Audit Agency's mission is to help senior leaders assess and mitigate risk by providing independent internal auditing services. Sixty employees were based at the agency's operations center at Fort Belvoir, Virginia, and at the Pentagon. The rest of the workforce was divided between sixteen field offices—thirteen in the continental United States and one each in Hawaii, Germany, and Korea. The agency began to implement its FY 2017/2021 Strategic Plan, creating process action teams (PAT) to work through new initiatives. For example, a PAT was created to streamline audit reports and develop additional methods to communicate results to Army leaders. Another PAT developed standard performance plans for about 90 percent of the agency workforce.

The agency's FY 2017 Internal Audit Plan assessed Army-wide programs and functions, identifying twelve risk areas for audit focus—acquisition, audit readiness, contracting, cyber, financial management,

health readiness of the force, human capital, installations, intelligence, protection, sustainment, and training. The agency published 105 reports with $1.7 billion in potential monetary benefits and made 400 recommendations to improve Army operations.

Army National Military Cemeteries

During FY 2017, the Army National Military Cemeteries (ANMC) continued to support the Army's forty-two cemeteries across nineteen states. Army cemeteries ranged in size from those having only a small number of remains interred on less than one-tenth of an acre to the largest, Arlington National Cemetery (ANC), which contained more than 400,000 remains on 624 acres.

The most significant ANMC project of FY 2017 was the disinterment of three graves at the Carlisle Barracks post cemetery in August 2017. The graves held the remains of three children from the Northern Arapaho tribe. From 1879 to 1918, more than 10,000 Native American children from more than fifty tribes attended the former United States Indian Industrial School in Carlisle, Pennsylvania. Operated by the Department of Interior, the school was the nation's first federal off-reservation boarding school. The remains of 180 named Native Americans were interred in the cemetery, and in 1927 they were moved to the Carlisle Barracks post cemetery. At the request of their closest living relatives, the three deceased children to be disinterred were Little Plume (Hayes Vanderbilt Friday), Little Chief (Dickens Nor), and Horse (Horace Washington). To improve the disinterment process and to manage expectations, the ANMC conducted five listening sessions at Cherokee, North Carolina; Anchorage, Alaska; Oklahoma City, Oklahoma; Bloomington, Minnesota; and Phoenix, Arizona.

With the help of the U.S. Army Corps of Engineers, archeologists excavated the remains with hand tools and sifted the soil to recover any human remains and artifacts. A forensic anthropologist then examined the remains for consistency between the age and sex of the remains with the Army's records. Two sets of remains were consistent. The remains from the other grave were not only inconsistent but were also determined to be from two different decedents. They were reburied in two separate graves at the Carlisle Barracks post cemetery and marked as unknown. After the remains, artifacts, and soil were casketed by a local funeral home, the Army transferred custody to family members on 14 August. The remains were reinterred on 18 August in three private cemeteries on the Wind River Reservation in Wyoming.

During the fiscal year, ANMC executed a semijoint contract with ANC to collect aerial and geographic information system imagery

for thirty-seven cemeteries. This collection effort supports creation of the ANMC Mapper, as well as the ANMC Gravesite Explorer system, which remained under development. These innovations will allow the public to search ANC by name and location in order to find a specific gravesite, including a picture of the headstone, an aerial map, and basic decedent data. ANMC also supported the Enterprise Interment Scheduling System—a combined effort with ANC to ensure burial accountability and to improve automated workflows of interment processes.

During FY 2017, ANC laid to rest 7,068 veterans, armed forces service members, and eligible family members. Of these, 4,451 were in new graves and 2,617 were subsequent interments. ANC saw a continuation of recent burial trends with 28 percent casketed, 37 percent inurned in niches, and 35 percent placed in-ground, but inurned rather than casketed. ANC continued its long ceremonial traditions by coordinating and facilitating full, standard, and dependent funeral honors ceremonies, along with approximately 700 placements of remains in quiet ceremonies at the family's request, referred to as

Air Force Col. Deedra Zabokrtsky, director of Air Force Nursing; Col. Sandra McNaughton, the senior nurse executive at the Office of The Surgeon General; Air Force Maj. Gen. Dorothy Hogg, the deputy Surgeon General for the Air Force and chief of the Air Force Nursing Corps; and Navy Capt. Deborah Roy, deputy chief of nurses for the Navy, participate in laying a wreath at the Nurses Memorial in Arlington National Cemetery, 8 May 2017.

"placement only." ANC conducted forty-four full honors and more than 3,100 public wreath ceremonies along with 270 other events.

As of FY 2017, ANC was 74 percent occupied. The remaining grave locations were expected to be available through approximately 2041. ANC continued to be in high demand by families in their time of need, receiving 7,043 requests for funeral services from families during 2017. Work continued on the Millennium expansion construction and Southern expansion project planning. The secretary of the Army, in February 2017, submitted a report to Congress on ANC's interment and inurnment capacity. This report outlined potential options or actions that might be taken, legislatively or nonlegislatively, to allow ANC to remain open well into the future, defined by the Advisory Committee on Arlington National Cemetery as 150 years. Following this report, ANC provided a survey to the public to determine popular opinion on the future of the cemetery. Data from this survey showed that wide support existed to keep ANC open beyond 2041. Outreach, study, and analysis continue into FY 2018.

Civil Works

The civil works program of the Corps of Engineers has three main missions: flood and storm damage reduction, commercial navigation, and aquatic ecosystem restoration. The program is also concerned with related issues like hydropower, stewardship, and recreation. In FY 2017, the program employed nearly 34,000 civilians and 750 soldiers.

The Corps of Engineers engaged in dozens of projects to reduce the risk of coastal and riverine flood damage. In January 2017, the Sacramento District awarded a $20.46 million contract to construct levee improvements in the Natomas Basin in Sacramento—one of the nation's most at-risk areas for catastrophic flooding. The work to upgrade more than two miles of levees along the southern side of the river basin is part of a wider effort to improve a 42-mile stretch in partnership with the Sacramento Area Flood Control Agency and the state of California. In September 2017, the Corps of Engineers awarded an additional $204 million contract to construct modifications to the Isabella Lake Dam, some forty miles northeast of Bakersfield. The award marked the beginning of efforts to address overtopping, seismic, and seepage concerns at the dam.

In the Jacksonville District, work continued on the Herbert Hoover Dike, a 143-mile earthen dam that surrounds Lake Okeechobee, to reduce the risk of overtopping. The lake is a key water supply for some six million people in south Florida. At the same time, Lake Okeechobee

carries a high risk of flooding as a result of continually high water levels. Army Engineers installed thirty-five miles of seepage barriers, known as cutoff walls, to limit erosion of the earthen structure of the dike.

Working with the Federal Emergency Management Agency (FEMA), the Corps of Engineers played a vital role in the federal government's response to Hurricanes Harvey, Irma, and Maria. After Harvey hit Texas, engineers from the Galveston District maintained 24-hour monitoring of the Addicks and Barker Reservoirs west of downtown Houston. They released storm water from the two reservoirs to draw down record levels. Two Corps of Engineers-maintained reservoirs collectively retained more than 140 billion gallons of storm water, which otherwise would have flowed uncontrolled into Houston.

Days later, Hurricane Irma hit the Virgin Islands, Puerto Rico, and Florida, and the Corps of Engineers received a FEMA mission assignment to generate temporary electricity in affected areas. Three power planning and response teams deployed to assist with generator installations and power assessments. In addition, experts on debris removal deployed to assist FEMA with management strategies. The Corps of Engineers also supported Operation Blue Roof—a free service that provides a temporary covering of blue plastic sheeting to reduce further damage to property until permanent repairs can be made.

After Hurricane Maria made landfall in the Caribbean in mid-September, the Corps of Engineers performed critical assessments of damaged roofs in the region. In Puerto Rico, engineers for Operation Blue Roof estimated 30,000 roofs need urgent repairs, while another 13,000 were damaged in the Virgin Islands. The Corps of Engineers coordinated transportation of more than 300 FEMA and Defense Logistics Agency generators from across the United States to meet anticipated requirements in the islands.

To support the commercial navigation mission of the civil works program, the Corps of Engineers undertook extensive harbor, dam, and lock improvements around the United States. In September, it announced a $22 million contract to deepen the federal navigation channel at the port of Jacksonville, Florida, from forty to forty-seven feet so that deep-draft ships may enter the port. Work on a similar harbor expansion project in Savannah, Georgia, continued with an anticipated completion time of January 2022. The Boston Harbor Navigation Improvement Project began in September.

Army engineers also made progress on one of the nation's longest-running and most expensive infrastructure projects: the Olmsted Locks and Dam on the Ohio River. Near the confluence

A member of the Corps of Engineers conducts quality assessments as the first "blue roof" is installed in Naples, Florida, after Hurricane Irma, 16 September 2017.

of the Mississippi and Ohio Rivers, the Olmsted project forms the hub of the Inland Waterways Transportation System. More tonnage passes through this point than at any other place in America's inland navigation system. The project, estimated at a total cost of $2.7 billion, consists of two 110-foot by 1,200-foot locks adjacent to the Illinois bank of the Ohio River, as well as a dam comprised of five tainter gates, 1,400 feet of boat-operated wickets, and a fixed weir. The Corps of Engineers expects that the locks and dam will be operational in FY 2018.

The Corps of Engineers engaged in extensive environmental and conservation work. It allocated more than $70 million to continue improving the process by which fish pass through federal dams in the Columbia River Basin of the Pacific Northwest. In the Jacksonville District, nearly $117 million was used for continued ecosystem restoration in south Florida, including the Everglades.

The Corps of Engineers is responsible for evaluating and issuing permits for all water crossings under Section 404 of the Clean Water Act and Sections 10 and 14 of the Rivers and Harbors Act of 1899. On 4 December 2016, assistant secretary of the Army for civil works indicated that the Corps of Engineers would not approve an easement

authorizing Dakota Access LLC to construct a proposed pipeline under Lake Oahe Reservoir on the Missouri River in North Dakota, approximately half a mile upstream from the northern boundary of the Standing Rock Sioux Tribe reservation. The project was known popularly as the Dakota Access Pipeline.

In January 2017, the president directed the secretary of the Army to review and approve in an expedited manner requests for approvals to construct and operate the pipeline, including easement or right-of-ways. In February 2017, the acting secretary of the Army announced the Corps of Engineers completed the presidential-directed review of the easement request and notified Congress it intended to grant right-of-way. This action was intended to facilitate completion of the last mile of the 1,172-mile pipeline, connecting the Bakken and Three Forks oil production areas in North Dakota to an existing crude oil terminal near Patoka, Illinois.

Environmental Protection

To support water security, Army installations undertook a variety of projects in FY 2017, ranging in size from small-scale reclamation to a new water treatment plant at Fort Irwin, California. This facility had a 99 percent water recovery rate, substantially reducing waste in the treatment process. The Army, as a whole, reduced its potable water use intensity by 32 percent in FY 2017, as compared to the FY 2007 baseline. Installations also produced more than eighty-nine million gallons of alternative water between FY 2011 and FY 2017 via wastewater reclamation and onsite rainwater harvesting. The Army continued to employ a comprehensive approach on renewable energy. Cost-effective investments included small-scale solar projects on rooftops and parking areas. The Office of Energy Initiatives also leveraged funding and financing for much larger projects through joint initiatives with private enterprises. The Army increased its renewable energy capacity for the third year in a row, adding 176.1 megawatts (MW) of renewable electricity capacity in FY 2017 through thirty-three new projects for a total of 428.6 MW. This amounted to a 69.7 percent increase from the previous fiscal year. The total percentage of renewable electric energy eligible toward the goal of the 2005 Energy Policy Act increased from 5.8 percent in FY 2016 to 8.4 percent in FY 2017. The renewable energy production credited toward the National Defense Authorization Act FY 2010 goal increased by 3.6 percent from FY 2016 to FY 2017. Fort Hunter Liggett, California, installed a smart grid with dynamic controls to adjust for renewable energy production, while

the Reserve Center at Ceiba, Puerto Rico, completed a photovoltaic and microgrid project that enhanced whole-site resilience against historically frequent power utility outages. In June, Fort Hood completed construction of the Army's largest hybrid renewable energy project. The Phantom Solar Field—a 15 MW alternating current solar array—was made up of 60,000 panels spread out over 130 acres of Fort Hood. In addition, twenty-one wind turbines located off base provided a further sixty MW of clean, renewable energy. The project was estimated to meet nearly half of Fort Hood's energy needs.

To mitigate the threat of contamination from hazardous materials, the Army worked to clean up thousands of former defense sites, many dating back to World War II. Decontamination work continued at the Umatilla Chemical Depot, Oregon. The Army submitted a draft agreement to transfer the land to local officials at the Columbia Development Authority. In March 2017, Joint Base Lewis-McChord, Washington, was forced to withdraw three contaminated groundwater wells from service after they produced higher-than-normal readings for two kinds of fluorinated chemicals, perfluorooctane sulfonate and perfluorooctanoic acid, used in fire-retardant foams. The Army identified a further sixty-one installations

Lt. Gen. Paul Funk Jr. speaks during the Fort Hood renewable energy project ribbon-cutting ceremony on the Phantom Solar Field, 2 June 2017.

at risk for similar contamination, and in FY 2017, it initiated thirteen environmental investigations. These investigations remained ongoing as the fiscal year came to an end.

The Army engaged in conservation activities, completing fifty-one environmental assessments and more than 7,000 Records of Environmental Consideration in FY 2017 in compliance with the National Environmental Policy Act. Installations undertook significant pollution prevention efforts, diverting more than 405,873 tons of waste for recycling and reuse. This amount accounted for 47 percent of total solid waste from Army landfills.

The Army also managed 226 threatened and endangered plant and animal species on 124 installations, as well as 116,480 acres of Endangered Species Act critical habitat and 1.3 million acres of wetlands. It prepared integrated natural resources management plans at 148 installations. These endeavors led to the successful recovery of several endangered species, including the red-cockaded woodpecker on Fort Bragg and Fort Stewart and the black-capped vireo and golden-cheeked warbler on Fort Hood.

Legal

In FY 2017, the Office of The Judge Advocate General (OTJAG) focused on combatting sexual violence in the Army and on adapting to the requirements of the 2016 Military Justice Act. Many of the OTJAG's efforts involved Trial and Defense Counsel Assistance Programs, which provided personnel and expert advice on numerous high-profile trials. The Trial Counsel Assistance Program managed the operations of the Special Victim Prosecution, which continued to build the Army's capability to effectively prosecute sexual and family abuse offenses. The Army added twenty-three special victims' prosecutors, as well as twenty-three special victim witness liaisons. The Army's Special Victim Counsel (SVC) program continued to grow and improve, providing a holistic approach to victim care. In FY 2017, the SVC grew from twenty-three to forty-six authorizations. The Judge Advocate General's Legal Center and School in Charlottesville, Virginia, developed and improved the SVC Certification course, part of the certification process required of judge advocates before they are authorized to take clients. In these courses, students learn best practices for working with sexual assault victims.

In FY 2017, the OTJAG continued to monitor military justice requirements in the Military Justice Act of 2016, which is slated to go into effect on 1 January 2019. The act initiated the most significant

changes to the Uniform Code of Military Justice (UCMJ) in more than thirty years. The OTJAG supervised the establishment of a Military Justice Legislation Training Team, tasked with providing training products and instruction on the new act; advising on policy changes required for its implementation; and assisting in revising Army Regulations, Department of the Army Pamphlets, and requisite policies. The Military Justice Legislation Training Team planned training seminars for 2018 on the revised UCMJ to ensure the OTJAG was prepared to transition seamlessly to the amended code.

At the end of FY 2017, the attorney strength of the JAGC active component was 1,819, of whom 504 were women. The total number of attorneys also included 116 African Americans, 57 Hispanics, 105 Asians, and 2 Native Americans. In the Army Reserve the attorney strength was 1,831, while the Army National Guard was 876.

The number of courts-martial decreased from 826 in FY 2016 to 795 in FY 2017. In FY 2017, there were 558 general courts-martial and 237 special courts-martial (*Tables 11–14*).

TABLE 11—COURTS-MARTIAL STATISTICS, FY 2017

	Tried			
Type of Court	*Arraigned*	*Completion*	*Convicted*	*Acquittals*
General	498	393	333	60
Bad Conduct Discharge (BCD) Special	177	134	121	13
Non-BCD Special	3	2	2	0
Summary	112		-	-

Summary court-martial convictions and acquittals are not tracked.
Source: *Report of the Judge Advocate General of the Army*, 1 October 2016 to 30 September 2017

TABLE 12—DISCHARGES APPROVED, FY 2017

General Courts-Martial	
Number of Dishonorable Discharges	122
Number of Bad Conduct Discharges	146
Special Courts-Martial	
Number of Bad Conduct Discharges	86

Source: *Report of the Judge Advocate General of the Army*, 1 October 2016 to 30 September 2017

Table 13—Record of Trial Received for Review by OTJAG, FY 2017

For Review Under Article 66 – General Courts-Martial	303
For Review Under Article 66 – BCD Special Courts-Martial	86

Source: *Report of the Judge Advocate General of the Army,* 1 October 2016 to 30 September 2017

Table 14—Nonjudicial Punishment, FY 2017

Number of Cases where Nonjudicial Punishment Imposed Under UCMJ Article 15	26,638
Rate per 1,000	55.93

Source: *Report of the Judge Advocate General of the Army*, 1 October 2016 to 30 September 2017

9
Conclusion

Fiscal year 2017 had the unenviable distinction of being the fiscal year that saw the longest period to date—216 days—in which the Army operated under a continuing resolution instead of an approved budget. The uncertainty of funding levels created challenges for leaders at all levels. This uncertainty returned when the fiscal year ended without an approved budget for FY 2018. The absence of a Senate-confirmed secretary of the Army for most of FY 2017 generated another type of uncertainty.

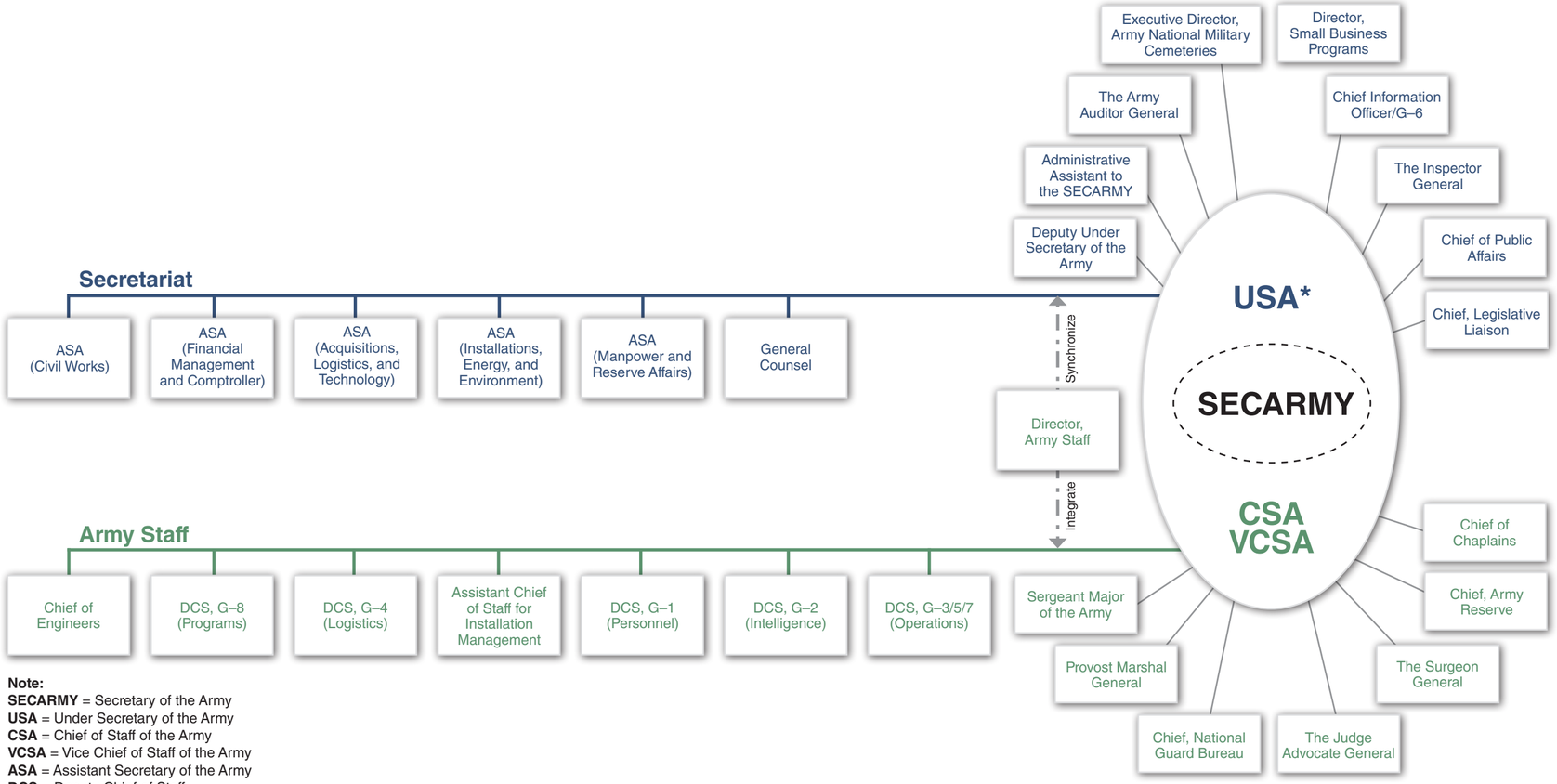
In the area of personnel, FY 2017 produced mixed results. The National Defense Authorization Act, when finally signed into law, brought a welcomed increase in authorized strength. Work continued on a new personnel system based on the concept of talent management. Success in meeting the Regular Army enlistment goal was offset by the failure to meet enlisted recruiting goals in the reserve components. Changes regarding Military Accessions Vital to National Interest personnel and transgender policy generated uncertainty.

The Army continued its efforts to improve its readiness, particularly for combined arms operations against a peer competitor. Among the steps taken were conversion of an infantry brigade combat team into an armored brigade combat team, the expansion of Army Pre-positioned Stocks, the Multi-Domain Battle concept, and a new network modernization concept. Security force assistance brigades will permit brigade combat teams to focus on combined arms training while at the same time sustaining the service's capabilities to assist other nations' land forces. The reserve components continued their efforts at improving readiness with such measures as Army National Guard 4.0 and Operation Cold Steel. Near the end of FY 2017, soldiers from the Army National Guard and the Army Reserve demonstrated their readiness by again assisting their fellow citizens in the aftermath of hurricanes. These efforts coexisted with a continuing high demand by combatant commands for units from all three components. Although deployed forces were far fewer in number than earlier in this century, the efforts required to meet these demands continued to kill and wound soldiers.

Bibliographical Note

The primary sources for the Department of the Army Historical Summary are material provided to the Center of Military History by various offices in Headquarters, Department of the Army. Additional primary sources are reports and other documents produced during the fiscal year by Headquarters, Department of the Army, Army major commands, and the Office of the Secretary of Defense. An unofficial source of value is *Inside the Army*, a weekly newsletter published by InsideDefense.com that covers Army programs, procurement, and policymaking. This summary also utilizes unofficial media articles, most importantly those from *Army Times* and *ARMY* magazine.

Appendix—Headquarters, Department of the Army Organization (FY 2017)



Note:
SECARMY = Secretary of the Army
USA = Under Secretary of the Army
CSA = Chief of Staff of the Army
VCSA = Vice Chief of Staff of the Army
ASA = Assistant Secretary of the Army
DCS = Deputy Chief of Staff

Source: Department of the Army, General Orders No. 2012-01 (Assignment of Functions and Responsibilities Within Headquarters, Department of the Army).
*By law, the Under Secretary of the Army is the Army Chief Management Officer.

Abbreviations and Acronyms

AME	Army Museum Enterprise
ANC	Arlington National Cemetery
ANMC	Army National Military Cemeteries
APS	Army Pre-positioned Stocks
ARCIC	Army Capabilities Integration Center
ARNG	Army National Guard
BCD	Bad Conduct Discharge
BRAC	Base Realignment and Closure
BRS	Blended Military Retirement System
CIE	Capabilities Information Exchange
CIO/G-6	Army's chief information officer/G-6
CJFLCC-I	Combined Joint Forces Land Component Command–Iraq
CMH	Center of Military History
DCA	Defense Commissary Agency
DISA	Defense Information Systems Agency
DoD	Department of Defense
EAMS-A	Enterprise Access Management System-Army
ELA	Enterprise License Agreements
EOH	Equipment on Hand
ERP	Enterprise Resource Planning
FEMA	Federal Emergency Management Agency
FMS	Foreign Military Sales
FY	Fiscal Year
GFEBS	General Fund Enterprise Business System
HCBD	Human Capital Big Data
HQDA	Headquarters, Department of the Army
IDA	Institute for Defense Analysis
ISIS	Islamic State in Iraq and Syria
IT	Information Technology
JLTV	Joint Light Tactical Vehicle
MAVNI	Military Accessions Vital to National Interest
MLRS	Multiple Launch Rocket System
MW	Megawatts
NDAA	National Defense Authorization Act

OACSIM	Office of the Assistant Chief of Staff for Installation Management
OCS	Officer Candidate School
OEF	Operation Enduring Freedom
OPAT	Occupational Physical Assessment Test
OSD	Office of the Secretary of Defense
OTJAG	Office of The Judge Advocate General
OTSG	Office of the Surgeon General
PAT	Process Action Teams
RAMBO	Rapid Additively Manufactured Ballistics Ordnance
R-FAB	Rapid Fabrication via Additive Manufacturing on the Battlefield
SVC	Special Victim Counsel
THAAD	Terminal High Altitude Area Defense
UCMJ	Uniform Code of Military Justice
WIN-T	War fighter Information Network-Tactical

Index

Abrams tanks, 55, 57
Addicks and Barker Reservoirs, 75
Adelphi, Maryland, 31
Afghanistan, 13, 15, 18, 32–34, 53
Africa, 37–38
Airborne Corps, XVIII, 35
Airborne Divisions
  82d, 34, 36, 40, 47
  101st, 34–36, 38, 47, 64

Alaska, 30, 39, 72
ARCYBER, 5–6
Armored Division, 1st, 34, 36
Artillery units
  2d Air Defense Artillery Regiment, 40
  4th Air Defense Artillery Regiment, 40
Arlington National Cemetery, 12, 14, 17, 72–74
Army Audit Agency, 71–72
Army National Guard, 4, 6, 12–15, 17–20, 25, 29, 31, 33, 34, 36–37, 43–50, 80, 83
Army National Military Cemeteries, 3, 72–74
Army Strength and Distribution, 19
Artillery, 30, 40, 45, 56, 59
Assistant secretary of the Army for financial management and comptroller. *See* Speer, Robert M.
Australia, 59
Aviation Brigades
  166th, 30
  12th, 42

Bakersfield, California, 74
Baltic republics, 42
Battalions
  1st, 228th Aviation Regiment, 37
  1st, 501st Aviation Regiment, 42
  2d, 18th Field Artillery Regiment, 40
  2d, 4th Field Artillery Regiment, 40
  3d, 21st Infantry, 23d Infantry Division (Americal), 28
  3d, 13th Field Artillery, 40
Belgium, 33, 51
Bloomington, Indiana, 72
Boston Harbor, 75
Brigade Combat Teams
  1st, 1st Armored Division, 34
  1st, 1st Cavalry Division, 40
  1st, 3d Infantry Division, 41
  1st, 4th Infantry Division, 31–32, 40
  1st, 82d Airborne Division, 34
  1st, 101st Airborne Division, 38
  2d, 1st Cavalry Division, 40

Brigade Combat Teams (*Continued*)
2d, 1st Infantry Division, 31
2d, 3d Infantry Division, 29, 38
2d, 4th Infantry Division, 34
2d, 82d Airborne Division, 36
2d, 101st Airborne Division, 36
3d, 1st Armored Division, 36
3d, 4th Infantry Division, 41
3d, 101st Airborne Division, 34
4th, 25th Infantry Division, 30, 34
173d Airborne, 33, 41, 47
Budget, 3, 5, 11–18, 63, 83
Bulgaria, 42

Cameroon, 38
Camp Humphreys, 39
Camp Lemonnier, 38
Camp Zama, 33
Cardon, Lt. Gen. Edward C., 20
Caribbean, 37, 75
Cavalry units
1st Division, 33, 40, 47
2d Regiment, 41
6th Regiment, 40
17th Regiment, 40
Ceiba, Puerto Rico, 78
Chad, 38
Chaplain Corps, 20, 63
Charlottesville, Virginia, 79
Cherokee, North Carolina, 72
Civilian Personnel, 21–22
Civil works, 74–76
Columbia River Basin, 76
Combat aviation brigades, 30, 41–42
10th, 42
12th, 42
Combat Support Hospital, 10th, 70
Combined Joint Task Force–Horn of Africa, 38
Combined Joint Task Force–Operation Inherent Resolve, 35
Cuba, 33

Director, Office of Business Transformation. *See* Cardon, Lt. Gen. Edward C.
Doctrine, 32

Eighth Army, 39
Energy, 61, 62, 77–78
Enlisted personnel, 19–20
Environmental Protection, 77–79
Esper, Mark T., 3
Ethiopia, 38
Euphrates River, 35
Exercises, 31, 32, 33, 37–42
Eygelshoven, Netherlands, 52

Fanning, Eric K., 3
Fires, 31, 34, 45, 53
Florida, 49, 74–76
Force Development, Training, and Operational Forces, 29
Force structure, 19, 29
Foreign Military Sales, 59
Fort Belvoir, 5, 71
Fort Benning, 29
Fort Bliss, 40, 42, 47
Fort Bragg, 9, 47, 79
Fort Campbell, 47

Fort Carson, 9, 32, 41, 70
Fort Drum, 40, 42, 47
Fort Gordon, 5–6
Fort Hood, 30, 38, 40, 47, 78–79
Fort Hunter Liggett, 77
Fort Irwin, 31, 77
Fort Knox, 9
Fort Leonard Wood, 47
Fort Meade, 5
Fort Polk, 31
Fort Riley, 40
Fort Sill, 40
Fort Stewart, 41, 79
Fort Wingate, 62

Gabon, 38
Galveston, Texas, 75
Georgia, 5, 29, 41, 75
Germany, 30–31, 33, 38, 42, 51, 71
Ghana, 38
Greece, 59
Green, Mark E., 3
Ground vehicles
  Armored Multipurpose Vehicle, 54–55
  Bradley fighting vehicles, 55
  Iron Curtain system, 55
  Iron Fist system, 55
  Joint Light Tactical Vehicle, 54
  M113 armored personnel carrier, 54
  M109A6 Paladin self-propelled howitzer, 56
  M109A7 Paladin self-propelled howitzer, 55–56
  M992A2 Field Artillery Ammunition Supply Vehicle, 56
  M992A3 Carrier Ammunition Tracked, 55
  M1A1 tank, 55
  M1A2 tank, 55, 57
  Stryker armored vehicles, 31
Guantanamo Bay, Cuba, 33

Han River, 39
Hawaii, 39, 71
Herbert Hoover Dike, 74
Hohenfels, Germany, 31
Honduras, 33, 37
Houston, Texas 75
Hurricane Maria, 45, 49, 75

III Corps, 35
Indonesia, 39
Infantry Divisions
  1st, 31, 35–36, 40
  3d, 29, 38, 41
  4th, 31–32, 34, 41
  23d (Americal), 28
  25th, 30, 34
  29th (Army National Guard), 36
  35th (Army National Guard), 36
  36th, 34
Iraq, 13, 15, 32, 34–37, 53
Isabella Lake Dam, 74

Jacksonville District, 74, 76
Jacksonville, Florida, 75
Joint Base Elmendorf-Richardson, 30
Joint Base Lewis-McChord, 78
Joint Task Force–Bravo, 37
Joint Task Force–Guantanamo, 37, 44

Kentucky, 9
Kuwait, 34, 36–37

Lake Assad, 35
Lake Oahe Reservoir, 77
Lake Okeechobee, 74
Landing Craft Mechanized-8 boats, 57
Latvia, 42
Legal, 79
Logistics, 10, 37, 51–52, 58–59, 75

Maintenance, 10–15, 17–18, 30, 52, 59
Malaysia, 39
Maneuver, 29, 32, 43, 57
McCarthy, Ryan D., 3
McCloughan, Specialist Fifth Class James C., 28
Medal of Honor, 27–28
Medal of Honor Recipient. *See* McCloughan, Specialist Fifth Class James C.
Mid-Tier Network Vehicular Radio and the Command Post of the Future, 53
Military Intelligence Battalion, 206th, 30
Military Police Battalion, 525th, 37
Military Police Brigade, 18th, 30
Mississippi, 76
Missouri, 77
Missouri River, 77
Modular Handgun System, 56
Mosul, Iraq, 35
Mountain Division, 10th, 42, 47
  6th Squadron, 6th Cavalry Regiment, 40
  10th Combat Aviation Brigade, 42
Murphy, Patrick J., 3

National Commission on the Future of the Army, 3–5, 29
Natomas Basin, 74
Netherlands, 51–52
Network Operations Security Center–Lite, 53
North Dakota, 77

Officers, 19–20, 25, 46
Ohio River, 75–76
Okinawa, 33
Oklahoma City, 72
Olmsted Locks and Dam, 75
Operational Forces, 29, 33
Operations
  Atlantic Resolve, 40–42, 51
  Central Skies, 44
  Cold Steel, 48, 83
  Enduring Freedom, 27, 44
  Freedom's Sentinel, 27, 33, 44
  Inherent Resolve, 27, 34–35, 37, 44
  Iraqi Freedom, 27
  Joint Guardian–KFOR, 44
  New Dawn, 27
  Raider Focus, 32
  Spartan Shield, 34, 36, 44
Ordnance, 58
Organizational Changes, 3
Organizational Structure, 43

Pacific, 33, 38–40, 58, 76
Pacific Northwest, 76

Patoka, Illinois, 77
Philippines, 39
Phoenix, Arizona, 72
Piñon Canyon Maneuver Site, 32
Poland, 41–42
President of the United States. *See* Trump, Donald J.
Public Affairs, 24

Raqqa, 35
Readiness, 23, 26, 30–32, 37–38, 41, 44–46, 52, 56–57, 70–72, 83
Redstone Arsenal, 9
Republic of Korea, 29, 33, 38–40
Research, Development, and Acquisition, 52
Reserve Component Mobilization, 43
Reserve components, 19–20, 37, 43, 83
Romania, 42, 59
Rotary-wing aircraft, 35, 37
  AH–64 Apache helicopter, 4, 59
  AH–64D Longbow Apache attack helicopter, 40
  CH–47D Chinook helicopter, 59
  OH–58D Kiowa Warrior scout helicopter, 40
Russia, 40

Sacramento, California, 74
Safety, 26, 71
Saudi Arabia, 59
Savannah, Georgia, 75
Second Army, 5
Secretary of the Army. *See* Esper, Mark T.; Fanning, Eric K.
Security Force Assistance Brigade, 1st, 29
Senegal, 38
South Africa, 38
South America, 37
South Korea. *See* Republic of Korea.
Southwest Asia, 34
Special Forces Group, 3d, 38
Special Functions, 69
Special Topics, 22
Speer, Robert M., 3
Standing Rock Sioux Tribe reservation, 77
Support, 6, 8, 10, 24, 30–37, 41, 43, 45, 49–53, 57–59, 69–70, 72, 74–75, 77
Support services, 24
Surgeon General, 69
Sustainment Commands
  13th, 38
  21st, 38
  79th, 38
Syria, 13, 34

Tabqa, Iraq, 35
Tabqa Dam, Iraq, 35
Tal Afar, Iraq, 35
Texas, 30, 40, 49, 71, 75
Thailand, 33, 38
Theater Security Cooperation SOUTHCOM, 45
Tigris River, 35
Tokyo, 33
Training, 6, 8, 19, 21–22, 24–26, 29–33, 37–39, 45–46, 48, 52–53, 55, 59, 69, 72, 80, 83
Training Command, 84th, 46

Trump, Donald J., 3, 34
Umatilla Chemical Depot, 78
Under Secretary of the Army. *See* McCarthy, Ryan D.; Murphy, Patrick J.
United Arab Emirates, 59
United Kingdom, 33, 59
U.S. Africa Command, 37–38
U.S. Army Africa, 37–38
U.S. Army Cyber Brigade, 91 31
U.S. Army Cyber Command, 31
U.S. Army Europe, 40, 51
U.S. Army Medical Command, 69
U.S. Army Pacific, 38–39
U.S. Army South, 37
U.S. Army Training and Doctrine Command, 30, 31, 52–53
U.S. European Command, 51
U.S. Southern Command, 37

Virgin Islands, 49, 75

Washington, 39, 78
Weapons
  High Mobility Artillery Rocket System, 59
  Iron Curtain system, 55
  Iron Fist system, 55
  Multiple Launch Rocket System (MLRS), 30, 40
  P320 handgun, 56
  Patriot missile system, 55, 59
  Patriot Advanced Capability-3 missiles, 55, 59
  Terminal High Altitude Area Defense (THAAD), 39–40
  TOW missiles, 59
  War fighter Information Network-Tactical (WIN-T), 53
  WIN-T Increment 2 Tactical Communications Node–Lite, 53
  XM17 full-size variant pistol, 56
  XM18 compact variant pistol, 56
Wind River Reservation, 72