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116TH CONGRESS
1st Session

HOUSE OF REPRESENTATIVES

REPORT
116–120

NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2020

R E P O R T

OF THE

COMMITTEE ON ARMED SERVICES HOUSE OF REPRESENTATIVES

ON

H.R. 2500

together with

ADDITIONAL AND DISSENTING VIEWS

[Including cost estimate of the Congressional Budget Office]

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CONTENTS

	Page
Purpose of the Legislation	1
Rationale for the Committee Bill	2
Hearings	3
Committee Position	4
Explanation of the Committee Amendments	4
Relationship of Authorization to Appropriations	4
Summary of Discretionary Authorizations in the Bill	5
Budget Authority Implication	5
DIVISION A—DEPARTMENT OF DEFENSE AUTHORIZATIONS	5
TITLE I—PROCUREMENT	5
Aircraft Procurement, Army	5
Items of Special Interest	5
CH–47F Chinook Block II	5
UH–72A Light Utility Helicopter	6
Missile Procurement, Army	7
Items of Special Interest	7
Indirect Fire Protection Capability Increment 2 system of systems	7
M240 medium machine gun industrial base	7
TOW 2B missile system	8
Procurement of Weapons and Tracked Combat Vehicles, Army	8
Items of Special Interest	8
Vehicle active protection systems	8
Procurement of Ammunition, Army	9
Items of Special Interest	9
Army vertical lift munitions	9
M58 Mine Clearing Line Charge	9
Self-propelled 155mm and 105mm artillery systems	10
Other Procurement, Army	10
Items of Special Interest	10
Advanced medium mobile power sources	10
AN/PEQ–15 Pointer, Illuminator, Aiming Laser capability enhancement/upgrade strategy	11
Global Positioning System denied environments	11
High Mobility Multipurpose Wheeled Vehicle recapitalization	12
Requirements and Capabilities for Military Shelter Systems Ballistic Protection	12
Tactical Communications and Protective System	12
Transportable Tactical Command Communications	13
Aircraft Procurement, Navy	13
Items of Special Interest	13
Carrier strike group anti-submarine warfare capabilities	13
F/A–18 infrared search and track	14
MH–53E modernization and sustainment strategy	14
Navy Reserve F/A–18 aircraft	15
Recapitalization of Navy Reserve P–3C squadrons	15
Weapons Procurement, Navy	16
Items of Special Interest	16
Advanced Low-Cost Munitions Ordnance	16
Shipbuilding and Conversion, Navy	16
Items of Special Interest	16
Amphibious Forces Modernization	16
AN/SPY–6(V) on DDG–51 Flight IIA	16
Classified Briefing on Funding Requirements for Strategic Weapons Systems	17

Page

Composite materials 17
DDG Aegis modernization 18
Frigate requirements review 18
Future Fleet Architecture 18
John Lewis fleet oiler replenishment ships 19
MK 18 unmanned underwater vehicle 19
Naval Oceanographic Office vessel requirements 19
Navy Cyclone-class patrol craft replacement 20
Navy study on lethality of surface combatant ships against swarm technology 20
Report on operational energy planning assumptions for the future surface combatant 21
Virginia-class submarine 21
Procurement, Marine Corps 22
Items of Special Interest 22
Rapid acquisition of Rifle Integrated Controller 22
Aircraft Procurement, Air Force 22
Items of Special Interest 22
A–10 aircraft 22
Air National Guard F–16 Radar Upgrades 23
B–1 readiness recovery plan 23
B–2 Spirit Defensive Management System 24
C–130H aircraft propellers and engines 24
E–8 Joint Surveillance Target Attack Radar System re-engining program 25
F–15C/F–15EX 25
MQ–9 Reaper funding profile 26
Tanker force structure and modernization 26
Procurement, Defense-Wide 27
Items of Special Interest 27
F–35 Joint Strike Fighter program 27
Mitigation of military aviation physiological incidents 28
LEGISLATIVE PROVISIONS 29
Subtitle A—Authorization of Appropriations 29
Section 101—Authorization of Appropriations 29
Subtitle B—Navy Programs 29
Section 111—Modification of Annual Report on Cost Targets for Certain Aircraft Carriers 29
Section 112—Repeal of Requirement to Adhere to Navy Cost Estimates for Certain Aircraft Carriers 29
Section 113—Ford Class Aircraft Carrier Support for F–35C Aircraft 29
Section 114—Prohibition on Use of Funds for Reduction of Aircraft Carrier Force Structure 29
Section 115—Design and Construction of Amphibious Transport Dock Designated LPD–31 30
Section 116—Limitation on Availability of Funds Pending Quarterly Updates on the CH–53K King Stallion Helicopter Program 30
Section 117—Limitation on Availability of Funds for VH–92A Helicopter 30
Section 118—National Defense Reserve Fleet Vessel 31
Subtitle C—Air Force Programs 31
Section 121—Modification of Requirement to Preserve Certain C–5 Aircraft 31
Section 122—Modification of Limitation on Use of Funds for KC–46A Aircraft 31
Section 123—F–15EX Aircraft Program 31
Section 124—Prohibition on Availability of Funds for Reduction in KC–10 Primary Mission Aircraft Inventory 31
Section 125—Limitation on Availability of Funds for VC–25B Aircraft 31
Section 126—Limitation on Availability of Funds for Retirement of RC–135 Aircraft 31
Section 127—Report on Aircraft Fleet of the Civil Air Patrol 32
Subtitle D—Defense-Wide, Joint, and Multiservice Matters 32
Section 131—Economic Order Quantity Contracting and Buy-to-Budget Acquisition for F–35 Aircraft Program 32
Section 132—Program Requirements for the F–35 Aircraft Program 32
Section 133—Reports on F–35 Aircraft Program 32

Page

TITLE II—RESEARCH, DEVELOPMENT, TEST, AND EVALUATION 33
Research, Development, Test, and Evaluation, Army 33
Items of Special Interest 33
3–D Printed Electronics Army Innovation 33
Accelerated integration to counter emerging threats 33
Advanced development of asset protection technologies 33
Advanced lightweight small arms and medium caliber ammunitions .. 34
Advanced materials and components 34
Advanced technology for cold regions 34
Army unfunded requirement for munitions storage 34
Briefing on secure communications with remote-piloted and unmanned ground vehicles 35
Carbon fiber wheels and graphitic foam for Army vehicles 35
Composite warhead technology 36
Defense Innovation and the Automotive Industry 36
Expeditionary Maneuver Support Technologies 36
Expeditionary mobile base camp technology 37
Foamable celluloid material 37
Future Vertical Lift 37
Heavy Equipment Transporter System trailer development 38
HEROES program 38
High performance advanced polymers 38
Humanitarian de-mining research and development 39
Improved Turbine Engine Program 39
Improvement of combat helmet suspension systems 40
Instrumentable Multiple Integrated Laser Engagement System 40
Modeling and Simulation for Ground Vehicle Development 40
Modern mobile sheltering systems 41
Multi-mission Medium Range Railgun Weapon System and Integrated Power and Thermal Management System 41
Multi-spectral thermal mitigation technologies 41
National Academies review of technologies related to Army Strategic Long-Range Cannon 42
Real time transmission of weapons usage data 43
Women in Army science, technology, engineering, and mathematics careers 43
Research, Development, Test, and Evaluation, Navy 43
Items of Special Interest 43
Academic partnerships for undersea vehicle research 43
Advanced Manufacturing of Critical Scale Materials 44
Advanced precision materials research 44
Advanced radar research 44
Autonomous vehicle collaboration across maritime domains 44
Critical bandwidth gaps for Navy deployments 45
Defense University Research Initiatives 45
Energy resilience 46
Enterotoxigenic Escherichia Coli research 46
Hearing loss and prevention treatment 46
High Energy Laser system integration 47
Navigation channel clearance for nuclear powered ballistic missile submarines 47
Office of Naval Research Manufacturing Technology Program 48
Warfighter safety and performance 48
Research, Development, Test, and Evaluation, Air Force 49
Items of Special Interest 49
Advanced composites for large structures 49
Aerospace Career Training Expansion Report 49
Aerospace Composites Manufacturing 49
Briefing on Surface to Air Electronic Warfare Threats 50
Digital twinning 50
Distributed Common Ground System and 10 U.S.C. 2377 50
Educational partnership agreements for aerospace propulsion 51
Kessel Run Commercial Outreach 51
Light attack and armed reconnaissance experimentation 52
Low-cost attritable aircraft technology 52
Major test range and facility enhancements 53
Metals Affordability Initiative 54

Page

Modular Open Systems Architecture Intelligence Sensor Readiness Initiative 54
OC–135B Open Skies Treaty aircraft recapitalization 54
Open mission systems 55
Persistent intelligence, surveillance and reconnaissance 56
Thermal management and robust power generation systems 56
Unmanned aerial systems cyber operations research 56
Vertical lift demonstration 57
Wide area motion imagery 57
Research, Development, Test, and Evaluation, Defense-Wide 57
Items of Special Interest 57
Additive manufacturing 57
Advanced composites and manufacturing technologies 58
AI-enabled Robotics in CBRN and Complex Environments 58
Analysis of Science and Technology Reinvention Laboratories 59
Artificial intelligence in force protection activities 60
Autonomous distribution for critical supplies 60
Battery Development and Safety Enterprise 60
Chemical and Biological Decontamination Solutions 61
Commercializing defense technologies 61
Counterterrorism detection technology 61
Cyber institutes at senior military colleges 62
Cyber-physical research 62
Directed energy test range workloads 63
Electronic warfare planning for near-peer adversaries 63
Energy systems for forward and remote operating bases 64
Hacking for Defense 64
Hacking for Defense Support to Defense Innovation 65
Historically black colleges and universities and minority serving institutions 65
Human simulation and human factors modeling 66
Hybrid and electric air vehicle power and propulsion systems 66
Hypersonic test infrastructure and workforce 67
Implementation of existing authorities for the science and technology reinvention laboratories 68
Integrated Silicon-Based Lasers 68
Investments in Science and Technology 69
Joint Electromagnetic Spectrum Operations 69
Joint Threat Warning System 70
Lithium-ion batteries 70
Microelectronics 71
Military rotorcraft safety 71
Moving Target Defense 72
National Academies Science, Technology, and Security Roundtable 72
National Consortium for the Study of Terrorism and Responses to Terrorism 73
National Defense Education Program 73
Optical fiber in next generation information infrastructure 74
Pilot Program for Supply Chain Awareness and Cybersecurity in the Defense Industrial Base 74
Protecting Critical Technologies Task Force 74
Protection of National Security Research 75
Provision of Analysis to U.S. Humanitarian Demining Organizations 76
Radio frequency countermeasures for rotary wing aircraft 76
Report on Designation of a National Center of Excellence for Pathogen and Microbiome Analysis 76
Role of universities in rapid prototyping 77
Tactical data links 77
University and industry research centers 78
LEGISLATIVE PROVISIONS 78
Subtitle A—Authorization of Appropriations 78
Section 201—Authorization of Appropriations 78
Subtitle B—Program Requirements, Restrictions, and Limitations 79
Section 211—Program on Enhancement of Preparation of Dependents of Members of Armed Forces for Careers in Science, Technology, Engineering, and Mathematics 79

Page

Section 212—Temporary Inclusion of Joint Artificial Intelligence Center of the Department of Defense in Personnel Management Authority to Attract Experts in Science and Engineering 79
Section 213—Joint Hypersonics Transition Office 79
Section 214—Modification of Proof of Concept Commercialization Program 79
Section 215—Contract for National Security Research Studies 80
Section 216—JASON Scientific Advisory Group 80
Section 217—Direct Air Capture and Blue Carbon Removal Technology Program 80
Section 218—Foreign Malign Influence Operations Research Program .. 80
Section 219—Sensor Data Integration for Fifth Generation Aircraft 80
Section 220—Documentation Relating to Advanced Battle Management System 80
Section 221—Documentation Relating to B–52 Commercial Engine Replacement Program 81
Section 222—Diversification of the Science, Technology, Research, and Engineering Workforce of the Department of Defense 81
Section 223—Policy on the Talent Management of Digital Expertise and Software Professionals 81
Section 224—Development and Implementation of Digital Engineering Capability and Automated Software Testing and Evaluation 82
Section 225—Process to Align Policy Formulation and Emerging Technology Development 82
Section 226—Limitation on Transition of Strategic Capabilities Office of the Department of Defense 82
Subtitle C—Reports and Other Matters 83
Section 231—Master Plan for Implementation of Authorities Relating to Science and Technology Reinvention Laboratories 83
Section 232—Master Plan for Infrastructure Required to Support Research, Development, Test, and Evaluation Missions 83
Section 233—Strategy and Implementation Plan for Fifth Generation Information and Communications Technologies 84
Section 234—Department-Wide Software Science and Technology Strategy 84
Section 235—Artificial Intelligence Education Strategy 84
Section 236—Biannual Report on the Joint Artificial Intelligence Center 84
Section 237—Quarterly Updates on the Optionally Manned Fighting Vehicle Program 85
Section 238—Grants for Civics Education Programs 85
Section 239—Technology and National Security Fellowship 85
Section 240—National Security Commission on Defense Research at Historically Black Colleges and Universities and Other Minority Institutions 85
TITLE III—OPERATION AND MAINTENANCE 85
ITEMS OF SPECIAL INTEREST 85
Energy Issues 85
Energy Efficiency Improvements for Shelters and Hard Containers 85
Enhancing Installation Energy Resiliency through Renewable Energy ... 86
Fuel Resiliency Issues within the Department of Defense 86
Geothermal Revenue Sharing Process Improvements 87
Maintenance Availability for Destroyers for Hybrid Electric Drive Retrofit 87
Medium Power Mobile Transformer Substations 87
Plug-in Hybrids and Electric Vehicles on Department of Defense Installations 88
Report on Department of Defense and NATO Cooperation on Energy Infrastructure 88
Review of Offshore Energy Development Projects 88
Siting Clearinghouse Process for Wind Energy 89
Logistics and Sustainment Issues 89
B–52 Stratofortress power plant sustainment 89
C–17 Sustainment 90
Commercial Best Practices for Maintenance and Logistics 90
Comptroller General Report on F–35 Sustainment 91
Comptroller General Report on Homeport of U.S. Aircraft Carriers 91

Page

Comptroller General Report on Littoral Combat Ship Operations and Sustainment 92
Comptroller General Report on Ship Repair Capabilities and Capacity 93
Conditions Based Maintenance Plus 94
Contracted Aerial Refueling Aircraft 94
Corrosion Control and Prevention 95
Optimized Fleet Response Plan 95
Planning, Programming, and Budgeting for Sustainment 96
Report on the National Guard's Equipment Reimbursement Policies 97
Readiness Issues 97
Allocation of Excess Property for Wildfire Fighting 97
Army Urban Training 98
Assessment of Air Combat Maneuvering Instrumentation and Collision Awareness Systems 98
Cold Weather Organizational Clothing and Individual Equipment 99
Comptroller General Assessment of Surface Fleet Manning, Workload, and Training 99
Comptroller General Report on Army Rail Capability 100
Comptroller General Report on Navy Collective Training for High-End Combat Missions 100
Comptroller General's Report on the Army's Use of Global Combat Support System 101
Corrosion Mitigation for Tactical Aircraft 102
Department of Defense Fire and Emergency Services Reductions 102
Hearing Protection Measures 102
Live, Virtual, and Constructive Training 103
Minimal-Notice Examinations of Naval Vessels and Associated Manpower Requirements 103
Mission Capability Rating Assessment 103
Navy Readiness Assessment Teams 104
Northern Strike Exercise Funding 105
Report on Security Clearance Processing 105
Use of Funds Provided for the Defense Community Infrastructure Program 105
Utilization of Recycled Products in Military Clothing Items 106
Value of Energy and Logistics Informed Exercises 106
Women, Peace and Security Strategy in Military Training 106
Other Matters 107
Aircraft Noise Mitigation 107
Alternatives to Burn Pits 107
Aqueous Film Forming Foam Training 108
Authorities Available to the Department of Defense for Tribal Mitigation 108
Best Practices for Cleanup and Disposal of PFOS- and PFOA-Contaminated Groundwater, Soils, and Filters and Gaps That Require Further Study 108
Chase Aircraft at NASA Armstrong Flight Research Center 109
Climate Impacts on Installation Resiliency 109
Defense Personal Property Program 111
Feasibility of Using Non-Fluorinated Fire Fighting Foam in Training 111
Health Impact to Service Members from Live-Fire Small Arms Training Ranges 111
Information Processing Efficiency 112
Kirtland Air Force Base Fuel Spill Remediation 112
Military Munitions Response Program (MMRP) 112
National Guard Unit Equipped Flying Squadrons 113
Reducing Costs Associated with Single-use Plastics 113
Removal of Unexploded Ordnance on Tribal Lands 113
Report on Fiscal Impacts of Intergovernmental Service Agreements 114
Report on Phytoremediation to Clear Heavy Metal Contaminants 114
Report on the Feasibility and Cost of Net-Zero Greenhouse Emissions and Implementing H. Res. 109, the Green New Deal 114
Survey to Locate and Identify the Remains of Native American Children Buried at Carlisle Barracks 115
Tijuana Sewage Runoff Impact to Readiness 116
Water Security under Sustainable Groundwater Management Act 116
Water Usage Related to Landscaping 116

Page

LEGISLATIVE PROVISIONS 117
Subtitle A—Authorization of Appropriations 117
Section 301—Authorization of Appropriations 117
Subtitle B—Energy and Environment 117
Section 311—Timeline for Clearinghouse Review of Applications for Energy Projects That May Have an Adverse Impact on Military Operations and Readiness 117
Section 312—Authority to Make Final Finding on Designation of Geographic Area of Concern for Purposes of Energy Projects with Adverse Impacts on Military Operations and Readiness 117
Section 313—Authority to Accept Contributions of Funds from Applicants for Energy Projects for Mitigation of Impacts on Military Operations and Readiness 117
Section 314— Department of Defense Improvement of Previously Conveyed Utility Systems Serving Military Installations 117
Section 315—Five-Year Authority for National Guard Environmental Restoration Projects for Environmental Responses 118
Section 316—Sale of Electricity from Alternate Energy and Cogeneration Production Facilities 118
Section 317—Transfer Authority for Funding of Study and Assessment on Health Implications of Per- and Polyfluoroalkyl Substances Contamination in Drinking Water by Agency for Toxic Substances and Disease Registry 118
Section 318—Replacement of Fluorinated Aqueous Film-Forming Foam with Fluorine-Free Fire-Fighting Agent 118
Section 319—Prohibition of Uncontrolled Release of Fluorinated Aqueous Film-Forming Foam at Military Installations 118
Section 320—Prohibition on Use of Fluorinated Aqueous Film Forming Foam for Training Exercises 118
Section 321—Real-Time Noise-Monitoring Study at Navy and Air Force Installations where Tactical Fighter Aircraft Operate 119
Section 322—Development of Climate Vulnerability and Risk Assessment Tool 119
Section 323—Provision of Uncontaminated Water for Agricultural Use on Land Contaminated by PFOS and PFOA Used on Military Installations 119
Subtitle C—Logistics and Sustainment 119
Section 331—Material Readiness Metrics and Objectives 119
Section 332—Clarification of Authority regarding Use of Working Capital Funds for Unspecified Minor Military Construction Projects Related to Revitalization and Recapitalization of Defense Industrial Base Facilities 119
Section 333—F–35 Joint Strike Fighter Sustainment 119
Section 334—Report on Strategic Policy for Prepositioned Materiel and Equipment 120
Section 335—Limitation on Use of Funds for Implementation of Elements of Master Plan for Redevelopment of Former Ship Repair Facility in Guam 120
Subtitle D—Reports 120
Section 341—Readiness Reporting 120
Section 342—Extension of Deadline for Transition from Service-Specific Defense Readiness Reporting Systems 120
Section 343—Report on Navy Ship Depot Maintenance Budget 120
Section 344—Report on Runit Dome 120
Subtitle E—Other Matters 121
Section 351—Inclusion of Over-the-Horizon Radars in Early Outreach Procedures 121
Section 352—Extension of Authority for Secretary of Defense to Use Department of Defense Reimbursement Rate for Transportation Services Provided to Certain Non-Department of Defense Entities 121
Section 353—Expanded Transfer and Adoption of Military Animals 121
Section 354—Extension of Authority of Secretary of Transportation to Issue Non-Premium Aviation Insurance 121
Section 355—Defense Personal Property Program 121
Section 356—Public Events about Red Hill Bulk Fuel Storage Facility 121
Section 357—Sense of Congress regarding Innovative Readiness Training Program 122

Page

Section 358—Pilot Program on Reduction of Effects of Military Aviation Noise on Private Residences 122
TITLE IV—MILITARY PERSONNEL AUTHORIZATIONS 122
LEGISLATIVE PROVISIONS 122
Subtitle A—Active Forces 122
Section 401—End Strengths for Active Forces 122
Section 402—Revisions in Permanent Active Duty End Strength Minimum Levels 122
Subtitle B—Reserve Forces 123
Section 411—End Strengths for Selected Reserve 123
Section 412—End Strengths for Reserves on Active Duty in Support of the Reserves 123
Section 413—End Strengths for Military Technicians (Dual Status) 123
Section 414—Maximum Number of Reserve Personnel Authorized To Be on Active Duty for Operational Support 124
Subtitle C—Authorization of Appropriations 124
Section 421—Military Personnel 124
TITLE V—MILITARY PERSONNEL POLICY 124
ITEMS OF SPECIAL INTEREST 124
Appointment of Guardian ad Litem for Minor Victims 124
Army Special Forces Officer Education 125
Briefing on Bystander Intervention in Cases of Sexual Misconduct 125
Briefing on Department of Defense Student Loan Repayment Program 126
Cell Phone Use in Correction Facilities 126
Comptroller General Report on Domestic Violence 126
Comptroller General Report on Hazing 127
Comptroller General Study on Military Adoptive and Foster Families 128
Cultural Sensitivity Training 128
Implementation of the Women, Peace and Security Act of 2017 129
Inspector General Whistleblower Improvement Plan 129
Marine Corps Integration of Recruit Basic Training 129
Measure Officer Accountability 129
Prioritization of Sexual Assault and Sexual Harassment Prevention and Response Resources 130
Report on Access to Court Filings and Materials for Victims 131
Report on Air National Guard Control Grades 131
Report on Army Active Component Support of the Reserve Component 132
Report on Cyber Education Integration in Professional Military Education 132
Report on Implementation of Transition Assistance Program Content 132
Report on Integration of Women into Previously Closed Special Operations Forces Career Fields and the 75th Ranger Regiment 133
Report on Junior Reserve Officers' Training Corps Community Service 134
Report on Passport Guidance for Emergency Contacts 134
Report on Program on Enhancement of Preparation of Dependents of Members of Armed Forces for Careers in Science, Technology, Engineering, and Mathematics 134
Report on Senior Officer Outside Employment 134
Report on the Armed Services Vocational Aptitude Battery 135
Report to the Defense Committees on the National Guard's Role in Current and Future Space Strategy 136
Reserve Component Duty Status Reform 136
Special Education Services for Military Families 136
Standardizing Training for Sexual Assault Prevention and Response Practitioners 137
LEGISLATIVE PROVISIONS 137
Subtitle A—Officer Personnel Policy 137
Section 501—Management Policies for Joint Qualified Officers 137
Section 502—Grade of Chief of the Veterinary Corps of the Army 137
Section 503—Authority of Promotion Boards to Recommend that Officers of Particular Merit Be Placed Higher on Promotion List 138
Section 504—Availability on the Internet of Certain Information about Officers Serving in General or Flag Officer Grades 138
Subtitle B—Reserve Component Management 138
Section 511—Grade of Certain Chiefs of Reserve Components 138
Section 512—Authority to Defer Mandatory Separation at Age 68 of Officers in Medical Specialties in the Reserve Components 138

Page

Section 513—Repeal of Requirement for Review of Certain Army Reserve Officer Unit Vacancy Promotions by Commanders of Associated Active Duty Units 138
Section 514—Guidance for Use of Unmanned Aircraft Systems by the National Guard 138
Section 515—Junior Reserve Officers' Training Corps 138
Section 516—JROTC Computer Science and Cybersecurity Program 138
Section 517—Programs of Scholarships for Members of Junior Reserve Officers' Training Corps Units toward Obtaining Private Pilot's Certificates 139
Section 518—Sense of Congress regarding Junior Reserve Officers' Training Corps 139
Section 519—Sense of Congress regarding the National Guard Youth Challenge Program 139
Subtitle C—General Service Authorities and Correction of Military Records 139
Section 521—Establishment of Board of Appeals regarding Denied Requests for Upgraded Discharges and Dismissals 139
Section 522—Prohibition on Reduction in the Number of Personnel Assigned to Duty with a Service Review Agency 139
Section 523—Advisory Committee on Record and Service Review Boards 140
Section 524—Time Requirements for Certification of Honorable Service 140
Section 525—Prohibition on Implementation of Military Service Suitability Determinations for Foreign Nationals Who Are Lawful Permanent Residents 140
Section 526—Strategic Plan for Diversity and Inclusion 140
Section 527—Independent Study on Barriers to Entry into the Armed Forces for English Learners 140
Section 528—Reenlistment Waivers for Persons Separated from the Armed Forces Who Commit One Misdemeanor Cannabis Offense 140
Section 529—Sense of Congress regarding Accession Physicals 141
Subtitle D—Military Justice 141
Section 531—Command Influence 141
Section 532—Statute of Limitations for Certain Offenses 141
Section 533—Guidelines on Sentences for Offenses Committed under the Uniform Code of Military Justice 141
Section 534—Expansion of Responsibilities of Commanders for Victims of Sexual Assault Committed by Another Member of the Armed Forces 141
Section 535—Increase in Investigative Personnel and Victim Witness Assistance Program Liaisons 141
Section 536—Increase in Number of Digital Forensic Examiners for the Military Criminal Investigation Organizations 142
Section 537—Pilot Programs on Defense Investigators in the Military Justice System 142
Section 538—Pilot Program on Prosecution of Special Victim Offenses Committed by Attendees of Military Service Academies 142
Section 539—Timely Disposition of Nonprosecutable Sex-Related Offenses 142
Section 540—Training for Sexual Assault Initial Disposition Authorities on Exercise of Disposition Authority for Sexual Assault and Collateral Offenses 142
Subtitle E—Other Legal Matters 142
Section 541—Standard of Evidence Applicable to Investigations and Reviews Related to Protected Communications of Members of the Armed Forces and Prohibited Retaliatory Actions 142
Section 542—Expansion of Special Victims' Counsel for Victims of Sex-Related or Domestic Violence Offenses 143
Section 543—Notification of Issuance of Military Protective Order to Civilian Law Enforcement 143
Section 544—Clarifications regarding Scope of Employment and Reemployment Rights of Members of the Uniformed Services 143
Section 545—Military Orders Required for Termination of Leases Pursuant to the Servicemembers Civil Relief Act 143
Section 546—Consultation regarding Victim's Preference in Prosecution Jurisdiction 143

Page

Section 547—Extension and Expansion of Defense Advisory Committee on Investigation, Prosecution, and Defense of Sexual Assault in the Armed Forces 143
Section 548—Defense Advisory Committee for the Prevention of Sexual Misconduct 144
Section 549—Safe to Report Policy Applicable across the Armed Forces 144
Section 550—Availability of Special Victims' Counsel and Special Victim Prosecutors at Military Installations 144
Section 550a—Notice to Victims of Alleged Sexual Assault of Pendency of Further Administrative Action Following a Determination Not to Refer to Trial by Court-Martial 144
Section 550b—Training for Special Victims' Counsel on Civilian Criminal Justice Matters in the States of the Military Installations to Which Assigned 144
Subtitle F—Member Education 145
Section 551—Authority for Detail of Certain Enlisted Members of the Armed Forces as Students at Law Schools 145
Section 552—Education of Members of the Armed Forces on Career Readiness and Professional Development 145
Section 553—Defense Language Institute Foreign Language Center 145
Section 554—Expansion of Department of Defense Starbase Program ... 145
Section 555—Degree Granting Authority for United States Army Armament Graduate School 145
Section 556—Congressional Nominations for Senior Reserve Officers' Training Corps Scholarships 145
Section 557—Consideration of Application for Transfer for a Student of a Military Service Academy Who Is the Victim of a Sexual Assault or Related Offense 145
Section 558—Redesignation of the Commandant of the United States Air Force Institute of Technology as the Director and Chancellor of Such Institute 146
Section 559—Eligibility of Additional Enlisted Members for Associate Degree Programs of the Community College of the Air Force 146
Section 560—Safe-to-Report Policy Applicable to Military Service Academies 146
Section 560a—Recoupment of Funds from Cadets and Midshipmen Separated for Criminal Misconduct 146
Subtitle G—Member Training and Transition 146
Section 561—Prohibition on Gender-Segregated Training at Marine Corps Recruit Depots 146
Section 562—Medical Personnel at Marine Corps Recruit Depots 146
Section 563—Assessment of Deaths of Recruits under the Jurisdiction of the Secretary of the Navy 147
Section 564—Inclusion of Specific Email Address Block on Certificate of Release or Discharge from Active Duty (DD Form 214) 147
Section 565—Machine Readability and Electronic Transferability of Certificate of Release or Discharge from Active Duty (DD Form 214) . 147
Section 566—Records of Service for Reserves 147
Subtitle H—Military Family Readiness and Dependents' Education 147
Section 571—Authorizing Members to Take Leave for a Birth or Adoption in More Than One Increment 147
Section 572—Deferred Deployment for Members Who Give Birth 147
Section 573—Authority of the Secretary Concerned to Transport Remains of a Covered Decedent to No More Than Two Places Selected by the Person Designated to Direct Disposition of the Remains 147
Section 574—Clarification regarding Eligibility to Transfer Entitlement under Post-9/11 Educational Assistance Program 147
Section 575—Absentee Ballot Tracking Program 148
Section 576—Annual State Report Card 148
Section 577—Transportation of Remains of Casualties; Travel Expenses for Next of Kin 148
Section 578—Meetings of Officials of the Department of Defense with Survivors of Deceased Members of the Armed Forces 148
Section 579—Direct Employment Pilot Program for Members of the National Guard and Reserve, Veterans, Their Spouses and Dependents, and Members of Gold Star Families 148

Page

Section 580—Continued Assistance to Schools with Significant Numbers of Military Dependent Students 148
Subtitle I—Decorations and Awards 149
Section 581—Expansion of Gold Star Lapel Button Eligibility to Stepsiblings; Free Replacement 149
Section 582—Establishment of the Atomic Veterans Service Medal 149
Section 583—Review of World War I Valor Medals 149
Subtitle J—Miscellaneous Reports and Other Matters 149
Section 591—Repeal of Quarterly Report on End Strengths 149
Section 592—Revision of Workplace and Gender Relations Surveys 149
Section 593—Modification of Elements of Reports on the Improved Transition Assistance Program 149
Section 594—Questions in Workplace Surveys regarding Supremacist, Extremist, and Racist Activity 149
Section 595—Command Matters in Connection with Transition Assistance Programs 150
Section 596—Expressing Support for the Designation of a "Gold Star Families Remembrance Day" 150
TITLE VI—COMPENSATION AND OTHER PERSONNEL BENEFITS 150
ITEMS OF SPECIAL INTEREST 150
Commissaries during Shutdowns 150
Department of Defense SkillBridge Program Applicability to Service Member Spouses 150
Educational Opportunities for Service Member Dependents 151
Maternity Leave Parity for National Guard and Reserve Components 151
Report Assessing the Advisability of Permitting Military Personnel to use Education Benefits for Nontraditional Cyber-Related Education Programs 151
Report on Feasibility of Loan or Grant Program to Offset the Cost of Child Care Center Accreditation in Areas with Long Waitlists to Access On-Base Child Development Centers 152
Report on TSP Default Contribution Rate 152
Review and Assessment of Transitional Compensation Program 153
Service Member Separation Survey Methodology 154
Servicemember Statement of Benefits 154
Spouse Employment Programs 155
LEGISLATIVE PROVISIONS 155
Subtitle A—Pay and Allowances 155
Section 601—Clarification of Continuation of Pays during Hospitalization and Rehabilitation Resulting from Wounds, Injury, or Illness Incurred while on Duty in a Hostile Fire Area or Exposed to an Event of Hostile Fire or Other Hostile Action 155
Section 602—Basic Needs Allowance for Low-Income Regular Members 156
Section 603—Temporary Increase of Rates of Basic Allowance for Housing Following Determination that Local Civilian Housing Costs Significantly Exceed Such Rates 156
Section 604—Basic Allowance for Housing for a Member without Dependents when Relocation would Financially Disadvantage the Member 156
Section 605—Partial Dislocation Allowance 156
Subtitle B—Bonuses and Special Incentive Pays 156
Section 611—One-Year Extension of Certain Expiring Bonus and Special Pay Authorities 156
Subtitle C—Family and Survivor Benefits 156
Section 621—Payment of Transitional Compensation for Certain Dependents 156
Section 622—Death Gratuity for ROTC Graduates 157
Section 623—Continued Eligibility for Education and Training Opportunities for Spouses of Promoted Members 157
Section 624—Occupational Improvements for Relocated Spouses of Members of the Uniformed Services 157
Section 625—Expansion of Authority to Provide Financial Assistance to Civilian Providers of Child Care Services or Youth Program Services Who Provide Such Services to Survivors of Members of the Armed Forces Who Die in Line of Duty 157

Page

Section 626—Space-Available Travel on Military Aircraft for Children and Surviving Spouses of Members Who Die of Hostile Action or Training Duty 157
Section 627—Consideration of Service on Active Duty to Reduce Age of Eligibility for Retired Pay for Non-Regular Service 157
Section 628—Modification to Authority to Reimburse for State Licensure and Certification Costs of a Spouse of a Member Arising from Relocation 158
Section 629—Improvements to Child Care for Members of the Armed Forces 158
Section 630—Casualty Assistance for Survivors of Deceased ROTC Graduates 158
Subtitle D—Defense Resale Matters 158
Section 631—GAO Review of Defense Resale Optimization Study 158
TITLE VII—HEALTH CARE PROVISIONS 158
ITEMS OF SPECIAL INTEREST 158
Chronic Traumatic Encephalopathy 158
Civilian Astronaut TRICARE 159
Co-Location of Department of Defense and Department of Veterans Affairs Medical Facilities 159
Defense Health Command Organizational Structure 160
Food Allergies in the Peer Reviewed Medical Research Program 160
Government Accountability Office Review on Health Care Quality in the Military Health System 160
Implementation Plan to Address the Impacts of Obesity on the Defense Enterprise 161
Innovative Traumatic Brain Injuries Preventative Device Research 162
Malaria and Malaria Vaccine Development 162
Military Wellness Information Synthesis 162
Naval Medical Research Unit Dayton Disorientation Research Device 163
Post-Traumatic Stress Disorder Drug Therapy 163
Report on Access to Health Care Services for Reserve and National Guard Who Disclose Sexual Assault 163
Report on Expanding TRICARE benefits to include coverage to allow for medical treatment for sexual dysfunction related to sexual assault or harassment 164
Report on Pre-Hospital Tactical Combat Trauma Training 164
Report on Service Member Discharges Related to Human Immunodeficiency Virus or Hepatitis B 164
Research to Reduce Deaths Due to Hemorrhaging 165
Service Member Diet and Nutrition 165
Translational Application of Mental Health Evidence Base 166
TRICARE Reserve Select Study 166
TRICARE Specialty Drug Network Accessibility 167
Unhealthy Alcohol Use Report 167
University Affiliated Research Center 168
Wounded Warrior Service Dog Program 168
LEGISLATIVE PROVISIONS 168
Subtitle A—TRICARE and Other Health Care Benefits 168
Section 701—Contraception Coverage Parity under the TRICARE Program 168
Section 702—Pregnancy Prevention Assistance at Military Medical Treatment Facilities for Sexual Assault Survivors 168
Section 703—Modification of Eligibility for TRICARE Reserve Select for Certain Members of the Selected Reserve 169
Section 704—Lead Level Screenings and Testings for Children 169
Section 705—Exposure to Open Burn Pits and Toxic Airborne Chemicals or Other Airborne Contaminants as Part of Periodic Health Assessments and Other Physical Examinations 169
Section 706—Enhancement of Recordkeeping and Postdeployment Medical Assessment Requirements Related to Occupational and Environmental Hazard Exposure during Deployment 169
Section 707—Modifications to Post-Deployment Mental Health Assessments for Members of the Armed Forces Deployed in Support of a Contingency Operation 169

Page

Section 708—Provision of Blood Testing for Firefighters of Department of Defense to Determine Exposure to Perfluoroalkyl and Polyfluoroalkyl Substances 169
Subtitle B—Health Care Administration 170
Section 711—Requirements for Certain Prescription Drug Labels 170
Section 712—Officers Authorized to Command Army Dental Units 170
Section 713—Improvements to Leadership of Interagency Program Office of the Department of Defense and the Department of Veterans Affairs 170
Section 714—Inclusion of Blast Exposure History in Medical Records of Members of the Armed Forces 170
Section 715—Comprehensive Policy for Provision of Mental Health Care to Members of the Armed Forces 170
Section 716—Limitation on the Realignment or Reduction of Military Medical Manning End Strength 170
Section 717—Strategy to Recruit and Retain Mental Health Providers 171
Section 718—Monitoring Medication Prescribing Practices for the Treatment of Post-Traumatic Stress Disorder 171
Subtitle C—Reports and Other Matters 171
Section 721—Establishment of Military Dental Research Program 171
Section 722—Pilot Program on Cryopreservation and Storage 171
Section 723—Encouragement of Participation in Women's Health Transition Training Pilot Program 171
Section 724—National Guard Suicide Prevention Pilot Program 171
Section 725—Reports on Suicide among Members of the Armed Forces 172
Section 726—Study on Military-Civilian Integrated Health Delivery Systems 172
Section 727—Study on Case Management at Military Medical Treatment Facilities 172
Section 728—Study on Infertility among Members of the Armed Forces 172
TITLE VIII—ACQUISITION POLICY, ACQUISITION MANAGEMENT, AND RELATED MATTERS 172
ITEMS OF SPECIAL INTEREST 172
Assessment of Defense Sustainment Enterprise 172
Assessment of Program Management Structure and Improvements 173
Assessment of the Use of Tantalum 174
Assessment of Training Needs for Non-Acquisition Workforce Personnel 174
Briefing on Sustainment Plan for Maintaining Access to MIL–PRF–19500 Parts 175
Communication with the Marketplace 175
Comptroller General Report on Procurement Technical Assistance Centers 176
Comptroller General Report on the Joint Capabilities Integration and Development System Timelines 176
Comptroller General Report on the Use of Fixed-Price Incentive Contracts 177
Defense Production Act Title III Funding 178
Expansion of the GSA Pilot Authorized under FY18 NDAA Section 846 178
Innovative Construction Materials and Design Process for Military Engineering in Cold Regions 179
Insight regarding Use of Lowest Price Technically Acceptable Source Selection Criteria 179
Maintain Commercial Supply Stores 180
Modernizing Department of Defense Forms 181
Pacific Telecommunications Security 181
Procurement Technical Assistance Centers Training Standards 182
Report on Domestic Nonavailability Waiver Process 182
Report on Ownership or Trading of Stocks in Certain Companies by Department of Defense Officers and Employees 182
Report on Plan to Expand and Strengthen the Military Radar Industrial Base 182
Report on the Department's Market Research Practices for IT Acquisition 183
Report on the Procurement of Military Free Fall Parachutes 183

Page

Review of Conflicts of Interest in Organizational Analysis of the Department of Defense 184
Security of Department of Defense Telecommunication Services 185
Small Business Procurement Specialists at Military Installations 185
Sourcing of Domestic Components for U.S. Navy Ships 186
LEGISLATIVE PROVISIONS 186
Subtitle A—Acquisition Policy and Management 186
Section 801—Establishment of Acquisition Pathways for Software Applications and Software Upgrades 186
Section 802—Software Development and Software Acquisition Training and Management Programs 186
Section 803—Modifications to Cost or Pricing Data for Certain Procurements 187
Section 804—Modifications to Cost or Pricing Data on Below-Threshold Contracts 187
Section 805—Comptroller General Report on Price Reasonableness 187
Section 806—Requirement That Certain Ship Components Be Manufactured in the National Technology and Industrial Base 187
Section 807—Acquisition and Disposal of Certain Rare Earth Materials 187
Section 808—Prohibition on Acquisition of Tantalum from Non-Allied Foreign Nations 188
Section 809—Application of Miscellaneous Technology Base Policies and Programs to the Columbia-Class Submarine Program 188
Section 810—Application of Limitation on Procurement of Goods other than United States Goods to the FFG-Frigate Program 188
Section 811—Consideration of Price in Procurement of the FFG(X) Frigate 188
Section 812—Repeal of Continuation of Data Rights during Challenges 188
Section 813—Repeal of Authority to Waive Acquisition Laws to Acquire Vital National Security Capabilities 188
Section 814—Repeal of Transfer of Funds Related to Cost Overruns and Cost Underruns 188
Subtitle B—Amendments to General Contracting Authorities, Procedures, and Limitations 189
Section 821—Modifications to the Middle Tier of Acquisition Programs . 189
Section 822—Briefing Relating to the "Middle Tier" of Acquisition Programs 189
Section 823—Rates for Progress Payments or Performance-Based Payments 189
Section 824—Additional Requirements for Negotiations for Noncommercial Computer Software 189
Section 825—Responsibility for Data Analysis and Requirements Validation for Services Contracts 189
Section 826—Annual Reports on Authority to Carry Out Certain Prototype Projects 190
Section 827—Competition Requirements for Purchases from Federal Prison Industries 190
Section 828—Enhanced Post-Award Debriefing Rights 190
Section 829—Standardizing Data Collection and Reporting on Use of Source Selection Procedures by Federal Agencies 190
Section 830—Modification of Justification and Approval Requirement for Certain Department of Defense Contracts 191
Subtitle C—Provisions Relating to Acquisition Workforce 191
Section 841—Defense Acquisition Workforce Certification and Education Requirements 191
Section 842—Public-Private Exchange Program for the Acquisition Workforce 192
Section 843—Incentives and Consideration for Qualified Training Programs 193
Section 844—Certification by Prospective Military Construction Contractors of Good Faith Effort to Utilize Qualified Apprentices 193
Subtitle D—Provisions Relating to Acquisition Security 193
Section 851—Supply Chain Security of Certain Telecommunications and Video Surveillance Services or Equipment 193
Section 852—Assured Security against Intrusion on United States Military Networks 193

Page

Section 853—Revised Authorities to Defeat Adversary Efforts to Compromise United States Defense Capabilities 194
Section 854—Prohibition on Operation or Procurement of Foreign-Made Unmanned Aircraft Systems 194
Section 855—Supply Chain Risk Mitigation Policies to Be Implemented through Requirements Generation Process 194
Subtitle E—Provisions Relating to the Acquisition System 194
Section 861—Modifications to the Defense Acquisition System 194
Subtitle F—Industrial Base Matters 194
Section 871—Consideration of Subcontracting to Minority Institutions 194
Section 872—Size Standard Calculations for Certain Small Business Concerns 194
Section 873—Modifications to Small Business Subcontracting 195
Section 874—Inclusion of Best in Class Designations in Annual Report on Small Business Goals 195
Section 875—Small Business Administration Cybersecurity Reports 195
Section 876—Cyber Counseling Certification Program for Lead Small Business Development Centers 195
Section 877—Exemption of Certain Contracts from the Periodic Inflation Adjustments to the Acquisition-Related Dollar Threshold 196
Section 878—Improvements to Certain Defense Innovation Programs 196
Section 879—Pilot Program for Development of Technology-Enhanced Capabilities with Partnership Intermediaries 196
Section 880—Authorized Official to Carry Out the Procurement Technical Assistance Cooperative Agreement Program 196
Section 881—Permanent Authorization and Improvement of Department of Defense Mentor-Protege Program 196
Subtitle G—Other Matters 197
Section 891—Requirement to Use Models of Commercial E-Commerce Portal Program 197
Section 892—Report and Database on Items Manufactured in the United States for Major Defense Acquisition Programs 197
Section 893—Requirements Relating to Selected Acquisition Reports 197
Section 894—Contractor Science, Technology, Engineering, and Math Programs 197
Section 895—Extension of Sunset Relating to Federal Data Center Consolidation Initiative 198
Section 896—Requirements Relating to Certain Rail Rolling Stock Procurements and Operations 198
Section 897—Prohibition on Contracting with Persons That Have Business Operations with the Maduro Regime 198
TITLE IX—DEPARTMENT OF DEFENSE ORGANIZATION AND MANAGEMENT 199
LEGISLATIVE PROVISIONS 199
Subtitle A—Office of the Secretary of Defense and Related Matters 199
Section 901—Update of Authorities Relating to Nuclear Command, Control, and Communications 199
Subtitle B—Other Department of Defense Organization and Management Matters 199
Section 911—Codification of Assistant Secretaries for Environment, Installations, and Energy of the Army, Navy and Air Force 199
Section 912—Limitation on Availability of Funds for Consolidation of Defense Media Activity 199
Section 913—Modernization of Certain Forms and Surveys 199
Subtitle C—Space Matters 199
Part I—United States Space Corps 199
Section 921—Establishment of United States Space Corps in the Department of the Air Force 199
Section 922—Transfer of Personnel, Functions, and Assets to the Space Corps 199
Section 923—Reports on Space Corps 200
Section 924—Space National Guard 200
Section 925—Effects on Military Installations 200
Part II—Other Space Matters 200
Section 931—United States Space Command 200
TITLE X—GENERAL PROVISIONS 200
ITEMS OF SPECIAL INTEREST 200

Page

Other Matters 200
Assessment of Special Operations Force Structure 200
Audit Leadership and Accountability 201
Briefing on Improving Ground Combat Vehicle Assured Mobility in Northern Regions 201
Briefing on National Guard Readiness and Ability to Meet Modern Threats from Area Disasters and Weapons of Mass Destruction 202
Briefing on Support to Civil Authorities in Support of Natural Disasters and Law Enforcement with Aerial Platforms and Satellites 203
Chemical, Biological, Radiological, Nuclear Response Enterprise 204
Commercial Technology Support to Audit Efforts 205
Designation of Gender Advisors 205
DOD Efforts to Improve Friendly Force Identification in Close Air Support 205
Evaluation of Integration of a Geographic Combatant Command and Theater Special Operations Command 206
Feasibility of Providing Dedicated Security Contingency Support for Non-Governmental Organizations 207
Incorporation of Cleared U.S.-Flag Commercial Ship Operators in Wargames and Exercises 208
Independent Study on Detainee Medical Care at United States Naval Station, Guantanamo Bay, Cuba 208
Management of the Ammunition Industrial Base 209
Navy Cost Savings Initiative 209
Office of the Chief Management Officer Human Capital Analysis 209
Operational Use of Publicly Available Information 210
Report on Egypt's Counterterrorism Campaign in the Sinai 211
Report on Supporting Requirements for the Air Force's Proposed Increase in Force Structure 211
Report on the Process for Repatriation of Individuals Who Have Been Cleared for Transfer out of United States Naval Station, Guantanamo Bay, Cuba 212
Special Operations Forces Professionalism and Ethics 212
Strategy for Operations in the Information Environment 213
Trafficking of Wildlife and Wildlife Products 214
LEGISLATIVE PROVISIONS 214
Subtitle A—Financial Matters 214
Section 1001—General Transfer Authority 214
Section 1002—Additional Requirements for Annual Report and Briefing on Financial Improvement and Audit Remediation Plan 215
Section 1003—Financial Improvement and Audit Remediation Plan 215
Section 1004—Reporting Requirements Relating to Department of Defense Audits 215
Section 1005—Annual Budget Justification Display for Service-Common and Other Support and Enabling Capabilities for Special Operations Forces 215
Section 1006—Determination of Budgetary Effects 216
Section 1007—Independent Public Accountant Audit of Financial Systems of the Department of Defense 216
Subtitle B—Counterdrug Activities 216
Section 1011—Modification of Authority to Provide Support to Other Agencies for Counterdrug Activities and Activities to Counter Transnational Organized Crime 216
Section 1012—Technical Correction and Extension of Reporting Requirement regarding Enhancement of Information Sharing and Coordination of Military Training between Department of Homeland Security and Department of Defense 216
Section 1013—Repeal of Secretary of Defense Review of Curricula and Program Structures of National Guard Counterdrug Schools 216
Subtitle C—Naval Vessels and Shipyards 216
Section 1021—Transportation by Sea of Supplies for the Armed Forces and Defense Agencies 216
Section 1022—Use of National Defense Sealift Fund for Procurement of Two Used Vessels 217
Section 1023—Formal Schoolhouse Training for Shipboard System Programs of Record 217

Page

Section 1024—Report on Shipbuilder Training and the Defense Industrial Base 217
Subtitle D—Counterterrorism 217
Section 1031—Extension of Authority for Joint Task Forces to Provide Support to Law Enforcement Agencies Conducting Counter-Terrorism Activities 217
Section 1032—Prohibition on Use of Funds for Transfer or Release of Individuals Detained at United States Naval Station, Guantanamo Bay, Cuba, to Certain Countries 217
Section 1033—Prohibition on Use of Funds for Transfer to and Detention of Additional Individuals, Including United States Citizens, at United States Naval Station, Guantanamo Bay, Cuba 217
Section 1034—Sense of Congress regarding the Provision of Medical Care to Individuals Detained at United States Naval Station, Guantanamo Bay, Cuba 218
Section 1035—Independent Assessment on Gender and Countering Violent Extremism 218
Subtitle E—Miscellaneous Authorities and Limitations 218
Section 1041—Scheduling of Department of Defense Executive Aircraft Controlled by Secretaries of Military Departments 218
Section 1042—Explosive Ordnance Defense Disposal Program 218
Section 1043—Notification on the Provision of Defense Sensitive Support 219
Section 1044—Modification and Technical Correction of Authority for Deployment of Members of the Armed Forces to the Southern Land Border of the United States 219
Section 1045—Limitation on Use of Funds for the Inactivation of Army Watercraft Units 219
Section 1046—Prohibition on Use of Funds for Construction of a Wall, Fence, or Other Physical Barrier along the Southern Border of the United States 219
Section 1047—Expenditure of Funds for Department of Defense Intelligence and Counterintelligence Activities 219
Section 1048—Limitation on Use of Funds to House Children Separated from Parents 220
Section 1049—Limitation on Use of Funds for Providing Housing for Unaccompanied Alien Children 220
Subtitle F—National Defense Strategy Implementation 220
Section 1051—Short Title 220
Section 1052—Report on Operational Concepts and Plans Regarding Strategic Competitors 220
Section 1053—Actions to Increase Analytic Support 220
Section 1054—Definitions 220
Subtitle G—Studies and Reports 221
Section 1061—Report on Transfers of Equipment to Prohibited Entities 221
Section 1062—Elimination of Requirement to Submit Reports to Congress in Paper Format 221
Section 1063—Modification of Annual Report on Civilian Casualties in Connection with United States Military Operations 221
Section 1064—Inclusion of Certain Individuals Investigated by Inspectors General in the Semiannual Report 221
Section 1065—Annual Report on Joint Military Information Support Operations Web Operations Center 221
Section 1066—Mobility Capability Requirement Study 222
Section 1067—Assessment of Special Operations Force Structure 222
Section 1068—Army Aviation Strategic Plan and Modernization Roadmap 222
Section 1069—Report on Ground-Based Long-Range Artillery to Counter Land and Maritime Threats 222
Section 1070—Independent Review of Transportation Working-Capital Fund 222
Section 1071—Geographic Command Risk Assessment of Proposed Use of Certain Aircraft Capabilities 223
Section 1072—Annual Report on Strikes Undertaken by the United States Against Terrorist Targets Outside Areas of Active Hostilities .. 223

Page

Section 1073—Termination of Requirement for Submittal to Congress of Certain Recurring Reports 223
Subtitle H—Other Matters 223
Section 1081—Technical, Conforming, and Clerical Amendments 223
Section 1082—Submission to Congress of Department of Defense Execute Orders 223
Section 1083—Extension of National Security Commission on Artificial Intelligence 224
Section 1084—National Commission on Military Aviation Safety 224
Section 1085—Extension of Postage Stamp for Breast Cancer Research 224
Section 1086—Processes and Procedures for Notifications regarding Special Operations Forces 224
Section 1087—Assessment of Standards, Processes, Procedures, and Policy Relating to Civilian Casualties 225
Section 1088—Disposal of IPv4 Addresses 225
Section 1089—Securing American Science and Technology 225
Section 1090—Standardized Policy Guidance for Calculating Aircraft Operation and Sustainment Costs 225
Section 1091—Special Federal Aviation Regulation Working Group 225
TITLE XI—CIVILIAN PERSONNEL MATTERS 226
ITEMS OF SPECIAL INTEREST 226
Civilian Sexual Assault Study 226
Department of Defense Report on Reduction in Force 226
Direct Hire Authority Clarification for Support Defense Activities 227
Optimizing Total Force Management 227
Readiness and Borrowed Military Manpower 228
The Department of Defense's Use of Term and Temporary Hiring Authorities 228
LEGISLATIVE PROVISIONS 229
Section 1101—Defense Advanced Research Projects Agency Personnel Management Authority 229
Section 1102—Modification of Probationary Period for Certain Department of Defense Employees 229
Section 1103—Civilian Personnel Management 229
Section 1104—One-Year Extension of Temporary Authority to Grant Allowances, Benefits, and Gratuities to Civilian Personnel on Official Duty in a Combat Zone 229
Section 1105—One-Year Extension of Authority to Waive Annual Limitation on Premium Pay and Aggregate Limitation on Pay for Federal Civilian Employees Working Overseas 229
Section 1106—Performance of Civilian Functions by Military Personnel 229
Section 1107—Extension of Direct Hire Authority for Domestic Industrial Base Facilities and Major Range and Test Facilities Base 230
Section 1108—Authority to Provide Additional Allowances and Benefits for Certain Defense Clandestine Service Employees 230
Section 1109—Prohibited Personnel Practices 230
Section 1110—Enhancement of Antidiscrimination Protections for Federal Employees 230
Section 1111—Modification of Direct Hire Authorities for the Department of Defense 230
Section 1112—Permitted Disclosures by Whistleblowers 231
TITLE XII—MATTERS RELATING TO FOREIGN NATIONS 231
ITEMS OF SPECIAL INTEREST 231
Assessment, Monitoring, and Evaluation Resources 231
Briefing on Afghanistan Reconciliation 231
Briefing on Defense Department Plans for the European Deterrence Initiative 232
Comptroller General Review of Posture to Counter Russian Aggression 233
Implementation of Taiwan's Defense Strategy 233
Insufficiency of the United States Strategy for Syria 234
North Atlantic Treaty Organization Cooperative Cyber Defense Center of Excellence 234
North Atlantic Treaty Organization Strategic Communications Center of Excellence 235
Political Inclusion and the Safe Return of Iraqi Internally Displaced Persons to Their Homes 236

Page

Report on Chinese Efforts Targeting Democratic Elections and U.S. Alliances and Partnerships and Strategy to Counter Chinese Election Interference 236
Report on Effective Security Sector Assistance Tools 237
Report on Russian Efforts Targeting Democratic Elections and U.S. Alliances and Partnerships and Strategy to Counter Russian Election Interference 238
Report on U.S. Central Command's Accounting For and Management of Funds Received from Foreign Partners for Services 239
Report on U.S. Military Activity in Syria 239
Report on U.S. Military Training with the Republic of Korea 239
Report on U.S. Strategy to Respond to Russian Threats in the Black Sea 240
Security Cooperation Programs and Activities 241
Security Cooperation with the Pacific Island Countries 242
LEGISLATIVE PROVISIONS 242
Subtitle A—Assistance and Training 242
Section 1201—Modification of Authority to Build Capacity of Foreign Security Forces 242
Section 1202—Modification and Extension of Cross Servicing Agreements for Loan of Personnel Protection and Personnel Survivability Equipment in Coalition Operations 242
Section 1203—Modification of Quarterly Report on Obligation and Expenditure of Funds for Security Cooperation Programs and Activities 242
Section 1204—Integration of Gender Perspectives and Meaningful Participation by Women in Security Cooperation Authorities 243
Subtitle B—Matters Relating to Afghanistan and Pakistan 243
Section 1211—Extension and Modification of Authority for Reimbursement of Certain Coalition Nations for Support Provided to United States Military Operations 243
Section 1212—Modification and Extension of Afghan Special Immigrant Visa Program 243
Section 1213—Extension of Authority to Transfer Defense Articles and Provide Defense Services to the Military and Security Forces of Afghanistan 243
Section 1214—Extension and Modification of Authority to Acquire Products and Services Produced in Countries along a Major Route of Supply to Afghanistan 243
Section 1215—Authority for Certain Payments to Redress Injury and Loss in Afghanistan, Iraq, Syria, Somalia, Libya, and Yemen 244
Section 1216—Extension of Semiannual Report on Enhancing Security and Stability in Afghanistan 244
Subtitle C—Matters Relating to Syria, Iraq, and Iran 244
Section 1221—Modification of Authority to Provide Assistance to Counter the Islamic State of Iraq and Syria 244
Section 1222—Extension and Modification of Authority to Provide Assistance to the Vetted Syrian Opposition 244
Section 1223—Extension and Modification of Authority to Support Operations and Activities of the Office of Security Cooperation in Iraq ... 244
Section 1224—Prohibition on Provision of Weapons and Other Forms of Support to Certain Organizations 245
Section 1225—Rule of Construction Relating to Use of Military Force Against Iran 245
Section 1226—Sense of Congress on Support for Ministry of Peshmerga Forces of the Kurdistan Region of Iraq 245
Subtitle D—Matters Relating to Russia 245
Section 1231—Prohibition on the Use of Funds to Suspend, Terminate, or Withdraw the United States from the Open Skies Treaty 245
Section 1232—Extension of Limitation on Military Cooperation between the United States and Russia 245
Section 1233—Prohibition on Availability of Funds Relating to Sovereignty of Russia over Crimea 246
Section 1234—Modification and Extension of Ukraine Security Assistance Initiative 246
Section 1235—Report on Treaties Relating to Nuclear Arms Control 246

Page

Section 1236—Sense of Congress on Updating and Modernizing Existing Agreements to Avert Miscalculation between the United States and Russia 247
Section 1237—Sense of Congress on Support for Georgia 247
Section 1238—Sense of Congress on Support for Estonia, Latvia, and Lithuania 247
Subtitle E—Matters Relating to the Indo-Pacific Region 247
Section 1241—Modification of Indo-Pacific Maritime Security Initiative 247
Section 1242—Extension and Modification of Report on Military and Security Developments Involving North Korea 247
Section 1243—Limitation on Use of Funds to Reduce the Total Number of Members of the Armed Forces Serving on Active Duty Who Are Deployed to South Korea 247
Section 1244—Report on Direct, Indirect, and Burden-Sharing Contributions of Japan and South Korea 248
Section 1245—Report on Strategy on the Philippines 248
Section 1246—Modification of Annual Report on Military and Security Developments Involving the People's Republic of China 248
Section 1247—Modification of Annual Report on Military and Security Developments Involving the People's Republic of China 249
Section 1248—Sense of Congress on Taiwan 249
Section 1249—Enhancing Defense Cooperation with Singapore 249
Subtitle F—Matters Relating to Europe and NATO 249
Section 1251—Extension and Modification of NATO Special Operations Headquarters 249
Section 1252—Modification and Extension of Future Years Plan and Planning Transparency for the European Deterrence Initiative 249
Section 1253—Protection of European Deterrence Initiative Funds from Diversion for Other Purposes 250
Section 1254—Statement of Policy on United States Military Investment in Europe 250
Section 1255—Limitation on Transfer of F–35 Aircraft to Turkey 250
Section 1256—Report on Value of Investments in Dual Use Infrastructure Projects by NATO Member States 250
Section 1257—Sense of Congress on Support for Poland 250
Subtitle G—Other Matters 251
Section 1261—Sense of Congress on United States Partners and Allies . 251
Section 1262—Modification to Report on Legal and Policy Frameworks for the Use of Military Force 251
Section 1263—Limitation on Availability of Certain Funds until Report Submitted on Department of Defense Awards and Disciplinary Action as a Result of the 2017 Incident in Niger 251
Section 1264—Independent Assessment of Sufficiency of Resources Available to United States Southern Command and United States Africa Command 251
Section 1265—Rule of Construction Relating to Use of Military Force ... 251
Section 1266—Rule of Construction Relating to Use of Military Force against Venezuela 251
Section 1267—Sense of Congress on Acquisition by Turkey of Patriot System 251
Subtitle H—Baltic Reassurance Act 252
Section 1271—Findings 252
Section 1272—Sense of Congress 252
Section 1273—Defense Assessment 252
Section 1274—Appropriate Congressional Committees Defined 252
TITLE XIII—COOPERATIVE THREAT REDUCTION 252
LEGISLATIVE PROVISIONS 252
Section 1301—Funding Allocations 252
Section 1302—Specification of Cooperative Threat Reduction Funds 252
TITLE XIV—OTHER AUTHORIZATIONS 252
LEGISLATIVE PROVISIONS 252
Subtitle A—Military Programs 252
Section 1401—Working Capital Funds 252
Section 1402—Chemical Agents and Munitions Destruction, Defense 253
Section 1403—Drug Interdiction and Counter-Drug Activities, Defense-Wide 253
Section 1404—Defense Inspector General 253

Page
Section 1405—Defense Health Program 253
Section 1406—National Defense Sealift Fund 253
Subtitle B—Other Matters 253
Section 1411—Authority for Transfer of Funds to Joint Department of Defense-Department of Veterans Affairs Medical Facility Demonstration Fund for Captain James A. Lovell Health Care Center, Illinois 253
Section 1412—Authorization of Appropriations for Armed Forces Retirement Home 253
TITLE XV—AUTHORIZATION OF ADDITIONAL APPROPRIATIONS FOR OVERSEAS CONTINGENCY OPERATIONS 254
ITEMS OF SPECIAL INTEREST 254
National Guard and Reserve Equipment 254
LEGISLATIVE PROVISIONS 254
Subtitle A—Authorization of Appropriations 254
Section 1501—Purpose 254
Section 1502—Procurement 254
Section 1503—Research, Development, Test, and Evaluation 254
Section 1504—Operation and Maintenance 255
Section 1505—Military Personnel 255
Section 1506—Working Capital Funds 255
Section 1507—Drug Interdiction and Counter-Drug Activities, Defense-Wide 255
Section 1508—Defense Inspector General 255
Section 1509—Defense Health Program 255
Subtitle B—Financial Matters 255
Section 1511—Treatment as Additional Authorizations 255
Section 1512—Special Transfer Authority 255
Subtitle C—Other Matters 255
Section 1521—Afghanistan Security Forces Fund 255
TITLE XVI—STRATEGIC PROGRAMS, CYBER, AND INTELLIGENCE MATTERS 256
ITEMS OF SPECIAL INTEREST 256
Space Activities 256
Centers of Innovation for Space Operational Testing 256
Department of Defense Resource-Sharing to Assist with Natural Disasters 256
Efficient Acquisition of Commercial Satellite Communications 257
Global Enhanced Geospatial-Intelligence Delivery 257
Global Positioning System III Satellite Acquisition 258
Improving Resilience of Space Architectures 258
Increasing Resilience by Leveraging Proliferated Constellations in Low Earth Orbit 258
Leveraging Commercial Satellite Remote Sensing 259
Leveraging Reusable Spacecraft 259
National Geospatial-Intelligence Agency Aviation Mapping Capability 260
Next-Generation LEO-Based Satellite Technology 260
Next-Generation Synthetic Aperture Radar 260
North Atlantic Treaty Organization Ally Launch Services 261
Report on Commercial and Space-Based Radio Frequency Mapping 261
Report on Commercial or Non-Commercial Security Launch Sustainability 261
Rocket Systems Launch Program 262
Small Satellite Science, Security Applications, and Evolutionary Concepts 262
Space and Atmospheric Burst Reporting System 262
Telemetry Extension Satellite Communications Relay 263
U.S. Reliance on Foreign In-Space Propulsion Systems 263
Venture Class Launch Services 263
Missile Defense Programs 264
Airborne Tracking and Targeting System 264
Boost-Phase Ballistic Missile Defense Analysis of Alternatives 264
Cybersecurity of Missile Defense Programs 264
Hypersonic Carbon-Carbon Composites 265
Low-Cost Patriot Interceptor 265
Missile Defense Agency Undefinitized Contract Actions 266
Multi-Agency Sensors for Ballistic Missile Defense 266

Page
On-Board Vehicle Power Technology 267
Review of Ground-Based Midcourse Defense Contract Structure 267
Terminal High Altitude Area Defense Future Deployment 268
Nuclear Forces 268
Air Force Global Strike Command Enterprise Analysis Center 268
Climate Change and the Nuclear Enterprise 269
Comptroller General Review of Implications of 2018 Nuclear Posture Review 269
Delayed Life Extension Programs 270
Domestic Production of Large Solid Rocket Motors 271
Managing Risks of Nuclear Escalation 271
Nuclear Arms Control 272
Radiation Exposure Compensation Act 272
Report on Assessing China's "No-First-Use" of Nuclear Weapons Policy 273
Report on the Adequacy of the New START Treaty to Restrain Current Threats 273
Report on the Nuclear-Armed Sea-Launched Cruise Missile 275
Cyber-Related Matters 275
Air Combat Training System and Spectrum Allocation 275
Allied 5G Network Security 275
Briefing on the Integration of Cyber Planning at Unified Combatant Commands 276
Comptroller General Report to Study the Department of Defense's Current Inventory of Internet Protocol Version 4 Addresses 276
Cyber Capability Development, Acquisition, and Sustainment 277
Cybersecurity of Army Space and Missile Defense Assets 277
Cybersecurity of Biosecurity and Pathogen Threat Data 277
Cybersecurity of the Supply Chain 278
Department of Defense Cloud Strategy 279
Department of Defense Cyber Red Team Alternatives 279
Efforts to Leverage Education Programs for the Department of Defense Cyber Workforce 279
Military Cyber Operations and Activities with Allies and Partners 280
Persistent Cyber Training Environment 281
Pilot Program Authority to Enhance Cybersecurity and Resiliency of Critical Infrastructure 281
Report on Information Security and Endpoint Accounting 282
Report on Principal Cyber Advisor Resources and Manning 282
Shared Cybersecurity Services Program for the Department of Defense 283
Support for the Cyber Excepted Service 283
Synchronizing the Department of Defense Emergency Operations Management Systems 284
Utility Resilience Planning to Support Cybersecurity Threats 284
Intelligence Matters 285
Airborne Intelligence, Surveillance, and Reconnaissance Operational Assessment 285
China's Biological Weapons Program 286
Comprehensive Assessment of the Roles, Responsibilities, and Organization of the Office of the Under Secretary of Defense for Intelligence 286
Congressional Intelligence Notifications 287
Current and Future Staffing Requirements of the Joint Intelligence Operations Centers 288
Cyber Intrusions of the Defense Industrial Base and Academic Institutions Affiliated with the Department of Defense 288
Development and Integration of Project Maven Services into Department of Defense Activities 289
Explosive Ordnance Disposal Intelligence 289
Governance of Data and Service Acquisitions Supporting Defense Intelligence Requirements 290
Information-Sharing Arrangements with India, Japan, and the Republic of Korea 291
Intelligence Support to Defense Operations in the Information Environment 291
Investments in Scientific and Technological Intelligence 292
List of Foreign Entities That Pose a Threat to Critical Technologies 292
Maturation of Defense Clandestine Service Capabilities 293

Page

Qualitative Analysis of Adversary Development of Emergent Technologies 293
Reviewing the Integrated Defense Intelligence Priorities 294
Strengthening the Integrity of the Military Intelligence Program 294
Tactical Exploitation of National Capabilities Program 294
Transitioning the Function of Background Investigations to the Department of Defense 295
Unified Air Force Airborne Signals Intelligence Enterprise 295
Other Matters 296
Next Generation Inertial Measurement Unit 296
LEGISLATIVE PROVISIONS 297
Subtitle A—Space Activities 297
Section 1601—National Security Space Launch Program 297
Section 1602—Preparation to Implement Plan for Use of Allied Launch Vehicles 297
Section 1603—Annual Determination on Plan on Full Integration and Exploitation of Overhead Persistent Infrared Capability 297
Section 1604—Space-Based Environmental Monitoring Mission Requirements 297
Section 1605—Prototype Program for Multi-Global Navigation Satellite System Receiver Development 298
Section 1606—Commercial Space Situational Awareness Capabilities 298
Section 1607—Independent Study on Plan for Deterrence in Space 299
Section 1608—Resilient Enterprise Ground Architecture 299
Subtitle B—Defense Intelligence and Intelligence-Related Activities 299
Section 1611—Modifications to ISR Integration Council and Annual Briefing Requirements 299
Section 1612—Survey and Report on Alignment of Intelligence Collections Capabilities and Activities with Department of Defense Requirements 299
Section 1613—Modification of Annual Authorization of Appropriations for National Flagship Language Initiative 300
Subtitle C—Cyberspace-related Matters 300
Section 1621—Notification Requirements for Sensitive Military Cyber Operations 300
Section 1622—Quarterly Cyber Operations Briefings 300
Section 1623—Cyber Posture Review 300
Section 1624—Tier 1 Exercise of Support to Civil Authorities for a Cyber Incident 300
Section 1625—Evaluation of Cyber Vulnerabilities of Major Weapon Systems of the Department of Defense 301
Section 1626—Extension of the Cyberspace Solarium Commission 301
Section 1627—Authority to Use Operation and Maintenance Funds for Cyber Operations-Peculiar Capability Development Projects 302
Section 1628—Notification of Delegation of Authorities to the Secretary of Defense for Military Operations in Cyberspace 302
Section 1629—Limitation of Funding for Consolidated Afloat Networks and Enterprise Services 302
Section 1630—Annual Military Cyberspace Operations Report 302
Section 1631—Report on Synchronization of Efforts Relating to Cybersecurity in the Defense Industrial Base 303
Section 1632—Briefings on the Status of the National Security Agency and United States Cyber Command Partnership 303
Subtitle D—Nuclear Forces 303
Section 1641—Improvement to Annual Report on the Modernization of the Nuclear Weapons Enterprise 303
Section 1642—Briefings on Meetings Held by the Nuclear Weapons Council 304
Section 1643—Elimination of Conventional Requirement for Long-Range Standoff Weapon 304
Section 1644—Extension of Annual Briefing on the Costs of Forward-Deploying Nuclear Weapons in Europe 304
Section 1645—Ten-Year Extension of Prohibition on Availability of Funds for Mobile Variant of Ground-Based Strategic Deterrent Missile 304
Section 1646—Prohibition on Availability of Funds for Deployment of Low-Yield Ballistic Missile Warhead 304

Page

Section 1647—Report on Military-to-Military Dialogue to Reduce the Risk of Miscalculation Leading to Nuclear War 304
Section 1648—Plan on Nuclear Command, Control, and Communications Systems 305
Section 1649—Independent Study on Policy of No-First-Use of Nuclear Weapons 305
Section 1650—Independent Study on Risks of Nuclear Terrorism and Nuclear War 305
Subtitle E—Missile Defense Programs 305
Section 1661—National Missile Defense Policy 305
Section 1662—Development of Hypersonic and Ballistic Missile Tracking Space Sensor Payload 305
Section 1663—Requirement for Testing of Redesigned Kill Vehicle Prior to Production 306
Section 1664—Development of Space-Based Ballistic Missile Intercept Layer 306
Section 1665—Organization, Authorities, and Billets of the Missile Defense Agency 306
Section 1666—Missile Defense Interceptor Site in Contiguous United States 306
Section 1667—Missile Defense Radar in Hawaii 306
Section 1668—Limitation on Availability of Funds for Lower Tier Air and Missile Sensor 306
Section 1669—Command and Control, Battle Management, and Communications Program 307
Section 1670—Annual Assessment of Ballistic Missile Defense System . 307
Subtitle F—Other Matters 307
Section 1681—Modification to Reports on Certain Solid Rocket Motors . 307
Section 1682—Repeal of Review Requirement for Ammonium Perchlorate Report 307
Section 1683—Repeal of Requirement for Commission on Electromagnetic Pulse Attacks and Similar Events 307
Section 1684—Conventional Prompt Global Strike Weapon System 307
DIVISION B—MILITARY CONSTRUCTION AUTHORIZATIONS 308
PURPOSE 308
MILITARY CONSTRUCTION AND FAMILY HOUSING OVERVIEW .. 308
Section 2001—Short Title 308
Section 2002—Expiration of Authorizations and Amounts Required to Be Specified by Law 308
Section 2003—Effective Date 309
TITLE XXI—ARMY MILITARY CONSTRUCTION 309
SUMMARY 309
ITEMS OF SPECIAL INTEREST 309
Explanation of Funding Adjustments 309
Army Test and Demonstration Program 310
LEGISLATIVE PROVISIONS 311
Section 2101—Authorized Army Construction and Land Acquisition Projects 311
Section 2102—Family Housing 311
Section 2103—Authorization of Appropriations, Army 311
Section 2104—Modification of Authority to Carry Out Certain Fiscal Year 2019 Projects 311
TITLE XXII—NAVY MILITARY CONSTRUCTION 311
SUMMARY 311
ITEMS OF SPECIAL INTEREST 311
Explanation of Funding Adjustments 311
Naval Public Shipyards 314
LEGISLATIVE PROVISIONS 315
Section 2201—Authorized Navy Construction and Land Acquisition Projects 315
Section 2202—Family Housing 315
Section 2203—Improvements to Military Family Housing Units 315
Section 2204—Authorization of Appropriations, Navy 315
Section 2205—Modification of Authority to Carry Out Certain Fiscal Year 2017 Project 315
TITLE XXIII—AIR FORCE MILITARY CONSTRUCTION 315
SUMMARY 315

Page
ITEMS OF SPECIAL INTEREST 316
Explanation of Funding Adjustments 316
Airspace at the Utah Test and Training Range 318
Long-Term Modernization of Lincoln Laboratory 318
Tyndall Air Force Base Recovery 319
LEGISLATIVE PROVISIONS 319
Section 2301—Authorized Air Force Construction and Land Acquisition Projects 319
Section 2302—Family Housing 320
Section 2303—Improvements to Military Family Housing Units 320
Section 2304—Authorization of Appropriations, Air Force 320
Section 2305—Modification of Authorities to Carry Out Phased Joint Intelligence Analysis Complex Consolidation 320
Section 2306—Modification of Authority to Carry Out Certain Fiscal Year 2016 Project 320
Section 2307—Modification of Authority to Carry Out Certain Fiscal Year 2017 Project 320
Section 2308—Modification of Authority to Carry Out Certain Fiscal Year 2018 Projects 320
Section 2309—Modification of Authority to Carry Out Certain Fiscal Year 2019 Projects 321
TITLE XXIV—DEFENSE AGENCIES MILITARY CONSTRUCTION 321
SUMMARY 321
ITEMS OF SPECIAL INTEREST 321
Explanation of Funding Adjustments 321
LEGISLATIVE PROVISIONS 323
Section 2401—Authorized Defense Agencies Construction and Land Acquisition Projects 323
Section 2402—Authorized Energy Resiliency and Energy Conservation Projects 323
Section 2403—Authorization of Appropriations, Defense Agencies 323
TITLE XXV—INTERNATIONAL PROGRAMS 323
SUMMARY 323
LEGISLATIVE PROVISIONS 323
Subtitle A—North Atlantic Treaty Organization Security Investment Program 323
Section 2501—Authorized NATO Construction and Land Acquisition Projects 323
Section 2502—Authorization of Appropriations, NATO 323
Subtitle B—Host Country In-Kind Contributions 323
Section 2511—Republic of Korea Funded Construction Projects 323
TITLE XXVI—GUARD AND RESERVE FORCES FACILITIES 324
SUMMARY 324
ITEMS OF SPECIAL INTEREST 324
Explanation of Funding Adjustments 324
LEGISLATIVE PROVISIONS 325
Section 2601—Authorized Army National Guard Construction and Land Acquisition Projects 325
Section 2602—Authorized Army Reserve Construction and Land Acquisition Projects 325
Section 2603—Authorized Navy Reserve and Marine Corps Reserve Construction and Land Acquisition Projects 325
Section 2604—Authorized Air National Guard Construction and Land Acquisition Projects 325
Section 2605—Authorized Air Force Reserve Construction and Land Acquisition Projects 325
Section 2606—Authorization of Appropriations, National Guard and Reserve 325
TITLE XXVII—BASE REALIGNMENT AND CLOSURE ACTIVITIES 326
SUMMARY 326
ITEMS OF SPECIAL INTEREST 326
Explanation of Funding Adjustments 326
LEGISLATIVE PROVISIONS 326
Section 2701—Authorization of Appropriations for Base Realignment and Closure Activities Funded through Department of Defense Base Closure Account 326
TITLE XXVIII—MILITARY CONSTRUCTION GENERAL PROVISIONS 326

Page

ITEMS OF SPECIAL INTEREST 326
Child Play Areas at Exceptional Family Member Program Installations 326
Defense Access Road Projects 327
Department of Defense Consultations with Native Hawaiians 327
Feasibility of Transitioning from 100-Year Floodplain to Sea-Level Rise Modeling at Coastal Installations as a Planning Assumption for Military Construction Projects 328
Mold Assessment, Mitigation, and Remediation Efforts in Military Housing Report 328
Report on Integration of Information Regarding Environmental Health Hazards into Defense Occupational and Environmental Health Readiness System 328
Soo Locks, Sault Ste. Marie, Michigan 329
Status of the Utilities Privatization Program 329
U.S. Air Force Strategic Basing Process 330
LEGISLATIVE PROVISIONS 330
Subtitle A—Military Construction Program Changes 330
Section 2801—Prohibition on Use of Military Construction Funds for Construction of a Wall, Fence, or Other Physical Barrier along the Southern Border of the United States 330
Section 2802—Modification and Clarification of Construction Authority in the Event of a Declaration of War or National Emergency 330
Section 2803—Inclusion of Information regarding Military Installation Resilience in Master Plans for Major Military Installations 330
Section 2804—Improved Consultation with Tribal Governments when Proposed Military Construction Projects Potentially Impact Indian Tribes 331
Section 2805—Amendment of Unified Facilities Criteria to Promote Military Installation Resilience, Energy Resilience, Energy and Climate Resiliency, and Cyber Resilience 331
Section 2806—Modification to Department of Defense Form 1391 regarding Consideration of Potential Long-Term Adverse Environmental Effects 331
Subtitle B—Military Family Housing Reforms 331
Section 2811—Enhanced Protections for Members of the Armed Forces and Their Dependents Residing in Privatized Military Housing Units 331
Section 2812—Prohibition on Use of Nondisclosure Agreements in Connection with Leases of Military Housing Constructed or Acquired Using Alternative Authority for Acquisition and Improvement of Military Housing 332
Section 2813—Authority to Furnish Certain Services in Connection with Use of Alternative Authority for Acquisition and Improvement of Military Housing 332
Section 2814—Modification to Requirements for Window Fall Prevention Devices in Military Family Housing Units 332
Section 2815—Assessment of Hazards in Department of Defense Housing 332
Section 2816—Development of Process to Identify and Address Environmental Health Hazards in Department of Defense Housing 332
Section 2817—Report on Civilian Personnel Shortages for Appropriate Oversight of Management of Military Housing Constructed or Acquired Using Alternative Authority for Acquisition and Improvement of Military Housing 333
Section 2818— Inspector General Review of Department of Defense Oversight of Privatized Military Housing 333
Section 2819—Department of Defense Inspection Authority regarding Privatized Military Housing 333
Section 2820—Improvement of Privatized Military Housing 334
Subtitle C—Real Property and Facilities Administration 334
Section 2831—Improved Energy Security for Main Operating Bases in Europe 334
Section 2832—Access to Department of Defense Facilities for Credentialed Transportation Workers 334
Subtitle D—Land Conveyances 334
Section 2841—Land Conveyance, Hill Air Force Base, Utah 334

Page

Section 2842—Release of Conditions and Reversionary Interest, Camp Joseph T. Robinson, Arkansas 334
Section 2843—Modification of Authorized Uses of Certain Property Conveyed by the United States in Los Angeles, California 334
Subtitle E—Military Land Withdrawals 334
Section 2851—Public Notice regarding Upcoming Periods of Secretary of the Navy Management of Shared Use Area of the Johnson Valley Off-Highway Vehicle Recreation Area 334
Subtitle F—White Sands National Park and White Sands Missile Range . 335
Section 2861—Short Title 335
Section 2862—Definitions 335
Section 2863—Findings 335
Section 2864—Establishment of White Sands National Park in the State of New Mexico 335
Section 2865—Transfers of Administrative Jurisdiction Related to the National Park and White Sands Missile Range 335
Section 2866—Boundary Modifications Related to the National Park and Missile Range 335
Subtitle G—Other Matters 335
Section 2871—Installation and Maintenance of Fire Extinguishers in Department of Defense Facilities 335
Section 2872—Definition of Community Infrastructure for Purposes of Military Base Reuse Studies and Community Planning Assistance 335
Section 2873—Report on Vulnerabilities from Sea Level Rise to Certain Military Installations Located Outside the Continental United States 336
Section 2874—Black Start Exercises at Joint Bases 336
TITLE XXIX—OVERSEAS CONTINGENCY OPERATIONS MILITARY CONSTRUCTION 336
SUMMARY 336
ITEMS OF SPECIAL INTEREST 336
Explanation of Funding Adjustments 336
LEGISLATIVE PROVISIONS 337
Section 2901—Authorized Army Construction and Land Acquisition Projects 337
Section 2902—Authorized Navy Construction and Land Acquisition Projects 338
Section 2903—Authorized Air Force Construction and Land Acquisition Projects 338
Section 2904—Authorized Defense Agencies Construction and Land Acquisition Projects 338
Section 2905—Authorization of Appropriations 338
TITLE XXX—AUTHORIZATION OF EMERGENCY MILITARY CONSTRUCTION 338
LEGISLATIVE PROVISIONS 338
Section 3001—Authorization of Emergency Navy Construction and Land Acquisition Projects 338
Section 3002—Authorization of Emergency Air Force Construction and Land Acquisition Projects 339
Section 3003—Authorization of Emergency Army National Guard and Army Reserve Construction and Land Acquisition Projects 339
DIVISION C—DEPARTMENT OF ENERGY NATIONAL SECURITY AUTHORIZATIONS AND OTHER AUTHORIZATIONS 339
TITLE XXXI—DEPARTMENT OF ENERGY NATIONAL SECURITY PROGRAMS 339
ITEMS OF SPECIAL INTEREST 000339
National Nuclear Security Administration 339
Weapons Activities 339
Nuclear warhead life extension program briefings 339
Report on unobligated enriched uranium and domestic uranium requirements 339
Reports of sexual assault in the protective force 340
Risks and sustainment plan for Plutonium Facility at Los Alamos National Laboratory 341
Stockpile Stewardship 2.0 341
Defense Nuclear Nonproliferation 342
Excess Plutonium Disposition 342
Nuclear Verification Plan 342

Page
Naval Reactors ... 343
Low-Enriched Uranium Fuel for Naval Reactors ... 343
Environmental and Other Defense Activities ... 344
Defense Environmental Cleanup ... 344
Savannah River Advanced Manufacturing Collaborative ... 344
LEGISLATIVE PROVISIONS ... 344
Subtitle A—National Security Programs and Authorizations ... 344
Section 3101—National Nuclear Security Administration ... 344
Section 3102—Defense Environmental Cleanup ... 344
Section 3103—Other Defense Activities ... 344
Section 3104—Nuclear Energy ... 344
Subtitle B—Program Authorizations, Restrictions, Limitations, and Other Matters ... 345
Section 3111—Personnel Levels of the Office of the Administrator for Nuclear Security ... 345
Section 3112—Office of Cost Estimating and Program Evaluation ... 345
Section 3113—Clarification of Certain Stockpile Responsiveness Program Objectives ... 345
Section 3114—Modification to Plutonium Pit Production Capacity ... 345
Section 3115—Annual Certification of Shipments to Waste Isolation Pilot Plant ... 345
Section 3116—Repeal of Limitation on Availability of Funds for Acceleration of Nuclear Weapons Dismantlement ... 345
Section 3117—Elimination of Limitation on Availability of Funds Relating to Submission of Annual Report on Unfunded Priorities ... 345
Section 3118—Program for Research and Development of Advanced Naval Nuclear Fuel System Based on Low-Enriched Uranium ... 346
Section 3119—Replacement of W78 Warhead ... 346
Section 3120—National Laboratory Jobs Access Program ... 346
TITLE XXXII—DEFENSE NUCLEAR FACILITIES SAFETY BOARD ... 346
LEGISLATIVE PROVISIONS ... 346
Section 3201—Authorization ... 346
Section 3202—Improvements to the Defense Nuclear Facilities Safety Board ... 346
TITLE XXXIV—NAVAL PETROLEUM RESERVES ... 346
LEGISLATIVE PROVISIONS ... 346
Section 3401—Authorization of Appropriations ... 346
TITLE XXXV—MARITIME MATTERS ... 346
ITEMS OF SPECIAL INTEREST ... 347
Reducing Reliance on Foreign Flagged Vessels ... 347
LEGISLATIVE PROVISIONS ... 347
Subtitle A—Maritime Administration ... 347
Section 3501—Authorization of the Maritime Administration ... 347
Section 3502—Reauthorization of Maritime Security Program ... 347
Section 3503—Maritime Occupational Safety and Health Advisory Committee ... 347
Subtitle B—Tanker Security Fleet ... 347
Section 3511—Tanker Security Fleet ... 347
DIVISION D—FUNDING TABLES ... 348
Section 4001—Authorization of Amounts in Funding Tables ... 348
Summary of National Defense Authorizations for Fiscal Year 2020 ... 349
National Defense Budget Authority Implication ... 355
TITLE XLI—PROCUREMENT ... 357
Section 4101—Procurement ... 357
Section 4102—Procurement for Overseas Contingency Operations ... 404
TITLE XLII—RESEARCH, DEVELOPMENT, TEST, AND EVALUATION ... 416
Section 4201—Research, Development, Test, and Evaluation ... 416
Section 4202—Research, Development, Test, and Evaluation for Overseas Contingency Operations ... 459
TITLE XLIII—OPERATION AND MAINTENANCE ... 463
Section 4301—Operation and Maintenance ... 463
Section 4302—Operation and Maintenance for Overseas Contingency Operations ... 485
TITLE XLIV—MILITARY PERSONNEL ... 496
Section 4401—Military Personnel ... 496
Section 4402—Military Personnel for Overseas Contingency Operations ... 497

Page

TITLE XLV—OTHER AUTHORIZATIONS 498
Section 4501—Other Authorizations 498
Section 4502—Other Authorizations for Overseas Contingency Operations 502
TITLE XLVI—MILITARY CONSTRUCTION 503
Section 4601—Military Construction 503
Section 4602—Military Construction for Overseas Contingency Operations 513
TITLE XLVII—DEPARTMENT OF ENERGY NATIONAL SECURITY PROGRAMS 515
Section 4701—Department of Energy National Security Programs 515

Department of Defense Authorization Request 528
Communications from Other Committees 531
Congressional Budget Office Estimate 547
Statement Required by the Congressional Budget Act 549
Committee Cost Estimate 550
Advisory of Earmarks 550
Oversight Findings 550
General Performance Goals and Objectives 550
Statement of Federal Mandates 551
Federal Advisory Committee Statement 551
Applicability to the Legislative Branch 551
Duplication of Federal Programs 551
Committee Votes 551
Changes in Existing Law Made by the Bill, as Reported 578
Additional Views 579
Dissenting Views 581

116TH CONGRESS
1st Session

HOUSE OF REPRESENTATIVES

REPORT
116–120

NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2020

JUNE 19, 2019.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

Mr. SMITH of Washington, from the Committee on Armed Services, submitted the following

R E P O R T

together with

ADDITIONAL AND DISSENTING VIEWS

[To accompany H.R. 2500]

[Including cost estimate of the Congressional Budget Office]

The Committee on Armed Services, to whom was referred the bill (H.R. 2500) to authorize appropriations for fiscal year 2020 for military activities of the Department of Defense and for military construction, to prescribe military personnel strengths for such fiscal year, and for other purposes, having considered the same, reports favorably thereon with amendments and recommends that the bill as amended do pass.

The amendments are as follows:

The amendment strikes all after the enacting clause of the bill and inserts a new text which appears in italic type in the reported bill.

The title of the bill is amended to reflect the amendment to the text of the bill.

PURPOSE OF THE LEGISLATION

The bill would: (1) authorize appropriations for fiscal year 2020 for procurement and for research, development, test, and evaluation (RDT&E); (2) authorize appropriations for fiscal year 2020 for operation and maintenance (O&M) and for working capital funds; (3) authorize for fiscal year 2020 the personnel strength for each Active Duty component of the military departments, and the per-

36–763

sonnel strength for the Selected Reserve for each Reserve Component of the Armed Forces; (4) modify various elements of compensation for military personnel and impose certain requirements and limitations on personnel actions in the defense establishment; (5) authorize appropriations for fiscal year 2020 for military construction and family housing; (6) authorize appropriations for Overseas Contingency Operations; (7) authorize appropriations for fiscal year 2020 for the Department of Energy national security programs; and (8) authorize appropriations for fiscal year 2020 for the Maritime Administration.

RATIONALE FOR THE COMMITTEE BILL

H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020, is the primary vehicle through which Congress fulfills its responsibility as mandated in Article I, Section 8, of the Constitution of the United States, which grants Congress the power to provide for the common defense, to raise and support an Army, to provide and maintain a Navy, and to make rules for the government and regulation of the land and naval forces. Rule X of the House of Representatives provides the House Committee on Armed Services with jurisdiction over the Department of Defense generally and over the military application of nuclear energy. The committee bill includes findings and recommendations resulting from its oversight activities, conducted through hearings and briefings with Department of Defense and Department of Energy civilian and military officials, intelligence analysts, outside experts, and industry representatives, and it is informed by institutional experience. H.R. 2500 provides the Department of Defense and the Department of Energy with important policy authorities to speed decision making and improve agility, while improving readiness and increasing capabilities and capacities.

H.R. 2500 addresses our country's greatest military threats by authorizing a defense enterprise that is inclusive, accountable, and responsible in the management of its resources. H.R. 2500 focuses on improving the lives of our men and women in uniform, including implementing reforms to improve the quality of military housing and addressing contamination from perfluorinated chemicals in drinking water on or near military bases. The committee believes our service members confront unique, complex challenges and deserve our support.

The committee further believes that a challenging global security environment requires new ways to more affordably manage strategic risk by prioritizing the relevant military capabilities and capacities necessary to meet our greatest threats, adequately resource those priorities by accepting some risk with well-considered and agreed upon tradeoffs, and, at the same time, realize cost savings through oversight and control of unjustified costs. H.R. 2500 ensures America's military maintains its competitive edge on the global stage by executing crucial oversight focused on not only defense programs themselves, but also on how those programs are budgeted against a prioritized strategy, rather than arbitrary budgetary goals.

H.R. 2500 increases accountability over how defense resources are allocated and spent. Funding allocated for defense programs should be spent on defense programs. Building and modernizing

military capabilities and overall military readiness without diverting fiscal support away from congressionally authorized and appropriated projects, and critical training and maintenance functions.

H.R. 2500 meets the committee's goal of facilitating a strong national defense apparatus that is resourced properly, accountable for its actions, and cognizant of the essential and direct oversight role of Congress. H.R. 2500 is consistent with the overall national defense spending level of $733 billion projected in the fiscal year 2019 Future Years Defense Program, and therefore would authorize approximately $724.9 billion in discretionary spending for the national defense programs within the committee's jurisdiction, including approximately $69.0 billion of Overseas Contingency Operations funding. This authorization level allows our military to improve readiness, expand capabilities, and invest in the new software and technologies required to secure our country and protect us against our adversaries.

HEARINGS

For the purposes of section 103(i) of H.Res. 6 of the 116th Congress—

(1) the following hearings were used to develop or consider H.R. 2500:

The committee held a hearing "National Security Challenges and U.S. Military Activities in the Greater Middle East and Africa" on March 7, 2019. The committee received testimony from General Joseph Votel, Commander of U.S. Central Command, General Thomas Waldhauser, Commander of U.S. Africa Command, and Ms. Kathyrn Wheelbarger, Acting Assistant Secretary of Defense for International Security Affairs.

The committee held a hearing "National Security Challenges and U.S. Military Activities in Europe" on March 13, 2019. The committee received testimony from General Curtis M. Scaparrotti, Commander of U.S. European Command and Ms. Kathryn Wheelbarger, Acting Assistant Secretary of Defense for International Security Affairs.

The committee held a hearing "The Fiscal Year 2020 National Defense Authorization Budget Request from the Department of Defense" on March 26, 2019. The committee received testimony from the Honorable Patrick Shanahan, Acting Secretary of Defense and General Joseph Dunford, Chairman of the Joint Chiefs of Staff.

The committee held a hearing "National Security Challenges and U.S. Military Activities in the Indo-Pacific" on March 27, 2019. The committee received testimony from Admiral Phillip Davidson, Commander of U.S. Indo-Pacific Command, General Robert Abrams, Commander of U.S. Forces Korea, and the Honorable Randall Schriver, Assistant Secretary of Defense for Indo-Pacific Security Affairs.

The committee held a hearing "The Fiscal Year 2020 National Defense Authorization Budget Request for the Department of Army and the Department of the Air Force" on April 2, 2019. The committee received testimony from the Honorable Mark Esper, Secretary of the Army, the Honorable Heather Wilson, Secretary of the Air Force, General Mark Milley, Chief of Staff of the Army, and General David Goldfein, Chief of Staff of the Air Force.

The committee held a hearing "Member Day" on April 3, 2019. The committee received testimony from Members of Congress on their priorities for the National Defense Authorization Act for Fiscal Year 2020.

The committee held a hearing "The Fiscal Year 2020 National Defense Authorization Budget Request for the Department of Navy" on April 10, 2019. The committee received testimony from the Honorable Richard Spencer, Secretary of the Navy, Admiral John Richardson, Chief of Naval Operations, and General Robert Neller, Commandant of the Marine Corps.

The committee held a hearing "National Security Challenges and U.S. Military Activity in North and South America" on May 1, 2019. The committee received testimony from Admiral Craig Faller, Commander of U.S. Southern Command, General Terrence O'Shaughnessy, Commander of U.S. Northern Command, the Honorable Kenneth Rapuano, Assistant Secretary of Defense for Homeland Defense and Global Security, and Ms. Kathryn Wheelbarger, Acting Assistant Secretary of Defense for International Security Affairs

In addition, the six subcommittees of the committee conducted 15 hearings and 6 markups to develop and consider H.R. 2500.

COMMITTEE POSITION

On June 12, 2019, the Committee on Armed Services held a markup session to consider H.R. 2500. The committee ordered the bill H.R. 2500, as amended, favorably reported to the House of Representatives by a recorded vote of 33–24, a quorum being present.

EXPLANATION OF THE COMMITTEE AMENDMENTS

The committee adopted an amendment in the nature of a substitute during the consideration of H.R. 2500. The title of the bill is amended to reflect the amendment to the text of the bill. The remainder of the report discusses the bill, as amended.

RELATIONSHIP OF AUTHORIZATION TO APPROPRIATIONS

The bill does not provide budget authority. This bill authorizes appropriations; subsequent appropriations acts will provide budget authority. However, the committee strives to adhere to the recommendations as issued by the Committee on the Budget as it relates to the jurisdiction of this committee.

The bill addresses the following categories in the Department of Defense budget: procurement; research, development, test, and evaluation; operation and maintenance; military personnel; working capital funds; and military construction and family housing. The bill also addresses the Armed Forces Retirement Home, Department of Energy National Security Programs, the Naval Petroleum Reserve, and the Maritime Administration.

Active Duty and Reserve personnel strengths authorized in this bill and legislation affecting compensation for military personnel determine the remaining appropriation requirements of the Department of Defense. However, this bill does not provide authorization of specific dollar amounts for military personnel.

SUMMARY OF DISCRETIONARY AUTHORIZATIONS IN THE BILL

The President requested discretionary budget authority of $741.9 billion for programs within the jurisdiction of the committee for fiscal year 2020. Of this amount, $642.5 billion was requested for "base" Department of Defense programs, $66.7 billion was requested for Overseas Contingency Operations requirements covering the entire fiscal year, $23.2 billion was requested for Department of Energy national security programs and the Defense Nuclear Facilities Safety Board, and $0.3 billion was requested for defense-related activities associated with the Maritime Administration.

The committee recommends an overall discretionary authorization of $724.9 billion in fiscal year 2020. The committee authorization is a $16.8 billion increase above the levels provided for in the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232).

The table preceding the detailed program adjustments in division D of this report summarizes the committee's recommended discretionary authorizations by appropriation account for fiscal year 2020 and compares these amounts to the President's request.

BUDGET AUTHORITY IMPLICATION

The President's total request for the national defense budget function (050) in fiscal year 2020 is $750.0 billion, as estimated by the Congressional Budget Office. In addition to funding for programs addressed in this bill, the total 050 request includes discretionary funding for national defense programs not in the committee's jurisdiction, discretionary funding for programs that do not require additional authorization in fiscal year 2020, and mandatory programs.

The table preceding the detailed program adjustments in division D of this report details changes to the budget request for all aspects of the national defense budget function.

DIVISION A—DEPARTMENT OF DEFENSE AUTHORIZATIONS

TITLE I—PROCUREMENT

AIRCRAFT PROCUREMENT, ARMY

Items of Special Interest

CH–47F Chinook Block II

The budget request contained $18.2 million in advanced procurement for the CH–47F Block II program. The CH–47F Block II program is designed to upgrade the current CH–47F Block I heavy-lift rotorcraft to improve readiness and commonality, extend the useful life of the Block I version, and restore additional payload capacity for the airframe. The committee understands the budget request fully funds the completion of the engineering and manufacturing development (EMD) phase of the Block II program, and that subject to successful completion of the EMD phase, the Army plans to

conduct a Milestone C low-rate production decision beginning in fiscal year 2021. However, the committee notes the current Future Years Defense Program (FYDP) provides no follow-on procurement funding for the CH–47 Block II program. Further, the committee notes that the formal analysis of alternatives for the CH–47 Block II indicated the Army must begin to remanufacture or recapitalize CH–47 Block I rotorcraft between fiscal years 2024 and 2028 and sustain full-rate production of 12 aircraft per year by fiscal year 2030 in order to maintain fleet readiness. Given the lack of programmed funding in the FYDP for CH–47 Block II production, the committee is concerned about potential impacts this could have on the heavy-lift rotorcraft industrial base, as well as the effects this could have on the Army's long-term plans to maintain fleet readiness beyond the FYDP.

Therefore, the committee recommends $46.2 million, an increase of $28.0 million, in CH–47 Helicopter advanced procurement for the CH–47F Block II aircraft.

Further, the committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services by September 2, 2019, on the potential readiness impacts to the current CH–47F fleet should Block II production be delayed post-FYDP, a cost-benefit analysis comparing CH–47 Block II upgrade program to CH–47F remanufacture and recapitalization efforts, the impacts to current MH–47G aircraft production given the delay of Block II production, analysis used to assess the strategic risk to the industrial base including the supplier base, and the current strategy for modernizing the heavy-lift rotorcraft fleet.

UH–72A Light Utility Helicopter

The committee understands the UH–72A Lakota helicopter provides general aviation support for aviation units in the Active and Reserve Components. The committee supports the requirement to conduct mid-life sustainment and product improvement activities for the UH–72A, and supports funding to conduct the analysis, engineering, certification, and risk reduction activities necessary to update the UH–72A Life Cycle Support Plan. The committee also recognizes that the UH–72A was initially fielded without aircraft survivability equipment, which could potentially limit the Active Component and Army National Guard utilization of the UH–72A platform. As reflected in division D of this Act, the committee recommends additional funding for the National Guard and Reserve Component Equipment Account (NGREA). The committee understands that while no requirements have been formally identified for UH–72A Lakota ballistic armor or aircraft survivability equipment by the National Guard Bureau, should a requirement be put forth, the committee expects the Army National Guard to utilize NGREA funds.

The committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services by February 1, 2020, on the Army's long-term sustainment strategy for the UH–72A Lakota helicopter fleet.

MISSILE PROCUREMENT, ARMY

Items of Special Interest

Indirect Fire Protection Capability Increment 2 system of systems

The committee understands that the Indirect Fire Protection Capability Increment 2 system of systems (IFPC Inc 2) is a mobile, ground-based weapon system intended to defend fixed and semi-fixed sites and address numerous capability gaps for cruise missile defense (CMD), counter-unmanned aerial systems (C–UAS), and counter-rocket, artillery, and mortar (C–RAM). The committee notes that since March 2018, the Army has evaluated existing air defense systems in order to rapidly acquire and field an interim capability while concurrently evaluating solutions for an enduring IFPC Inc 2 system to meet the full spectrum of requirements and threats. The committee understands that based on the Army's analysis of cost, schedule, and performance, as well as the fielding requirements for an interim CMD capability required by section 112 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232), the Army will field two interim IFPC batteries of Iron Dome in fiscal year 2020, while concurrently developing and evaluating a complete system solution—radar, launcher, and interceptor—for an enduring IFPC capability.

The committee supports the Army's IFPC system acquisition strategy, including the immediate procurement of two Iron Dome batteries to meet the statutory schedule requirements for an interim capability, however, the committee requires additional fidelity into the acquisition strategy and plan for the enduring IFPC requirement. Accordingly, the committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services by November 1, 2019, on the progress of fielding an Iron Dome interim IFPC system for CMD, as well as an update on the status of development of an enduring capability for IFPC Inc 2 to include the acquisition strategy for the enduring requirement with the associated funding profiles required to remain in compliance with section 112 of the National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232).

M240 medium machine gun industrial base

The committee remains concerned with the stability of the M240 medium machine gun small arms industrial base. The budget request included $0.9 million for M240 production, however no additional funds are projected in the Future Years Defense Program (FYDP). The committee understands that this lack of funding beyond 2020 may result in a shutdown of the M240 production line, resulting in a significant negative impact on the U.S. small arms industrial base. The committee encourages the Army to develop and implement a long-term investment and sustainment plan for the family of M240 medium machine guns that ensures appropriate support for fielded weapons and mitigates risk to the small arms industrial base. As a part of this investment and sustainment plan, the committee encourages the Army to establish a recapitalization program, wherein legacy M240B models would be replaced by the modern, lighter-weight, and more reliable M240L model.

TOW 2B missile system

The committee is aware that the Army is developing the next version of its TOW 2B tactical missile system that will serve as the primary anti-armor weapon for the Optionally Manned Fighting Vehicle (OMFV) program. The committee also understands that the Army wants to accelerate development and fielding of the OMFV, but it is not clear that the development and fielding schedule for the new TOW 2B missile is aligned with the schedule for OMFV.

Accordingly, the committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services by February 3, 2020, on the current plans for development and fielding of the TOW 2B missile, including how the Army will synchronize the availability of a new TOW 2B missile with fielding of the OMFV.

PROCUREMENT OF WEAPONS AND TRACKED COMBAT VEHICLES, ARMY

Items of Special Interest

Vehicle active protection systems

The committee understands the Army is working quickly to procure and field non-developmental item (NDI) vehicle active protection systems (V–APS) for combat and tactical vehicles to address immediate operational needs. The committee notes for example the Army will procure equipment sets of Trophy APS for installation on the M1 Abrams tanks of four armored brigades, including a brigade set for U.S. European Command's prepositioned stocks. While the committee supports the Army's NDI V–APS efforts and is encouraged by the successful testing, integration, and operational effectiveness of Trophy on Abrams tanks, the committee is concerned that the Army has no strategy to develop or acquire training devices related to Trophy or other V–APS systems under consideration for the Bradley and Stryker armored vehicles.

The committee also understands the Army is concurrently developing an objective, long-term V–APS solution that would field an open architecture compliant V–APS system with other vehicle protection capabilities, and that current NDI V–APS systems, such as Trophy, are potential candidates for further development and integration. The committee expects the Army to benefit from the data collected during this expedited NDI V–APS effort to better inform their long-term strategy as well as look for ways to accelerate development and procurement. Additionally, the Committee needs to better understand if the Army is considering "hybrid" solutions that would include fielding an advanced APS, that would work in concert with passive protection technologies, such as improved armor, to deliver substantial survivability enhancements.

Accordingly, the committee directs the Assistant Secretary of the Army for Acquisition, Logistics, and Technology to provide a briefing to the House Committee on Armed Services not later than November 29, 2019, on the requirements and acquisition strategy for both near-term and long-term V–APS efforts, including technology, schedule, and funding profiles associated with development and acquisition of training devices for the various V–APS being developed, installed, or planned for installation on combat and tactical

vehicles. The briefing should also include courses of action for accelerating the development of the objective V–APS long-term solution and options for expanding the fielding of NDI APS solutions to additional current or future combat vehicles, a detailed summary of recent Stryker APS testing to date, and an analysis of the relative merits of hybrid protection technologies.

PROCUREMENT OF AMMUNITION, ARMY

Items of Special Interest

Army vertical lift munitions

The committee expects that the Army's future vertical lift systems will be equipped to operate successfully against peer and near-peer adversaries. Such systems will need new weapon capabilities and munitions that can effectively engage adversary targets from standoff ranges that are beyond line-of-sight or over-the-horizon. To be successful, these munitions must operate despite adversary technologies for jamming, spoofing, and GPS denial.

Therefore, the committee directs the Secretary of the Army to submit a report to the Committees on Armed Services of the Senate and the House of Representatives by February 1, 2020, on Army vertical lift munition range and operating environment capabilities gaps, if any, and potential developmental and off-the-shelf solutions associated with those gaps. The report shall include the following:

(1) an identification and assessment of current U.S. vertical lift munition capabilities and capabilities gaps, if any, against near-peer adversaries;

(2) an identification and assessment of U.S. and allied off-the-shelf and developmental solutions to meet these capability gaps, if any, including munitions that the United States has tested or will test;

(3) an identification and assessment of any completed or planned testing of developmental munitions in calendar years 2019 and 2020, including: an assessment of the effectiveness and suitability of the tested munitions; an assessment of whether the tested munitions could replace, supplement, or duplicate current capabilities; a comparison of the tested munitions capabilities to relevant currently fielded munitions; and plans, if any, to do a near-term fielding or operational evaluation of the tested munitions; and

(4) an estimate of the cost and schedule for the Army to develop and produce new capabilities, and acquire and field as an interim solution any existing capabilities that have been tested and would provide an acceptable solution for capability gaps.

M58 Mine Clearing Line Charge

The committee encourages the Army to accelerate modifications and upgrades to the M58 Mine Clearing Line Charge (MICLIC) system. The committee notes the current fielded MCLIC system has been operational since the 1970s and continues to be employed by the Army and Marine Corps. Furthermore, according to the report submitted to the committee by the Army, as required in the committee report accompanying the National Defense Authorization Act for Fiscal Year 2019 (H. Rept. 115–676), the MICLIC's system operational readiness rate is 73 percent, which is below the re-

quirement of 78 percent. The committee also notes that employment success rates are only 50 percent based on data from units rotating through Combat Training Centers. The committee notes with concern that the MICLIC has not seen any significant upgrade in capability since its introduction, and does not meet the mission readiness and employment requirements.

The committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services by November 1, 2019, on the Army's plan for upgrading or replacing the M58 MICLIC system. The briefing should include:

(1) the updated capability requirements for a solution that addresses the readiness and reliability concerns of the current MICLIC;

(2) a plan and timeline to upgrade the current system or field a newer variant; and

(3) a funding profile over time for costs associated with the research, development, test, and production of a new system.

Self-propelled 155mm and 105mm artillery systems

The committee understands the Army continues to examine the operational benefits of procuring a self-propelled 105mm and 155mm howitzer mounted on the High Mobility Multipurpose Wheeled Vehicle (HMMWV) in order to address existing capability gaps for infantry brigade combat teams (IBCTs) indirect fires capabilities. The committee understands that recent demonstrations at Fort Sill as part of the Army's Maneuver and Fires Integration Experiment produced positive results. In the report to accompany the National Defense Authorization Act for Fiscal Year 2019 (H. Rept. 115–676) the committee directed the Army to assess the advisability and feasibility of accelerating the technology development and procurement of potential HMMWV-mounted self-propelled 105mm and 155mm howitzers. The committee notes the Army indicated in this report that developing such a capability is both advisable and feasible and that the Fires Center of Excellence at Fort Sill is exploring options for rapid prototyping and operational assessments of a HMWWV-mounted 155mm howitzer to address IBCT capability gaps. The committee supports these ongoing efforts and encourages the Army to continue further study and development of HMWWV-mounted self-propelled 105mm and 155mm howitzers.

OTHER PROCUREMENT, ARMY

Items of Special Interest

Advanced medium mobile power sources

The budget request contained $58.5 million for generators and associated equipment of which $44.2 million was included for advanced medium mobile power sources (AMMPS). AMMPS is a modernization program to provide 5–60 kilowatt (kW) generators in either a skid, trailer mounted, or microgrid configuration. The committee notes AMMPS replaces legacy generators and will provide the Department of Defense with an upgraded standard fleet of tactical electric power. The committee understands AMMPS has improved fuel efficiency by an average of 21 percent with a return on

investment in the range of 10 to 31 months from fuel savings. The committee also notes that AMMPS significantly reduces the logistics footprint and burden through utilization of 52 percent commonality of parts across all models as well as demonstrating improved reliability. The committee is encouraged by Department of Defense efforts to increase fuel efficiency, improve combat capability, decrease tactical risk, and reduce overall cost of generators. For example, the committee is aware the Army and Marine Corps are incorporating microgrid control capability on all current 30kW to 60kW generator set models that automatically starts and stops generators based on load demand. The committee encourages the military services to incorporate an energy storage module with generator sets to provide even more energy-efficient power.

AN/PEQ–15 Pointer, Illuminator, Aiming Laser capability enhancement/upgrade strategy

The committee is aware of the Army's Soldier Lethality Cross-Functional Team's efforts to enhance the capability of the AN/PEQ–15 Pointer, Illuminator, Aiming Laser. The committee is concerned, however, that the AN/PEQ–15 is approaching obsolescence, is no longer under a formal sustainment program of record, and is not optimized for use with the Army's new ENVG–B night vision device. A solution is needed that will provide a capability bridge until a new family of weapons sights is developed, tested, produced, and fielded. The committee is aware that the Army has tested a possible AN/PEQ–15 replacement through a limited user evaluation that distributed 700 test items to selected brigade combat teams. The committee supports the Army's rapid development and acquisition approach for such a bridge capability and directs the Assistant Secretary of the Army for Acquisition, Logistics, and Technology to provide a briefing to the House Committee on Armed Services not later than November 1, 2019, on the strategy for development and replacement of the AN/PEQ–15.

Global Positioning System denied environments

The committee recognizes the need to improve the capability of U.S. forces to operate in denied environments where access to the Global Positioning System (GPS) is not assured. Potential adversaries are using advanced air defense systems and GPS-jamming and spoofing systems to deny or disrupt U.S. forces access, information gathering, precision strike, and navigation.

The committee notes that section 1239 of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115–91) required the Secretary of Defense to develop a strategy to counter this specific threat. The committee recognizes that the Department of Defense has made progress with GPS satellite-related GPS III and M–Code development. The committee is concerned, however, that U.S. forces should avoid becoming reliant on a single solution or technology, especially with increasing ground-based threats to satellites.

The committee is also concerned about an apparent capability gap in which current air-to-ground weapon programs do not provide adequate range or precision-strike capabilities needed for operating environments in which access to GPS is not assured. The

committee encourages the Department of Defense to consider available off-the-shelf systems to meet this capability gap quickly.

Accordingly, the committee directs the Under Secretary of Defense for Acquisition and Sustainment to provide a briefing to the House Committee on Armed Services not later than November 1, 2019, on efforts, including developmental and non-developmental item acquisition programs, to address U.S. munition capability gaps for longer range systems operating in GPS-denied or -degraded environment.

High Mobility Multipurpose Wheeled Vehicle recapitalization

The committee encourages the Secretary of the Army to use the funds made available for High Mobility Multipurpose Wheeled Vehicle (HMMWV) modernization or recapitalization to procure new HMMWVs or fully restore HMMWVs to a "like-new" zero-hours, zero-miles condition through the installation of a new, modernized powertrain. The committee believes that modernizing or recapitalizing HMMWVs with a more capable powertrain could better support future advanced technology insertions as well as other capability upgrades to the HMMWV fleet, which in turn should reduce sustainment costs and logistics challenges associated with obsolete, expensive, or less-suitable parts.

Requirements and Capabilities for Military Shelter Systems Ballistic Protection

The committee notes that in forward deployed environments, service members must often work, eat, and rest in military shelter systems. The committee further notes the importance of providing service members with military shelter systems that, under certain threat conditions, offer protection against small arms fire and fragmentation. Under such operational conditions, military shelter systems may require ballistic protection that can be quickly transported, assembled, and disassembled as required to meet mission requirements.

The committee directs the Secretary of the Army to provide the House Committee on Armed Services, no later than December 1, 2019, with a briefing on the requirements for and capabilities of the Army's expeditionary military shelter systems. The briefing shall include an analysis of the ballistic protection capabilities and transportation requirements of such military shelter systems.

Tactical Communications and Protective System

The committee is aware that the Tactical Communications and Protective System (TCAPS) and TCAPS-Lite programs provide active hearing protection simultaneously protecting service members' hearing while enabling situational awareness and mission command. The Army notes in their budget justification documents that these hearing protection systems are also intended to limit lost in-service time related to hearing injuries as well as reduce post-service disability compensation. The committee understands that the TCAPS and TCAPS-Lite programs have been cancelled and that combat earplugs will be relied upon to meet hearing protection requirements. The committee is concerned that combat earplugs have had significant issues related to performance and quality control in the past that likely resulted in hearing loss to military personnel.

Considering the Army's decision to discontinue the TCAPS and TCAPS-Lite programs, the committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services no later than September 1, 2019, on the Army's plan to provide advanced, active hearing protection with an appropriate noise reduction rating that simultaneously enables situational awareness and mission command and control. This briefing should also address the level of protection and functionality combat earplugs provide for service members and how those levels of protection and functionality compare to a TCAPS headset and TCAPS-Lite active hearing devices. The committee encourages the Department of Defense to develop a list of evaluated, off-the-shelf active hearing protection devices authorized for service and review this list as part of the required briefing.

Transportable Tactical Command Communications

The committee recognizes that the Transportable Tactical Command Communications (T2C2) system provides satellite communications to early entry ground forces and provides increased capability in mission command, as well as significant advancements in situational awareness. The committee understands that T2C2 expeditionary satellite antennas provide increased operational flexibility and speed of maneuver while supporting forces in austere locations with high bandwidth requirements. Continued investment in the basic technology comprising the T2C2 system could enable immediate enhancements to the capability and allow the Army to standardize its expeditionary satellite system. The committee encourages the Army to consider the operational benefits of a common expeditionary terminal, based on T2C2, that would meet relevant tactical satellite communication requirements and potentially extend the operational footprint well beyond current technology, support intelligence, surveillance, and reconnaissance and mission command systems, and reduce demand on satellite resources. The committee believes the Army could realize significant advantages from developing a consistent and interoperable satellite communications capability across multiple programs and encourages further acceleration of those efforts in light of potential and considerable life-cycle cost savings.

AIRCRAFT PROCUREMENT, NAVY

Items of Special Interest

Carrier strike group anti-submarine warfare capabilities

The committee is increasingly concerned with the aircraft carrier's organic anti-submarine warfare (ASW) capabilities. The carrier strike group's (CSG) primary ASW sensor continues to have a high component failure rate that has depleted the spares inventory, impacting deployed and non-deployed readiness. The Navy also recently canceled the Surface Ship Torpedo Defense (SSTD) program that would have provided a much-needed defensive capability for the aircraft carrier. The budget request acknowledged the reliability issues of the Airborne Low Frequency Sonar (ALFS) system and is requesting funds for a variety of improvement initiatives to increase reliability. Rather than continuing to fund legacy systems,

the committee believes that advances in anti-submarine warfare systems, manufactured in the United States and in use worldwide, could provide a better alternative. The committee is encouraged by advances in dipping sonar utilizing low frequency detection and beam-forming technologies, allowing multiple boundary interactions, and interoperability with shipboard sonars and sonobuoys. Moreover, these advances in technology are derived from U.S. sources.

Therefore, the committee encourages the Secretary of the Navy to consider procuring one helicopter-mounted and one unmanned surface vessel-mounted low frequency (less than 2KHz) active sonar system to demonstrate other viable alternative technologies currently available for a CSG ASW risk reduction effort.

The committee recommends $2.5 million for MH–60 modifications and $2.5 million for the Littoral Combat Ship Anti-Submarine Warfare Mission Module to support a technology demonstration of alternative low frequency active sonars.

F/A–18 infrared search and track

The budget request contained $1.2 billion for F–18 aircraft, of which $85.8 million is for the infrared search and track (IRST) technology procurement.

The committee notes that IRST is an evolutionary program that will provide the F/A–18E/F (Lot 26 and up) with an alternative fire control system to detect and track objects from a significant distance while operating in a contested environment involving high-electronic attack and radar-denied capabilities employed by adversaries. According to the Government Accountability Office, the IRST program entered low-rate production in December 2018, with an unstable design and undemonstrated critical manufacturing processes, but despite those shortfalls, the Secretary of the Navy awarded contracts to procure 24 IRST systems to date, or 14 percent of the 170 total planned systems. The committee notes the Navy did not conduct a production readiness review to assess design stability and manufacturing readiness that could have informed the decision whether or not to award low-rate production contracts. As a result, the Secretary may need to retrofit up to 18 early production IRST systems at a cost of $2.0 million each. The committee assesses that the Navy could reduce procurement of IRST systems in the near term without negatively affecting IRST production, and notes that the production readiness review is scheduled to occur at least 6 months prior to the IRST system deliveries associated with the December 2018 contract award.

Therefore, the committee recommends $1.1 billion, a decrease of $67.4 million, for F–18 aircraft and the associated IRST technology procurement.

MH–53E modernization and sustainment strategy

The committee is concerned with the readiness and modernization trajectory of the Navy MH–53E fleet. Without sufficient resources and attention, MH–53E readiness levels will continue to decline. The committee notes that the Marine Corps CH–53E reset program has improved readiness levels and that the Army has achieved similar success using similar reset programs for a variety of rotorcraft platforms. Therefore, the committee directs the Sec-

retary of the Navy to provide a briefing to the House Committee on Armed Services not later than September 1, 2019, on the MH–53E fleet modernization and sustainment strategy. This briefing shall include an assessment of the feasibility and cost of reversing MH–53 readiness declines through a reset program similar to the Marine CH–53E reset program.

Navy Reserve F/A–18 aircraft

The committee remains concerned over the health and readiness of the Navy Reserve combat aircraft fleet, a strategic reserve available to the U.S. Navy. The Reserve fleet provides critical adversary support and strike fighter weapons training to Active Duty forces and must maintain a high mobilization readiness level for deployment in the event of war or national emergency. The aging aircraft the Reserve squadrons fly are no longer compatible with today's carrier air wing and these aircraft are increasingly less capable than the F/A–18E/F Super Hornets. The committee believes this could impact the ability of Navy Reserve squadrons in meeting requirements for advanced strike employment, as well as simulating current advanced threat aircraft. Recapitalizing and modernizing the Reserve squadrons with newer platforms would enable the Navy Reserve units to maintain dedicated advanced adversary squadrons with next generation capability in order to provide realistic threat-representative training for naval aviators and to maintain operational readiness that provides a relevant and deployable force multiplier to the Active Duty air wings.

The committee encourages the Secretary of the Navy, in coordination with the Chief of the Navy Reserve, to continue to recapitalize the squadrons to maintain the Navy Reserve combat aircraft fleet.

Recapitalization of Navy Reserve P–3C squadrons

The budget request contained $1.2 billion for six P–8A Poseidon aircraft. The budget request for fiscal year 2020 did not take into account the increased warfighter requirement of 21 additional P–8A aircraft. This increase is driven by the proliferation of adversarial submarine fleets and their increasingly active operational tempo. The new requirement includes 12 aircraft to recapitalize the two maritime patrol and reconnaissance squadrons assigned to the Navy Reserve. These squadrons currently operate legacy P–3C Orion aircraft and the Chief of Navy Reserve estimates they will decommission by 2023 unless they are outfitted with new aircraft. The committee is encouraged by the Navy's recognition of the Navy Reserve force and the contribution they can provide to the increased requirement for the P–8A. However, the committee was discouraged that the Navy failed to budget for the additional aircraft to meet the warfighting requirement.

Therefore, the committee directs the Secretary of the Navy to provide a briefing to the House Committee on Armed Services by March 1, 2020, that outlines a plan to recapitalize the two Navy Reserve squadrons with P–8A aircraft prior to 2023. The briefing should include estimated acquisition costs, acquisition timelines, aircraft fielding schedules, and manpower impacts to the Navy Reserve. The committee also notes that this information should have been briefed at the beginning of the budget cycle.

The committee recommends $1.75 billion for P–8A procurement, an increase of $541.2 million, to procure three additional aircraft in fiscal year 2020.

WEAPONS PROCUREMENT, NAVY

Items of Special Interest

Advanced Low-Cost Munitions Ordnance

The committee continues to support the accelerated development and deployment of the Advanced Low-Cost Munitions Ordnance (ALaMO), a guided 57mm projectile, with fire-and-forget capability. This projectile is designed to counter the growing threats posed by small boat swarms, unmanned aerial systems, and other emerging threats. Furthermore, the committee supports expanding the testing to fully establish the ALaMO capabilities in additional tactical scenarios, including against both surface and air targets, and informing the operational utility across the threat spectrum.

SHIPBUILDING AND CONVERSION, NAVY

Items of Special Interest

Amphibious Forces Modernization

While the Secretary of the Navy has been taking certain steps to modernize forces to operate in a contested environment, the committee believes that the Department of the Navy needs to aggressively assess and optimize future forces.

Therefore, the committee directs the Secretary of the Navy to submit a brief to the House Committee on Armed Services by February 1, 2020 as to options to improve procurement protocols with legacy and future forces force structure requirements. Such briefing shall include each of the following: amphibious warfare concepts and requirements as they relate to shipbuilding and modernization; options to garner efficiencies into amphibious ship acquisition; an assessment to optimize the current and projected aviation and surface connectors strategy; options to expand aviation projection from amphibious vessels; options to expand command and control networks; options to incorporate vertical launch systems; and a fiscal assessment of these options.

AN/SPY–6(V) on DDG–51 Flight IIA

The committee notes the President's budget request for the Air and Missile Defense Radar (AMDR) stated that fiscal year 2020 funds "are required to scale AMDR to backfit Active Electronically-Steered Array and digital beamforming technology on a Flight IIA DDG and to complete development of Advanced Distributed Radar (ADR) capability for integration into AMDR." The committee fully supports the funding of these efforts in fiscal year 2020 and encourages the Navy to accelerate the procurement of AN/SPY–6 radars for the modernization of DDG 51 Flight IIA ships into fiscal year 2021. As such, the committee directs the Secretary of the Navy to provide a briefing to the House Committee on Armed Services by March 1, 2020, on the cost and technical feasibility of an accelerated plan for modernizing DDG 51 Flight IIA ships with AN/SPY–6 radars.

Classified Briefing on Funding Requirements for Strategic Weapons Systems

The committee notes the Navy provides the most survivable leg of the triad with Ohio Class SSBNs and the Trident II (D5) strategic weapon systems (SWS) they carry. SSBNs are responsible for a significant majority of the United States' operationally deployed nuclear warheads. The Chief of Naval Operations has made clear the priority the Navy places on the sustainment and modernization of the undersea leg of the triad, directing the Navy to "be ready to deploy USS Columbia (SSBN 826) as quickly as possible-beating the current schedule-in order to preserve our ability to defeat the threat."

If critical and necessary programs such as Increment 8 are further delayed due to funding issues, the Columbia class will be without critical subsystems such as a navigator and the United States will fail to meet international commitments to the United Kingdom under the Polaris Sales Agreement by not delivering inertial navigation equipment to the United Kingdom Shipyard in 2025.

If critical and necessary programs such as Increment 15 are further delayed due to funding issues, future integration on the Columbia and Dreadnought systems and delivery of a required network cross-domain solution capability to meet DOD cyber requirements will not be met in time. Elimination of this funding will result in significant obsolescence-related risk to the Ohio fire control system in addition to increasing cybersecurity-related risk.

Proposed reductions in Navy Strategic Systems Programs (SSP) support equipment impacts include additional maintenance costs on the current support equipment and an increase in the risk of being able to support missile processing and disposal requirements at the strategic weapon facilities. This, in turn, increases the risk of being unable to support SSBN onload/offload requirements.

If the Life Extension 2 funding cuts are sustained, the Navy's ability to field the next life extended missile on the Columbia Class is at significant risk. Additionally, the delay in schedule could impact international agreements with the United Kingdom as that government will procure the TRIDENT II D5LE2 SWS missiles for their Dreadnought platform.

The committee directs the Secretary of the Navy to provide a classified briefing to the House Committee on Armed Services no later than December 1, 2019, on the ramifications of failing to adequately fund its strategic weapons system.

Composite materials

The committee notes that composite materials may offer superior capabilities over legacy steel applications both in terms of long-term maintenance and increased operational availability. The committee believes that the Secretary of the Navy should assess composite options in the analysis of alternatives as they consider complex naval components and elements. Specifically, the committee believes that an assessment of composite shafting and deckhouse modules should be included in any future naval vessel acquisition to include the development of the Large Surface Combatant, the next block of Virginia-class submarines, and the development of the next generation attack submarine.

DDG Aegis modernization

The committee recognizes the need and importance to deliver increased warfighting capability to the over seven dozen ships that comprise the existing fleet of Aegis destroyers via the ongoing destroyer modernization program as well as through new construction of the Flight III Arleigh Burke Aegis destroyers. Together, these efforts will provide our nation with the most powerful frontline warships, which will include robust integrated air and missile defense capabilities. However, the committee is concerned that there is an excessive amount of variance of Aegis baselines within the current fleet, and that the Navy should consider potential ways to accelerate modernization efforts that will reduce combat system variances. The committee also understands that there are new initiatives which leverage advances in digital technology, solid-state hardware, small and modular virtualization techniques, and other innovative hardware and software upgrades that can better sustain the in-service destroyers to the end of their extended service lives.

Therefore, the committee directs the Secretary of the Navy to provide a briefing to the House Committee on Armed Services not later than March 1, 2020, on initiatives that support a complementary approach to provide more rapid fielding of improvements for Aegis fleet readiness, lethality, and survivability.

Frigate requirements review

The committee supports the Navy's efforts to leverage mature technologies and systems for the new Frigate class (FFG(X)), and continues to encourage the Secretary of the Navy to emphasize risk reduction efforts, commonality, and reduced life-cycle sustainment costs in developing a best-value solution. The committee also believes that the Navy should not trade warfighting capabilities for other considerations, particularly in anti-submarine warfare (ASW). Given ongoing efforts by adversarial nations to increase the capability, lethality, and size of their respective submarine fleets, the committee recognizes the projected role the FFG(X) will play in performing ASW missions. As such, it is imperative that the platform be deployed with the most capable ASW technology available.

Future Fleet Architecture

The committee notes that the National Defense Strategy indicates that the United States is in a great powers competition to include the Russian Federation and the People's Republic of China. The committee also believes that this great powers competition will heavily rely on our naval force structure to optimally address Russia and China in both the Pacific and the Arctic, as well as impending tensions with the Iranian regime in the Persian Gulf. The committee believes that it is imperative to include a larger long-term force structure to address these global challenges. The committee also believes that to ensure a continued projection of naval power around the world, the Navy should include in their forthcoming 2019 Force Structure Assessment necessary vessels to address sufficient operations in the Arctic. Therefore, the committee directs the Secretary of the Navy to brief the House Committee on Armed Services by December 31, 2019 regarding the force structure plan to compete with adversaries in the Pacific and Arctic Oceans and the Persian Gulf. This briefing should also address the defense in-

dustrial base and any associated maritime sector weaknesses that need to be addressed to support the expanded force structure.

John Lewis fleet oiler replenishment ships

The budget request included $1.1 billion for procurement of the *John Lewis* (T–AO) class fleet replenishment oiler. The committee continues to be supportive of the Navy's plan to procure the T–AO oilers. This ship will operate as the primary fuel pipeline from resupply ports to station ships, providing replenishment of bulk petroleum products, dry stores/packaged cargo, fleet freight, mail, and personnel to combatants and support forces underway. As a secondary mission, the T–AO will accompany and stay on-station with the carrier strike group to provide replenishment as required to customer ships. This ship will be a critical leg of the Navy's logistical framework. The committee understands that the Navy chose to accelerate the procurement of one T–AO from fiscal year 2021 to fiscal year 2020 but due to long lead procurement items, this ship will not start construction until 2021.

Therefore, the committee recommends $607.2 million, a reduction of $447.0 million, for the T–AO program.

MK 18 unmanned underwater vehicle

The committee is encouraged by the Navy's ongoing efforts to explore, demonstrate, and prove the utility of unmanned underwater vehicles (UUVs) across multiple concepts of operation. The committee recognizes that the MK 18 program is a scalable and modular, open system architecture vehicle that is currently conducting operations and being equipped with the sensors that could allow it to perform additional U.S. Navy mine countermeasures UUV missions. Furthermore, the MK 18 could be adapted via the engineering change proposal process to meet numerous emerging technical needs that could satisfy cross-domain requirements. The Navy is strongly encouraged to assure consideration of cross-domain employment of UUVs in this critical mission area.

Naval Oceanographic Office vessel requirements

The committee notes that the Naval Oceanographic Office (NAVOCEANO) operates seven oceanographic ships. These seven ships are designated the T–AGS 60 class and are designed to provide multipurpose oceanographic capabilities in coastal and deep-ocean areas for NAVOCEANO. The committee is aware of existing commercial advances in autonomous survey vessel technology and notes that there are unmanned vessels currently being used to support surveying and other important commercial hydrography and oceanography missions. The committee is concerned that the Navy is not taking advantage of commercially available autonomous vessel technologies to facilitate its charting and mapping missions. The committee believes employment of an autonomous survey ship by the Navy Oceanographic Office would result in dramatic savings in both procurement and operation and maintenance costs while increasing the rate at which uncharted portions of the ocean floor become accurately mapped. The use of existing unmanned surface vessel (USV) designs and technology for an autonomous survey vessel would also allow the Navy to rapidly gain valuable experience in the operational use of USVs in a low threat environment.

Therefore, the committee directs the Secretary of the Navy to provide a briefing to the House Committee on Armed Services by March 1, 2020, that includes NAVOCEANO's ship requirements and an assessment of the opportunities to modernize this fleet to support autonomous operations.

Navy Cyclone-class patrol craft replacement

The committee notes that the legacy Cyclone-class patrol vessels located in Bahrain are being decommissioned and eventually replaced with the littoral combat ship. The committee is aware that the U.S. Coast Guard's Sentinel-class fast response cutter is in serial production and that the U.S. Coast Guard is pursuing a 64-vessel program of record. The committee believes that there is merit in reviewing all available options to replace the Cyclone-class patrol vessels.

Therefore, the committee directs the Secretary of the Navy to submit a report to the congressional defense committees not later than February 1, 2020, that assesses options for the replacement of the Cyclone-class patrol vessels. Specifically, this report shall include a comparison of the Cyclone-class patrol vessels, Independence variant littoral combat ship, Freedom-class variant littoral combat ship, the Sentinel-class fast response cutter, and larger surface combatants in terms of one-time procurement costs, annual recurring personnel costs, and annual recurring maintenance costs. Additionally, this report shall assess the ability to meet the mission requirements of the current patrol craft. This report may include a classified annex.

Navy study on lethality of surface combatant ships against swarm technology

The committee is concerned that the Navy may be assuming too much risk with respect to the development of swarm tactics by adversaries. The committee directs the Secretary of the Navy to conduct a study on the lethality of surface combatant ships, both large and small against swarm technology, and deliver a report to Congress not later than January 1, 2021. Such study shall include each of the following at a minimum:

(1) a threat analysis of current threat capabilities from foreign adversaries regarding swarm tactics using manned or unmanned aerial vehicles, unmanned underwater vehicles, and unmanned surface vehicles within ten nautical miles of coast line, sea ports and adversary ships;

(2) a description of the current capabilities used by the Navy that have the capability or are designed specifically to counter swarm technology through kinetic means; electronic warfare; or directed energy; and

(3) a description of future requirements for large and small surface combatant ships, including the capability of defending against swarm tactics and advancing technology; the capability of engaging swarm targets from port and starboard sides with the same effects as the bow; the capability of adding additional systems onto the hull of a surface combatant ship, both large and small, to enhance lethality against swarm and other threats; and a comparison between directly manned weapon systems and remote weapon stations.

Report on operational energy planning assumptions for the future surface combatant

The committee understands that hybrid electric drive (HED) propulsion systems provide both greater efficiency and extended range. Equally important, such drives provide the power needed for future weapons systems that will be used on U.S. Navy vessels, and often come with lower life-cycle costs than conventional propulsion systems. Given these benefits, the committee believes the Navy should be pursuing HED propulsion systems more aggressively, to include consideration on the future large surface combatant.

The committee directs the Secretary of the Navy to provide a report to the House Committee on Armed Services not later than February 1, 2020, on the propulsion systems being considered for the future surface combatant. In addition to describing the type of system, for example, integrated propulsion and hybrid electric drive, the report shall include initial cost, life-cycle cost, range, and the system's ability to provide adequate power for future weapons systems including directed energy and rail gun. The report should also include potential opportunities to prototype new propulsion systems in order to accelerate the technology, and field a more mature system that can be integrated into a ship.

Virginia-class submarine

The committee has heard consistent testimony from combatant commanders about the important role that the attack submarine fleet plays in persistent operations around the world and in potential conflict scenarios against near-peer competitors. The committee has also repeatedly expressed concern about the current and looming shortfall in the Navy's attack submarine fleet. The 2016 Force Structure Assessment increased the required force structure of attack submarines from 48 to 66, the largest increase of any ship type in the assessment. At the same time, the fiscal year 2020 30-year shipbuilding plan shows that the attack submarine force will experience the largest and most persistent gap below its required level between fiscal year 2020 and fiscal year 2049, reaching a low of 42 submarines in 2027.

The committee has heard testimony from Department of the Navy leadership on the benefits that increasing Virginia-class submarine production would have on the submarine industrial base. Navy leadership has testified that the industrial base has existing capacity to handle the increased workload as indicated in the fiscal year 2019 and fiscal year 2020 30-year shipbuilding plans. Navy leadership has testified that strengthening the submarine industrial base through increasing Virginia-class submarine procurement above the two-per-year build rate will be beneficial for the Columbia-class submarine program through increased capacity in advance of serial production beginning in the mid-2020s and addressing potential workload and workforce gaps in early procurement years. Navy leaders have also testified that the Virginia-class submarine program is among the best-performing acquisition programs in the Department of Defense. Therefore, the committee highly supports the addition of a third submarine in fiscal year 2020 and believes there are additional savings that can be achieved across the class due to the increase in economic order quantity.

PROCUREMENT, MARINE CORPS

Items of Special Interest

Rapid acquisition of Rifle Integrated Controller

The committee understands the Marine Corps is currently evaluating a rifle accessory control unit (RACU) using a two-phase process through the Marine Corps Foreign Comparative Test (FCT) program that should result in fielding capability improvements in the operational performance and close-combat lethality of individual marines. The committee understands the phase 2 evaluation should conclude by the end of fiscal year 2019 and that the Marine Corps will use the information and data gathered during the FCT program to inform future requirements. The committee recognizes the challenges that exist for an individual marine to operate separate situational awareness, communications, target designators, thermal sights, and other battle management devices and notes a RACU system would consolidate these disparate capabilities into one unified capability.

The committee expects the Marine Corps to expeditiously complete the phase 2 evaluation and, subject to a successful evaluation, expects the capability to result in a validated requirement. The committee encourages the Commandant of the Marine Corps to consider a rapid acquisition strategy to accelerate the operational testing, procurement, and fielding of a RACU utilizing existing acquisition reform authorities.

AIRCRAFT PROCUREMENT, AIR FORCE

Items of Special Interest

A–10 aircraft

The budget request contained $168.9 million for A–10 aircraft modifications and upgrades, of which $100.0 million was included for the new A–10 wing replacement program to begin procurement of 112 sets of additional wings. This procurement would retrofit the remaining A–10 fleet giving the Air Force a total of 281 A–10 aircraft to 2030 and beyond.

The committee continues to believe that sustainment of the 281-aircraft A–10 fleet provides the Air Force a cost- and mission-effective close air support capacity and capability that will meet joint force requirements. The committee recognizes that A–10 fleet modernization requires future display system upgrades for better identification of friendly and enemy forces. Additional modernization also requires updates to weapon delivery and management systems, along with an upgraded electronic warfare suite, that will keep pace with advancements in threat surface-to-air technology and provide better protection for pilots. Finally, the committee encourages the Air Force to explore upgraded communications systems with improved interconnectivity and security to support data-gathering enhancements for aircraft and engine structural integrity monitoring.

The committee looks forward to receiving the test and evaluation report from the Director, Operational Test and Evaluation regarding the F–35A and A–10C test comparison required by section 134 of the National Defense Authorization Act for Fiscal Year 2017

(Public Law 114–328). The committee recalls that the committee report accompanying the National Defense Authorization Act for Fiscal Year 2019 (H. Rept. 115–676) required the Secretary of the Air Force to submit a report to the House Committee on Armed Services on the cost of the additional 112 A–10 replacement wings using a second contract compared to the cost of exercising the option to procure the 112 A–10 replacement wings on the original contract. The committee understands that this report will be made available after the new contract for A–10 wings is awarded later in fiscal year 2019. Finally, the committee encourages the Secretary of the Air Force to consider a multiyear contracting strategy for the next wing replacement program that could achieve significant cost savings for the A–10 wing replacement program.

Air National Guard F–16 Radar Upgrades

The committee recognizes that F–16s will remain a critical component of the Air National Guard (ANG) inventory through the 2040s making it essential to maintain the operational viability of these aircraft. The committee further recognizes that Active Electronically Scanned Array (AESA) radar upgrades for the F–16 make the aircraft more survivable and lethal in a combat environment when deployed, provides increased capability for homeland defense and aerospace control alert missions, as well as reduces maintenance and logistics challenges.

The committee strongly supports continuing the F–16 AESA radar upgrades for both the Air Force and ANG, including the use of National Guard and Reserve Equipment Account funding referenced elsewhere in this Act. Furthermore, the committee directs the Chief of Staff of the Air Force, in coordination with the Chief of the National Guard Bureau, to provide a report to the House Armed Services Committee not later than February 1, 2020, that details an operational risk assessment, requirements determination, and acquisition and fielding strategy with associated funding profiles for upgrading the ANG's F–16s with AESA radars.

B–1 readiness recovery plan

The committee notes that the nation's ability to meet its long-range precision strike requirements may be placed at increased risk by aging structural problems with the B–1 bomber aircraft. The committee is concerned B–1 readiness does not have the priority and resources to improve B–1 mission capable rates. This is evidenced by fully mission capable aircraft currently in single digits and aircrew being rerouted from flying the B–1 to other aircraft due to lack of B–1 aircraft for training.

Therefore, the committee directs the Secretary of the Air Force to provide a briefing to the House Committee on Armed Services not later than March 1, 2020, on the Air Force's current plans to increase the readiness of the B–1 that shall include the following elements:

(1) aircraft structural issues;

(2) plan for continued structural deficiency data analysis and testing;

(3) projected repair timelines; and

(4) future mitigation strategies.

Additionally, this briefing shall include the following information during any B–1 degradation period:

(1) pilot and maintainer training plan; and

(2) recovery timeline to meet future deployment tasking.

B–2 Spirit Defensive Management System

The committee continues to support the B–2 Defensive Management System Modernization (DMS–M) program and notes the importance of this program to ensuring that our nation's only operational stealth bomber remains mission effective. DMS–M is the largest upgrade in the B–2's history and is essential to maintaining the aircraft's survivability by ensuring the fleet remains effective against modern integrated air defense systems. This upgrade is critically needed to guarantee that the nation's premier strike platform can hold at risk the most heavily defended targets and deter aggression anywhere in the world.

The committee is concerned, however, about the significant DMS–M schedule delays and many substantial challenges highlighted in a recent Defense Digital Service Discovery Sprint report. Unless the B–2 DMS–M program makes significant changes there may continue to be delays that will impact the success of the program. During testimony at a Seapower and Projection Forces subcommittee hearing on March 14, 2019, the Air Force confirmed its commitment to the DMS–M program, and the committee agrees that the program is necessary to ensure the B–2 can operate in all future environments.

Therefore, the committee directs the Secretary of the Air Force to provide a briefing to the House Committee on Armed Services by February 28, 2020, on its efforts to address the major areas of concern across the DMS–M program identified by the Defense Digital Service. Such brief shall include the associated schedule and closure plan to address the following items: sufficient government software development expertise; contract definitization schedule; delivery schedule; determination of software baseline; and assessment of related program support of DMS–M.

C–130H aircraft propellers and engines

The committee notes that the C–130H aircraft that are flown primarily by the Air National Guard and Air Force Reserve continue to provide critical tactical airlift capabilities and will continue to support this mission for years to come. The committee is disappointed with the amount of time it has taken for the Air Force to address a safety of flight issue with the legacy propeller system of the C–130H. The inherent danger associated with legacy propellers came to light in the mishap report from the KC–130T Hercules aircraft of the United States Marine Corps Reserve that crashed in Leflore County, Mississippi, killing 17 service members. The Air Force convened an additional review board which identified a potential hazard with propellers that were produced before 1971. This review appears arbitrary considering that the failed blade on the Marine Corps mishap C–130T was manufactured in 1983.

Procurement of new composite propeller blades is the obvious solution to this serious safety of flight and readiness issue. The Air Force has moved slowly in addressing the issue and still refers to the propeller upgrade as a performance enhancement and not a

safety requirement. A new composite blade would also decrease maintenance time and improve logistics support, which will result in increased readiness. Delays are unacceptable considering the inherent safety of flight and readiness risks surrounding this issue.

Therefore, the committee directs the Secretary of the Air Force to provide a briefing to the House Committee on Armed Services by October 31, 2019, on the long-awaited acquisition strategy for procuring new blades. This plan should include estimated costs, timelines, and a unit upgrade schedule, as well as a plan to expedite procurement for squadrons scheduled to deploy in CY2020. The briefing should also include the Air Force plan to incorporate C–130H T–56 Series 3.5 Engine Enhancement Packages. Congress has repeatedly added additional funds for these upgrades and the Air Force has yet to budget for them despite the demonstrated performance benefits and fuel efficiencies.

E–8 Joint Surveillance Target Attack Radar System re-engining program

The budget request included $28.7 million for the E–8C Joint Surveillance Target and Attack Radar System (JSTARS) but no funding to address re-engining.

The committee understands that recently-completed analyses of the E–8C JSTARS platform updated and extended the service life projection concluding that the JSTARS fleet can operate well into the 2030s and potentially beyond. As such, the committee supports the requested funding for E–8C JSTARS modernization and sustainment as necessary to ensure that the platform remains operational and capable for the remainder of its service life. However, the committee is concerned that the funding requested in the fiscal year 2020 Air Force budget fails to address the E–8C propulsion system, which the committee understands is the number one issue driving excessive non-mission capable maintenance metrics for the fleet. The committee is concerned that, without a substantive solution, issues associated with the propulsion system will continue to drive up costs and hinder availability.

The committee recommends $56.7 million, an increase of $28.0 million, in Aircraft Procurement, Air Force, for JSTARS re-engining.

F–15C/F–15EX

The budget request contained $1.1 billion for development and procurement of eight F–15EX aircraft.

Air Force officials testified before the Subcommittee on Tactical Air and Land Forces on May 2, 2019, about their concerns with the current tactical aircraft inventory capacity and capability to fully execute and support the air superiority mission as required by the 2018 National Defense Strategy. The committee notes that the Air Force's capacity and capability concerns are based on the combination of having procured only 187 F–22 aircraft compounded by the earlier than expected deterioration of the current fleet of F–15C aircraft, which the F–22 was intended to replace. The Air Force testified that two-thirds of the F–15C fleet is past its certified service life and that 13 percent of the combat-coded aircraft are grounded due to failed aircraft structural integrity inspections. The committee understands that the Air Force considered a range of op-

tions to mitigate the identified capability and capacity gaps for the air superiority mission, to include extending the service life of the F–15C fleet and increasing the production rate of F–35A aircraft.

The committee notes that analysis by the Department of Defense determined that a service life extension on the F–15C fleet would provide a limited return on investment for the amount of financial and other resources required to complete a successful life extension program to address the known structural integrity and mission systems issues or the cost and schedule risk associated with emergent fleet issues that are unknown but may be identified as each aircraft enters the service life inspection and extension program. The committee notes that the Navy realized unexpected and excessive cost and schedule growth during the service life extension program for the legacy fleet of F/A–18A/B/C/D aircraft.

The committee understands that the Department's analysis evaluated increasing F–35A production quantities but determined that although the F–35A and F–15EX aircraft have similar procurement costs, the difference in operations and sustainment costs between the two aircraft is notable. Furthermore, the committee notes that the Department's analysis evaluated other aspects of current performance related to the F–35A program outlined by the committee elsewhere in this title and that the Department decided to forego this option due to affordability concerns.

Therefore, the committee supports the Department's decision to procure the F–15EX aircraft to mitigate warfighter risk and to fill current and projected air superiority mission gaps. Additionally, the committee includes a provision elsewhere in this title that would require the Secretary of Defense to designate the F–15EX program as a major program within the F–15 program element, and would require the Secretary to provide additional acquisition documentation to the congressional defense committees before proceeding apace with procurement of F–15EX aircraft.

MQ–9 Reaper funding profile

The committee notes that the procurement profile for the MQ–9 Reaper unmanned aerial system includes inconsistent quantities from year to year. The committee understands that uneven, unpredictable procurement quantities create production inefficiencies and increase program costs. For example, the fiscal year 2020 budget request shows MQ–9 unit cost rising from $15.8 million in fiscal year 2019 to over $22.0 million in fiscal year 2020. The committee is concerned by these inefficiencies and encourages the Air Force to budget appropriately in the Future Years Defense Program for stable, predictable procurement quantities for the MQ–9 Reaper.

Tanker force structure and modernization

The committee notes that the Department of Defense Mobility Capability Requirement Study identified a tanker force structure inventory requirement of 479 aircraft. Integral to this capability is the delivery of mission capable KC–46A aircraft and the continued development of additional tanker aircraft after the expiration of the current KC–46A contract with lot 13 in 2027. The committee notes that the Secretary of the Air Force has completed a capability-based assessment and signed out the initial capability document for the requirements associated with the next-generation tanker,

but has not started an analysis of alternatives. The committee believes that the Secretary of the Air Force has several viable options to ensure future tanker capability, to include acquiring a non-developmental commercial derivative tanker while "bridging" from the end of the KC–46A production to the new developmental tanker.

Therefore, the committee directs the Secretary of the Air Force to submit a report to the congressional defense committees by September 30, 2020, on a 30-year vision for the tanker force structure. The report shall include the following:

(1) the current KC–46A tanker acquisition timeline through lot 13;

(2) future tanker production options to include an acquisition timeline comparison of a "bridging" non-developmental commercial derivative tanker and new tanker development; and

(3) modernization options for the entire tanker force structure through the 30-year vision timeline.

Additionally, the committee continues to support the fixed-price development and production of the KC–46A contract. The committee believes that there have been several lessons learned with unique fixed-price type contracts that were employed in this contract. Therefore, in accordance with a recommendation included in the Government Accountability Office (GAO) report entitled "KC–46 Tanker Modernization: Aircraft Delivery Has Begun, but Deficiencies Could Affect Operations and Will Take Time to Correct" (GAO–19–480), the committee directs the Secretary of the Air Force to submit a report to the congressional defense committees by March 1, 2020, on the lessons learned regarding the utilization of a fixed-price contract for development.

PROCUREMENT, DEFENSE-WIDE

Items of Special Interest

F–35 Joint Strike Fighter program

The budget request contained $10.3 billion for the procurement of 78 F–35 aircraft, and associated spares, modifications, depot activations, and advanced procurement for fiscal year 2021 aircraft for the Air Force, Navy, and Marine Corps. The budget request contained $1.6 billion for research and development related to the conclusion of system design and development, deployability and suitability initiatives, Block 4 and Continuous Capability Development and Delivery (C2D2), and dual-capable aircraft efforts. The committee notes that the unfunded priority lists for the Air Force, Navy, and Marine Corps contained 12 F–35A, 2 F–35C, and 2 F–35B/2 F–35C aircraft, respectively.

The committee supports the F–35 program and believes it is a necessary and essential capability within the tactical aircraft portfolio for the United States and its foreign partners and allies. The committee is concerned, however, that many substantial challenges are unresolved across the F–35 system enterprise as was highlighted in two recent Government Accountability Office reports (GAO–19–321 and GAO–19–341) as well as during testimony at the May 2, 2019, Subcommittee on Tactical Air and Land Forces hearing on Air Force acquisition and modernization programs. It is

clear that unless the F–35 program can demonstrate measurable progress in reducing costs and inefficiencies associated with the production line, concurrency with new parts procurement and fielded parts repairs, global supply chain management and distribution activities, operations and sustainment costs, the Autonomic Logistics Information System, and Block 4 development and subsequent fielding utilizing the C2D2 construct, the Department of Defense and other F–35 partners and customers may not be able to achieve total inventory objective requirements. The committee is also concerned about the F–35 program's readiness to achieve a favorable full-rate production review scheduled at the end of 2019. The program may not be demonstrating satisfactory control of manufacturing processes and production line efficiencies, acceptable performance and reliability related to post-production activities and validated requirements, and adequate and effective sustainment and support systems in place to meet demands of all F–35 customers.

Consequently, the committee includes three provisions elsewhere in this title that would authorize the F–35 program to procure economic quantities of production material to reduce costs; increase congressional oversight and program transparency related to costs for capability development and fielding; and ensure that the F–35 program has established suitable, measurable, and achievable performance metrics across various elements of the program.

Mitigation of military aviation physiological incidents

The budget request for the Department of the Navy contained $278.0 million to address physiological episode (PE) mitigation and repairs for the Naval Aviation Enterprise, and the total funding included in the 2020 to 2024 Future Years Defense Program for the Department of the Navy is $788.4 million. The budget request for the Department of the Air Force contained $6.9 million in PE64706F for life support systems to address physiological episode mitigation for the Air Force aviation enterprise. The committee understands the Air Force plans to request reprogramming authority during fiscal year 2019 to realign $87.1 million for procurement of the Enhanced On-Board Oxygen Generation System for 445 T–6 training aircraft.

The committee commends the ongoing efforts of the Department of the Navy to address modifications to F/A–18 aircraft to mitigate PEs and notes that it has been designated as the number one safety priority to resolve within the Naval Aviation Enterprise. The committee notes these efforts include replacement of the F/A–18 cockpit altimeter; upgrade of the F/A–18 On-Board Oxygen Generation System (OBOGS); redesign of the F/A–18 aircraft life support systems required to meet OBOGS input specifications; and installation of equipment associated with improved F/A–18 physiological monitoring and alert systems.

The committee is aware that since approximately 2010, the Air Force has experienced increases in the rate of physiological episodes affecting aircrew in the F–22, F–15C, F–35A, and T–6A aircraft. The committee notes the Air Force Physiological Episodes Action Team assessed that for more than a decade, the Air Force has underinvested in basic aerospace physiology science, research, and development. While the Air Force has made progress in some areas

of human-machine-environment interface during that time period, other areas were not as well studied, which left gaps in Air Force data resulting in limited understanding of aircrew life support requirements related to PE for aircrew flying high-performance tactical aircraft.

Therefore, the committee directs the Secretary of the Air Force, in consultation with the Secretary of the Navy, to provide a briefing to the House Committee on Armed Services not later than March 1, 2020, that determines the availability and feasibility of procuring PE sensor devices in pilot helmets that warn of imminent incapacitation and can also collect and report data on human performance during flight.

LEGISLATIVE PROVISIONS

SUBTITLE A—AUTHORIZATION OF APPROPRIATIONS

Section 101—Authorization of Appropriations

This section would authorize appropriations for procurement at the levels identified in section 4101 of division D of this Act.

SUBTITLE B—NAVY PROGRAMS

Section 111—Modification of Annual Report on Cost Targets for Certain Aircraft Carriers

This section would amend section 126(c) of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328), that requires an annual report on cost reduction efforts for CVN–79 and CVN–80. This section would amend Public Law 114–328 to include CVN–81, and reflect changes made to the cost cap language.

Section 112—Repeal of Requirement to Adhere to Navy Cost Estimates for Certain Aircraft Carriers

This section would repeal section 122 of the John Warner National Defense Authorization Act for Fiscal Year 2007 (Public Law 109–364), as amended by section 121 of the National Defense Authorization Act for Fiscal Year 2014 (Public Law 113–66), section 122 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92), and section 121(a) of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115–91).

Section 113—Ford Class Aircraft Carrier Support for F–35C Aircraft

This section would require the Secretary of the Navy to ensure that the aircraft carrier to be designated CVN–79 is capable of deploying with the F–35 prior to accepting delivery.

Section 114—Prohibition on Use of Funds for Reduction of Aircraft Carrier Force Structure

This section would limit the Secretary of Defense from reducing the aircraft carrier force structure below the level required by section 5062 of title 10, United States Code.

The committee continues to believe that the nation's preeminent power projection capability is embodied with the aircraft carrier

strike group. The ability to rapidly relocate a strategic asset and launch long-range, deep penetrating strike from a location that is not hampered by sovereign limitations represents the linchpin in our nation's national security. The committee concurs with the Navy's assessment that the aircraft carrier is more survivable today than at any point in the last 75 years.

The committee continues to support an expansion of the aircraft carrier force structure to obtain the Navy's requirement of 12 aircraft carriers. The committee is supportive of the two-carrier procurement authorized in section 121 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232) and is supportive of further efforts to reduce the span between aircraft carrier construction.

Additionally, the budget request contained no funds for the Refueling and Complex Overhaul (RCOH) of the USS Harry S. Truman. The committee is encouraged that the administration reversed its recommendation to retire the USS Harry S. Truman before the planned RCOH and agrees with the overwhelming view within Congress that maintaining this strategic asset for another 25 years is crucial to national security. Therefore, the committee recommends $17.0 million to begin procurement of the long lead items associated with the USS Harry S. Truman RCOH.

Section 115—Design and Construction of Amphibious Transport Dock Designated LPD–31

This section would authorize the Secretary of the Navy to enter into a contract for the amphibious transport dock ship designated LPD–31. Additionally, the Secretary would be authorized to use incremental funding authority to complete the construction.

Section 116—Limitation on Availability of Funds Pending Quarterly Updates on the CH–53K King Stallion Helicopter Program

This section would limit obligation or expenditure of 50 percent of the procurement funds for the CH–53K King Stallion helicopter until 30 days after the Secretary of the Navy provides the House Committee on Armed Services the first required quarterly briefing on program status and resolution of technical deficiencies as compared to the CH–53K joint integrated program schedule. This section does not apply to any funds authorized to be appropriated by this Act for the development of the CH–53K.

Section 117—Limitation on Availability of Funds for VH–92A Helicopter

This section would limit the fiscal year 2020 available funding for the VH–92A helicopter to no more than 75 percent until the Secretary of the Navy provides the House Committee on Armed Services a report on the program's status. This report must include the estimated impact of relocating the aircraft manufacturing process on the manufacturing readiness level, cost, schedule, and sustainment of the program.

Section 118—National Defense Reserve Fleet Vessel

This section would direct the Secretary of the Navy to enter into a contract for one sealift vessel, subject to certain requirements.

SUBTITLE C—AIR FORCE PROGRAMS

Section 121—Modification of Requirement to Preserve Certain C–5 Aircraft

This section would amend section 141(d) of the National Defense Authorization Act for Fiscal Year 2013 (Public Law 112–239) to reinstate the requirement for the Secretary of the Air Force to continue to preserve certain C–5 aircraft in a storage condition that would allow a recall of retired aircraft to future service in the Air Force Reserve, Air National Guard, or Active Force structure.

Section 122—Modification of Limitation on Use of Funds for KC–46A Aircraft

This section would amend section 146 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232), to limit the use of funds for KC–46A aircraft pending submittal of certification, to include a military flight release.

Section 123—F–15EX Aircraft Program

This section would require the Secretary of Defense to designate the F–15EX program as a major subprogram and subject it to relevant reporting requirements and criteria pertinent to a major subprogram. The section would allow the Secretary of the Air Force to procure two F–15EX aircraft for prototype development but would prohibit the procurement of any additional aircraft until 30 days after the Secretary submits F–15EX program plans for development, acquisition, and fielding to the congressional defense committees.

Section 124—Prohibition on Availability of Funds for Reduction in KC–10 Primary Mission Aircraft Inventory

This section would prohibit the retirement of any primary inventory KC–10 aircraft in fiscal year 2020.

Section 125—Limitation on Availability of Funds for VC–25B Aircraft

This section would prohibit the Secretary of the Air Force from obligating or expending any funds to exercise the over-and-above clause of the VC–25B contract until the Secretary submits a certification to the congressional defense committees.

Section 126—Limitation on Availability of Funds for Retirement of RC–135 Aircraft

This section would prohibit any use of funds authorized to be appropriated in fiscal year 2020 for the Air Force to retire, or prepare to retire, any RC–135 aircraft until 60 days after the date on which the Secretary of Defense certifies to the congressional defense committees that equivalent RC–135 capacity and capability exists to

meet combatant commander requirements for indications and warning, intelligence preparation of the operational environment, and direct support to kinetic and non-kinetic operations.

Section 127—Report on Aircraft Fleet of the Civil Air Patrol

This section would require the Secretary of the Air Force to submit a report to the congressional defense committees not later than 90 days after the date of the enactment of this Act on the Civil Air Patrol (CAP) that identifies and assesses the suitability of the current CAP aircraft fleet size, types of aircraft, and operating locations to meet mission requirements.

SUBTITLE D—DEFENSE-WIDE, JOINT, AND MULTISERVICE MATTERS

Section 131—Economic Order Quantity Contracting and Buy-to-Budget Acquisition for F–35 Aircraft Program

This section would authorize the Secretary of Defense to procure economic order quantities of material and equipment for the F–35 program. This section would also authorize the Secretary to procure F–35 aircraft exceeding the quantity otherwise authorized by this Act if procurement of additional aircraft would not require additional funds to be authorized or appropriated.

Section 132—Program Requirements for the F–35 Aircraft Program

This section would require the Secretary of Defense to designate Block 4 capability as a major subprogram of the F–35 program and subject Block 4 to relevant reporting requirements and criteria pertinent to a major subprogram. This section would require the Secretaries of the Air Force and the Navy to develop a joint service cost position for F–35 life-cycle costs, and require the Director, Cost Assessment and Program Evaluation to develop an independent life-cycle cost estimate for comparison. This section would also require the Secretary of Defense to revise the Department of Defense's program element structure for F–35 beginning with the fiscal year 2021 President's budget request and subsequent budget requests to provide sufficient transparency regarding future F–35 costs. Finally, this section would require the Comptroller General of the United States to provide an annual report for five consecutive years, submitted each year not later than 30 days after the President's annual budget submission to Congress, that reviews the F–35 program.

Section 133—Reports on F–35 Aircraft Program

This section would require the Secretary of Defense to provide reports to the congressional defense committees on F–35 reliability and maintainability metrics, Block 4 capability development and fielding activities, and modernization and upgrade plans for the F–35 Autonomic Logistics Information System.

TITLE II—RESEARCH, DEVELOPMENT, TEST, AND EVALUATION

RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY

Items of Special Interest

3–D Printed Electronics Army Innovation

The committee understands additive manufacturing (AM) is making innovative technological improvements that could yield major advances in Army indirect fire weapons' range and lethal effects. This technology can combine existing and new materials into 3–D printed circuit architectures producing smarter, lighter, and denser projectiles to double current ranges and achieve higher precision. The flexibility inherent in AM allows for ready incorporation of new materials into complex structural designs that cannot be produced by any other method. As the technology matures, AM can also be used in other Army priorities such as technology for new and lighter smart armor and other purposes.

The committee notes that the Army continues to invest in AM technology to rapidly design, prototype, and manufacture critical novel printed armaments components. The goal is to demonstrate the ability to print munitions completely on a single production line and assess this capability for potential implementation in an ammunition plant. This demonstration will also allow for an assessment of the potential to print replacement parts, customizable grenades, printed electronics and antennas. The committee supports the Army's investment in additive manufacturing technology and will continue to monitor its potential for industrial application as well as practical in-field use.

Accelerated integration to counter emerging threats

The committee supports the accelerated integration capability to counter emerging threats being initiated by the Program Executive Office, Missiles and Space. The Army is developing a government-owned capability to provide cyber-robust, networked new missile capabilities into the Army Integrated Air and Missile Defense systems designed to operate within rapidly evolving threat environments and timelines. The committee understands this is being accomplished through a unique approach to adapt and respond to real-time threats, dramatically accelerating the timeline to employ resilience in networked weapon systems. Therefore, the committee directs the Secretary of the Army to provide a briefing to the Committee on Armed Services of the House of Representatives by March 2, 2020, on the status of progress being made through this accelerated program.

Advanced development of asset protection technologies

The committee notes the Army's progress in developing advanced technologies for asset protection, such as Thermal Indicating Paints, Active Sensor Systems, Novel Power Solutions, Printed and Embedded Sensors for Army Weapons systems, Flexible Electronics, and others to support the warfighter. The committee directs the Secretary of the Army to provide a briefing to the committee not later than December 1, 2019 on the Army's plans and

programs, if any, to develop, demonstrate, manufacture and deploy advanced multi-functional materials and technologies that can be combined for customizable asset protection systems and increased weapon system capabilities.

Advanced lightweight small arms and medium caliber ammunitions

The committee is encouraged by the Navy's progress on design, development and testing of advanced lightweight small arms and medium caliber ammunitions. The committee directs the Secretary of the Navy to report to the committee by December 1, 2019 what efforts are underway to continue to explore and refine the use of advanced lightweight polymer cased ammunition technology to reduce the weight burden, enhance operational reliability, improve mobility and enhance survivability of the warfighter.

Advanced materials and components

The budget request contained $35.1 million in PE 62144A for ground technology.

The committee is aware that research conducted under this program is developing materials and manufacturing processes that combine multiple classes of materials for innovative and pioneering use cases. As a result, advanced hybrid materials and novel manufacturing methods, including high entropy alloys, are being developed for critical programs including the Army's Long Range Precision Fires and Next Generation Combat Vehicles modernization efforts.

Therefore, the committee recommends an increase of $5.0 million in PE 62144A for ground technology advanced materials and manufacturing research technology.

Advanced technology for cold regions

Over several years, the Department of Defense has identified the need to operate in the Arctic and other cold region environments is critical to our national security and homeland security interests. To realize a successful National Defense Strategy, a number of engineering challenges must be solved to evolve the Department's ability to construct, maintain, and retrofit horizontal and vertical infrastructure in cold regions. Once developed, these novel approaches to designing, building, and maintaining rapid, cost effective, small-footprint infrastructure will enable U.S. forces to better defend the homeland and exercise sovereignty by rapidly projecting capabilities to remote cold regions when needed. Therefore, the committee supports innovative construction materials for cold regions by further developing and testing initial prototypes of mapping systems and construction materials under austere conditions, and developing, calibrating, and verifying performance prediction models.

Army unfunded requirement for munitions storage

The committee recognizes the important work the Armaments Center, a science and technology reinvention laboratory at Picatinny Arsenal, plays in the ammunition life cycle to ensure our warfighters are appropriately equipped to complete their missions. The committee notes that the Under Secretary of Defense for Re-

search and Engineering's February 2019 Report to Congress on Unfunded Requirements for Laboratory Military Construction Projects included for this center an unfunded laboratory minor science and technology military construction project for an Igloo Storage Installation. The committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services not later than November 30, 2019, on what the Army's plans are to ensure that the required construction and maintenance is implemented to support this mission.

Briefing on secure communications with remote-piloted and unmanned ground vehicles

The committee is aware that the Army is developing new ground combat vehicles that can be operated remotely or unmanned. At the same time, potential adversaries continue to develop capabilities that may compromise control of these remotely operated systems, as well as other components of the Army's communications networks.

The committee notes the Army is researching technologies that will protect and harden communication networks in contested environments, but is concerned about the integration of these systems relative to the maturity of remotely-piloted vehicles like the Optionally Manned Fighting Vehicle and the Robotic Combat Vehicle.

Therefore, the committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services by September 30, 2019, on the Army's efforts to develop technologies that will protect control of remotely-piloted or unmanned vehicles, as well as other communications technologies, while operating in contested environments.

Carbon fiber wheels and graphitic foam for Army vehicles

The committee notes the evolution of the Army's testing and evaluation of Lightweight Metal Matrix Composite Technology as outlined in the report by the Assistant Secretary of the Army for Acquisition, Logistics, and Technology submitted to the congressional defense committees in accordance with the committee report accompanying the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (S. Rept. 115–262). The Army's report makes clear that its interest with respect to new materials for lightweight wheels and associated brake systems has transitioned to a more viable dual-use carbon fiber and graphite byproduct suitable for brake pads and liners throughout the tactical wheeled vehicle fleet.

The committee encourages the Army to continue to develop, prototype, and test affordable mesophase pitch carbon fiber and graphitic carbon foam components for the Next Generation Combat Vehicle and the tactical wheeled vehicle fleet to confirm their potential to reduce vehicle weight and improve fuel consumption and payload capacity over standard aluminum and steel designs. Accordingly, the committee directs the Assistant Secretary of the Army for Acquisition, Logistics, and Technology to provide a briefing to the House Committee on Armed Services not later than November 29, 2019, on the progress of the Army's development and testing efforts related to mesophase pitch carbon fiber and graphitic carbon foam vehicle components.

Composite warhead technology

The committee is aware of the Army's effort to facilitate rapid prototyping and demonstrations of composite ordinance packages consisting of composite warheads with multiple lethal effects payloads. The committee supports the Army's research and development efforts that study how composite and carbon-fiber warhead technologies are applicable to new hypersonic strike missiles. The committee encourages the Army to continue to explore the durability and weight benefits that composite warhead technology provides, thereby extending the range of the Army's long range precision fires.

Defense Innovation and the Automotive Industry

The committee commends universities and industry for their work in maturing technologies and producing materiel solutions to ensure our military maintains its technological edge. The commercial market driving the development of technologies is dynamic, and our military benefits greatly from the innovations that come from partnerships with small businesses and universities. As there are many lessons to be learned from independent research and the commercial market like the automotive industry, Science and Technology Reinvention Laboratories (STRLs) carry out a significant portion of basic and developmental research in collaboration with academia and the private sector. Government-funded research efforts to address military threats are critical to reducing technology development risk. If successful, they can attract private sector partners that lead to manufacturing and commercialization or production of defense systems. The committee encourages the Department to work with industry, and in particular the automotive industry, to establish public/public and public/private (P4) Innovation Centers focused on the defense and automotive industries. The Innovation Centers could also serve as "learning labs" for Science, Technology, Engineering, and Math (STEM) based programs. The committee directs the Under Secretary of Defense for Research and Engineering and the Secretary of the Army, with support from the Director of the Defense Innovation Unit, by March 31, 2020 to provide a briefing to the armed services committees on how the Department is working with the automotive industry to identify innovative technologies and learn lessons applicable to the development and production of defense systems. The briefing should include discussion of any plans to establish Innovation Centers as described above, including in or around the Detroit Arsenal or the Ground Vehicle Support Center in Warren, MI.

Expeditionary Maneuver Support Technologies

The committee supports the development of Expeditionary Maneuver Support Technologies (EMST) for the next generation of command posts and supporting technologies, allowing combatant commanders to meet their increased operational requirements. This is necessary research for concealment, camouflage, deception, shielding, secure communications and other non-logistics based technologies above the individual soldier level, in order to support large scale maneuver operations. The committee encourages the Department to continue the development of advanced intelligent materials will be used as the pathfinder component for production

of these new EMST systems, provide a logistical cost savings to the Department of Defense, and enhanced protection for the units in the field.

Expeditionary mobile base camp technology

The committee understands that the Army has a need for rapidly deployable expeditionary structures that offer protection from battlefield threats. The committee therefore recommends that the Department of Defense examine:

(1) next-generation rapidly deployable shelter systems which utilize thermoplastics-based design concepts;

(2) the feasibility of 3–D printing shelter components using small and large scale printing technologies and bio-filled materials; and

(3) applications for expeditionary smart materials including photovoltaics, smart textile materials, and thermoplastic multifilament and monofilament yarns.

Foamable celluloid material

The committee is aware that the Army has made investments and achieved progress in developing modern ammunition material and manufacturing technologies that have the potential to improve ammunition performance and reduce life-cycle costs. Given this progress, the committee encourages the Army to rapidly transition technologies when ready from development to production for operational use availability. For example, the committee understands there could be substantial performance improvement and cost savings derived from advanced technologies such as foamable celluloid combustible propellant cases for tank, artillery, and mortar ammunition. The committee, therefore, encourages the Army to complete the development and qualification of this new capability in order to make a timely production and fielding decision. Further, the committee directs the Assistant Secretary of the Army for Acquisition, Logistics, and Technology to provide a briefing to the House Committee on Armed Services not later than August 15, 2019, on plans for the continued development and potential for production and fielding of new ammunition technology, such as foamable celluloid combustible propellant cases, for tanks, artillery, and mortars.

Future Vertical Lift

The budget request included $459.0 million in PE 63801A for Future Vertical Lift (FVL) platform research and development. Of this amount, $427.0 million was requested for development of the Future Attack Reconnaissance Aircraft (FARA), a new scout helicopter, while $30.2 million was requested for the Future Long-Range Assault Aircraft (FLRAA), the planned replacement for the UH–60 Black Hawk helicopter.

Future Vertical Lift (FVL) is the Army's initiative to develop and field next-generation rotary wing aviation technologies and platforms through rapid prototyping and streamlined acquisition processes. The committee supports FVL's near-term goals and objectives of developing modern capabilities to replace the OH–58 Kiowa scout reconnaissance helicopter and the UH–60 Black Hawk utility helicopter.

The committee understands the Army awarded five Other Transaction Authority contracts in April 2019 for FARA prototypes and intends to down-select to two competitors in March 2020. However, the Army failed to include funds to bridge the gap between the Joint Multi-Role Technology Demonstration (JMR–TD) for transformational vertical lift capabilities and the planned start of the Future Long-Range Assault Aircraft. Instead, the Army included $75.0 million in its unfunded priority list to accelerate FLRAA through an extension of the JMR–TD program. The committee believes additional details are required in order to make an informed evaluation of the Army's near and long term objectives for the Army aviation enterprise. The committee expects the aviation modernization strategy required elsewhere in this Act to help clarify these questions.

Heavy Equipment Transporter System trailer development

The committee encourages the Army to continue development and procurement of a Heavy Equipment Transporter (HET) trailer solution for current and future combat vehicles. The committee notes that the Army's current trailer is rated for 70 tons, but modernized M1A2 Abrams Main Battle Tanks will weigh in excess of 80 tons. Given the gross vehicle weight limitations on current trailer systems, the committee is concerned that these trailers cannot transport the most modern version of the Abrams tank. The committee believes the Army requires a new, more capable trailer and therefore encourages the Army immediately to begin to plan, program, and fund the accelerated modification of fielded HET trailers. The committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services by November 1, 2019, that details courses of action to accelerate needed modernization of current HET trailers.

HEROES program

The budget request contained $115.2 million in PE 62143A for Soldier Lethality Technology.

The committee is aware of the work being done by the U.S. Army's Combat Capabilities Development Command (CCDC) Soldier Center in improving the protection, survivability, mobility, and combat effectiveness of the Army. The committee is also aware that the Harnessing Emerging Research Opportunities to Empower Soldiers (HEROES) program is an ongoing joint research and development initiative involving both academia and industry that accelerates research and innovation through integration of intellectual assets and research facilities. The committee believes programs like HEROES provide benefit to research in areas of advanced ballistic polymers for body armor, fibers to make uniforms more fire resistant, and lightweight structures for advanced shelters that provide tangible benefits to the warfighter. To ensure the Army remains at the cutting edge of technology in these critical areas, the committee recommends an increase of $5.0 million in PE 62143A for the HEROES program.

High performance advanced polymers

The committee is aware of Army work being done to improve the protection, survivability, mobility, and combat effectiveness of its

vehicles, specifically in extreme temperatures. The committee is also aware of the efforts to develop advanced polymers for ground vehicles including the Stryker, Joint Light Tactical Vehicle, and the medium tactical vehicles. The committee believes additional research in advanced ballistic polymers that improves upon current resin systems to: maintain ballistic performance in hot and humid environments; keep fibers in uniforms more fire resistant; and create lightweight structures for advanced shelters all provides tangible benefits to the warfighter. Therefore, the committee encourages the Army to continue its support of such programs.

Humanitarian de-mining research and development

The budget request contained $10.8 million in PE 63920D8Z for humanitarian de-mining research and development.

The committee supports the humanitarian de-mining research and development program overseen by the Deputy Assistant Secretary for Stability and Humanitarian Affairs. This program develops and tests systems to detect and clear landmines, unexploded ordnance, and improvised explosives devices. The committee understands this research and development improves technology used by the military, informs military equipment procurement decisions, and supports stabilization and humanitarian projects funded by the Department of State while also fostering a collaborative relationship with host nation governments. The committee is aware of the value of this program.

Therefore, the committee recommends $15.8 million, an increase of $5.0 million, in PE 63920D8Z for humanitarian de-mining research and development.

Improved Turbine Engine Program

The budget request included $206.4 million in PE 67139A for the Improved Turbine Engine Program (ITEP)

The committee continues to support development of the Army's Improved Turbine Engine Program. ITEP was initiated as a competitive development and acquisition program to provide a more fuel efficient and powerful helicopter engine enhancing the performance and operational readiness of the Army's UH–60 Black Hawk and AH–64 Apache fleets. The committee has supported significant Army investments into competitive technology development programs for turbine engines over the past decade and is encouraged by the significant progress the Army has made in maturing technologies that would lower ITEP programmatic risks. The committee also notes that ITEP will benefit the Army's future vertical lift development efforts, in particular, the Future Attack Reconnaissance Aircraft (FARA) program.

The committee understands that the engineering and manufacturing development phase of ITEP is fully funded through fiscal year 2024 and that maintaining schedule to meet both the current and future platform integration timelines is crucial to the Army's aviation modernization enterprise. The committee expects the Army to maintain the current ITEP schedule as any delays will affect the planned delivery of new capability and Army aviation future readiness.

The committee recommends $206.4 million, the full amount requested, in PE 67139A for ITEP.

Improvement of combat helmet suspension systems

The budget request contained $118.5 million in PE 63118A for Soldier Lethality Advanced Technology, including $14.8 million for body armor and integrated head borne advanced technology projects.

The committee supports continued efforts to improve the performance of personal protective capabilities to increase warfighter performance and safety. The committee understands that recent technology development in helmet pad suspension systems, like microlattice technology, may result in next-generation helmet suspension systems capable of absorbing impacts more effectively while maintaining user comfort and sustaining performance requirements.

Therefore, the committee recommends an increase of $5.0 million in PE 63118A for body armor and integrated head borne advanced technology projects to improve helmet suspension pad systems using microlattice technology.

Instrumentable Multiple Integrated Laser Engagement System

The committee is aware of the important role that the Instrumentable Multiple Integrated Laser Engagement System has in training Army and Marine Corps elements on force-on-force training at the National Training Center and other training centers worldwide. The committee is also aware of the criticality of this training to force readiness levels, particularly as the military services pivot towards peer adversaries. The committee supports the Army's efforts to develop innovative technologies, such as the Synthetic Training Environment program, and is interested in the Army's plan to continue to improve the Instrumentable Multiple Integrated Laser Engagement System through the relevancy program and serve as a bridge to future virtual training solutions. Therefore, the committee encourages the Army to continue to support the Instrumentable Multiple Integrated Laser Engagement Relevancy Program as a cost-effective and capable bridge to future virtual training solutions.

Modeling and Simulation for Ground Vehicle Development

The committee notes that modeling and simulation (M&S) has demonstrated its utility as a tool for vehicle technology development by providing program managers with necessary information related to reliability and performance challenges in advance of making significant investment decisions for future development. The committee also notes that M&S is particularly relevant in the development of unmanned vehicle systems that could use artificial intelligence. As the Army continues to modernize its ground combat and tactical vehicle systems, the committee encourages maximization of M&S to realize potential savings in experimentation and prototyping, predict and control program costs and, where possible, accelerate the speed of development and fielding of new ground vehicle capabilities. Therefore, the committee directs the Assistant Secretary of the Army for Acquisition, Logistics, and Technology to provide a briefing to the House Committee on Armed Services no later than December 1, 2019 on how M&S is being incorporated into the development of next generation combat vehicles to include the Optionally-Manned Fighting Vehicle and Robotic Combat Vehi-

cle programs, as well as identify any barriers and challenges that may exist regarding the full utilization of M&S for ground combat and tactical vehicle development.

Modern mobile sheltering systems

The committee encourages the Department of the Army to explore the utilization of modern sheltering systems. Investment in rapidly deployable, hard-walled systems with integrated technologies and the use of modern and modular materials could advance the development of a modernized shelter that meets current and future operational requirements. Additionally, investment in new technologies for sheltering systems that are agile, durable, modular, customizable, and scalable could create new opportunities for shelter systems suitable not only for multi-domain combat operations, but also easily adaptable for use in disaster response and humanitarian relief operations.

Multi-mission Medium Range Railgun Weapon System and Integrated Power and Thermal Management System

The committee recognizes progress made by the Army to mature the multi-mission medium range railgun weapon system (MMRRWS) and the Integrated Power and Thermal Management System (IPTMS). The committee understands that MMRRWS, if successful, would support integrated air missile defense, mobile short-range air defense, and indirect and direct fires applications. This capability would launch a guided projectile significantly farther and with more lethality than traditional systems, and will address critical gaps in U.S. air defense against growing threats from peer and near-peer competitors. The committee further understands IPTMS was developed specifically to support the Army's Maneuver-Short Range Air Defense (M–SHORAD) requirement. Adopting IPTMS could potentially accelerate development of a directed energy capable M–SHORAD capability as early as 2021. The committee encourages the Army to continue to leverage internal investments in developing MMRRWS and IPTMS in order to fully evaluate the potential of railgun technology on mobile platforms.

Therefore, the committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services not later than February 1, 2020, on the current capability of MMRRWS and IPTMS, ongoing development and technology maturation of these systems, the results of any technology demonstrations of these capabilities, and the integration of MMRWS and IPTMS and their components with existing or planned M–SHORAD systems.

Multi-spectral thermal mitigation technologies

The budget request contained $118.5 million in PE 63118A for soldier lethality advanced technologies.

The committee is aware that the military services have established baseline standards for flame resistant uniforms that provide near-infrared thermal sensor protection for service members who are deployed in hostile areas. The committee understands that recent technical developments in sensor technologies and sensor mitigation are advancing at a pace well ahead of the current research, development, and procurement efforts. As a result, long-range detection and identification of our service members from hostile near-

peer as well non-state actors is an emerging force protection threat. As such, the committee encourages the military services to explore multi-spectral sensor mitigation technologies, and to incorporate them into current and future uniform requirements and testing in use by the armed services.

Therefore, the committee directs the Secretary of the Army, in coordination with the Secretaries of the Navy and the Air Force, to provide a briefing to the House Committee on Armed Services by March 1, 2020, on the infra-red protection of current uniform standards against emerging sensor technologies, including an analysis of the feasibility, availability, and cost of material solutions that could mitigate these emerging thermal sensor technologies.

Further, the committee recommends an increase of $5.0 million in PE 63118A for soldier lethality advanced technologies.

National Academies review of technologies related to Army Strategic Long-Range Cannon

The committee notes that modernization of long-range precision fires is the Army's highest priority for meeting the requirements of the National Defense Strategy and the operational challenges associated with peer and near-peer potential adversaries. One of the technologies the Army is pursuing is a Strategic Long-Range Cannon capable of firing a projectile at hypersonic speed up to 1,000 miles. The committee is interested to learn more about this imaginative concept and the technical challenges associated with development of such a capability especially with respect to propellant, projectiles, and cannon. Accordingly, the committee directs the Secretary of the Army to enter into an arrangement with the Board on Army Research and Development of the National Academies of Sciences, Engineering, and Medicine to conduct a study that identifies and evaluates the technology approaches, policies, and concepts of operations of the Strategic Long-Range Cannon (SLRC) program. The study shall include:

(1) an identification and evaluation of attributes of potential peer or near-peer adversaries operating environments and concepts that would enhance or reduce the effectiveness of SLRC;

(2) an identification and evaluation of limitations and vulnerabilities of current ground-based capabilities for long-range fires as well as existing and proposed countermeasures;

(3) an identification and evaluation of key and essential technologies needed to achieve documented goals and capabilities of SLRC along with associated technologies required to support manufacturability and sustainability; and

(4) provide a technology maturation roadmap, including an estimated funding profile over time, needed to achieve an effective operational SLRC that describes both the critical and associated supporting technologies, systems integration, prototyping and experimentation, and test and evaluation.

The Secretary shall submit the study to the congressional defense committees not later than August 31, 2020. The study submitted shall be classified at levels appropriate to and sufficient for access to data necessary for a comprehensive review of the subject and related technologies but must include an unclassified summary of findings and recommendations. The Secretary may submit com-

ments, if any, to accompany the study's classified or unclassified findings and recommendations.

Real time transmission of weapons usage data

The committee recognizes the importance of the Next Generation Squad Weapon program and notes the potential of new technology involving smart weapons capable of real time transmission of weapons usage data. The committee directs the Assistant Secretary of the Army for Acquisition to provide a briefing to the House Committee on Armed Services no later than November 1, 2019 on the utility of real time transmission of squad level weapons usage data for training and combat operations, logistics, and maintenance, to include potential or existing technology.

Women in Army science, technology, engineering, and mathematics careers

The committee is aware of the important role the Picatinny Science, Technology, Engineering and Mathematics (STEM) Education Office has in providing assistance to schools, support for students and leadership in developing activities to insure preparedness through education. As part of a continuing effort to encourage young women to pursue technical careers, in 2019 Picatinny Arsenal hosted its sixth year of "Introduce a Girl to Engineering," which attracted 100 students from 28 schools. Women comprise only 16 percent of the scientists and engineering workforce of the Combat Capabilities Development Command. Therefore, the committee encourages the Army to continue efforts to promote STEM education at Army labs and urges the Secretary of the Army to further utilize the Manufacturing Engineering Education program to promote women in STEM Army careers with awards under the selection criteria provided by section 2196 (g)8 of title 10, United States Code.

The committee encourages the Secretary to use the Department of Defense's Science, Mathematics, and Research for Transformation Program to further encourage women to enter the Army's science and engineering workforce.

RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, NAVY

Items of Special Interest

Academic partnerships for undersea vehicle research

The budget request contained $57.1 million in PE 62747N for undersea warfare applied research. The committee encourages the Department of the Navy to focus investments in research projects that are relevant to specific engineering and manufacturing needs, as well as defined systems capabilities. The committee also supports partnerships with industry and academia that are focused on well-defined short- and long-term submarine and autonomous undersea vehicle research needs, accelerated technology transition, and strong workforce development to develop a healthy industrial base with capacity needed to develop and build the Navy's next generation of advanced nuclear submarines and other undersea vehicles and systems. Therefore, the committee recommends an in-

crease of $10.0 million in PE 62747N for innovative research and manufacturing partnerships between academia and industry.

Advanced Manufacturing of Critical Scale Materials

To ensure the next generation of submarines incorporates the most cutting edge technologies, the Navy must advance the qualification and certification of Advanced Manufacturing (AM) processes, materials, and components to allow the Navy to integrate AM capabilities into current and future systems and platforms. The committee directs the Secretary of the Navy to report to the committee by December 1, 2019 on what efforts are underway to integrate AM. Further, as part of this report, the committee directs the Navy to include specific information about the testing and qualification of processes, materials, and components required to meet Columbia Class requirements and milestones.

Advanced precision materials research

The committee is aware that research conducted under this program is developing critical components and combining multiple classes of materials for innovative and pioneering use cases, including the use of metal powders and substrates for military specifications. As a result, advanced hybrid materials and novel manufacturing methods, including wire-arc manufacturing and lightweight materials are being developed for critical programs including the Navy's Cross Platform System Development Program.

Advanced radar research

The committee notes there have been major advances in the field of radar development with respect to phased array radar technology in a digital design. The development of this technology is a critical enabler for the Navy in the development of tools to increase target detection as well as improve electronic warfare and adaptive sensing capabilities. The committee directs the Chief of Naval Research to submit a report to the House Committee on Armed Services not later than April 30, 2020, on its support of partnerships with laboratory-based antenna test facilities that help the Navy understand, characterize, and calibrate advanced all-digital radars that are under development.

Autonomous vehicle collaboration across maritime domains

The budget request contained $119.5 million in PE 62123N for applied research into autonomous vehicle collaboration across maritime domains.

The committee supports the Navy's investment in unmanned systems, such as autonomous underwater and surface vehicles. While autonomous systems are part of a strategy to maintain military technological advantage, there are lingering gaps in the performance of maritime autonomous vehicles intended to serve key Navy missions.

Therefore, the committee recommends an increase of $10.0 million in PE 62123N for applied research into autonomous vehicle collaboration across maritime domains, particularly for rapid prototyping and experimentation enabling coordination between unmanned underwater and surface vehicles.

Critical bandwidth gaps for Navy deployments

The committee recognizes that the Department of Defense requires the capability to utilize in real time the massive amount of data compiled from technically advanced weapons systems. Current limitations in bandwidth and geographically challenging environments hinder the Department's ability to securely share in real time large volumes of data between warfighting units at the network's edge and command-and-control facilities. Nowhere is this problem more acute than for naval ships operating at sea. To address one specific gap, the Navy has established the Maritime Dynamic Over the Horizon Targeting System (MDOTS). MDOTS will utilize advanced commercially integrated technologies to generate a secure high-bandwidth network for a new over-the-horizon weapons system. The Navy has plans to test this system in 2019 and the committee is aware that other programs in the Department could also benefit from this capability.

One other example of a critical gap is in operational support to the F–35 Joint Strike Fighter. The F–35 generates massive amounts of data that must be shared in real-time with the pilot and command-and-control facilities to maximize effectiveness, intelligence, and readiness. The Navy's communications infrastructure currently lacks the high-bandwidth capabilities to enable the sharing of this volume of data.

Therefore, the committee directs the Assistant Secretary of the Navy for Research, Development, and Acquisition to explore the potential for using the MDOTS for a pilot project to establish a high-bandwidth networking capability to support Dynamic Over the Horizon Targeting at sea and on land. In addition, the committee directs the Assistant Secretary to review the Navy's existing networking capabilities, and identify critical gaps in support for deployments across the Navy and Marine Corps portfolio of programs. The committee further directs the Assistant Secretary to provide a briefing to the House Committee on Armed Services by March 1, 2020, that identifies priority gaps to be addressed.

Defense University Research Initiatives

The budget request contained $116.8 million in PE 601103N for University Research Initiatives.

Through a competitive grant process managed by the Office of Naval Research, the Defense University Research Instrumentation Program (DURIP) funds the purchase and development of research equipment and infrastructure by academic institutions necessary for high-quality Navy relevant science. This instrumentation plays a vital role in allowing defense-critical research projects to acquire needed technical resources specifically engineered to meet their requirements and is critical in accelerating the development of operational capabilities for the warfighter. The technologies developed and acquired through the DURIP process ensure that the next generation of scientists and engineers are trained with cutting-edge capabilities for the military National Security Innovation Base workforce.

Therefore, the committee recommends an increase of $5.0 million in PE 601103N to support the Navy's cutting-edge DURIP research.

Energy resilience

The budget request contained $119.5 million in PE 62123N for Force Protection Applied Research.

The committee recognizes the need for additional research to assist the Navy in its efforts to create a more robust energy infrastructure. To achieve military energy resiliency, these challenges can be best met by leveraging experienced energy university researchers working in concert with industry partners and the Navy. Specific areas of interest include: addressing electrical power intermittency, integrating renewable energy sources into the grid, energy storage, improved micro-grids, grid security, local generation of zero-carbon fuels, and the inspection and structural health monitoring of critical energy infrastructure.

The committee recommends an increase of $5.0 million in PE 62123N for energy resilience applied research.

Enterotoxigenic Escherichia Coli research

Enterotoxigenic Escherichia coli (ETEC) is one of the most prevalent pathogens responsible for diarrheal disease. Among U.S. warfighters deployed in the Middle East, ETEC has been the leading pathogen contributing to bacterial diarrhea. The Naval Medical Research Center (NMRC) Infectious Diseases Directorate (IDD) has established an Enteric Diseases Department to develop effective countermeasures to prevent or abate bacterial diarrhea. Infectious diarrhea historically has been a substantial cause of morbidity for deployed U.S. warfighters and continues to impact those currently serving overseas in the global war on terror. Similar pathogens also are responsible for travelers' diarrhea in civilian populations and endemic diarrheal diseases in young children in resource limited regions around the world. According to NMRC, acute infections often resolve on their own in 3 to 5 days but half of the service members infected report a decrease in job performance and 1-in-10 will go on to develop post-infectious irritable bowel syndrome. The Navy, Defense Advanced Research Projects Agency and academia have been working together to develop a platform for the delivery of immune molecules, mostly antibodies, which are safe and effective in rapidly establishing immune protection from ETEC diarrhea.

The committee supports continued preclinical studies needed to facilitate an Investigational New Drug (IND) submission, to include:

(1) process Development (formulation, stability) and Quality (assay development) studies;

(2) manufacture of preclinical materials sufficient for all IND-enabling pharmacology, toxicology and efficacy tests;

(3) IND-enabling safety studies including pharmacology and toxicology;

(4) IND-enabling animal efficacy studies to determine optimum dose and robustness of response; and

(5) development of protocols in preparation of First-in-Human studies.

Hearing loss and prevention treatment

The budget request contained $63.8 million in PE 62236N for Warfighter Sustainment Applied Research, which includes funding

to address noise induced hearing loss. The committee recognizes members of the Armed Forces often experience hearing loss at higher rates and that tinnitus is one of the most prominent disabilities amongst veterans. Therefore, the committee recommends $63.8 million, the amount requested, in PE 62236N for Warfighter Sustainment Applied Research and urges the Department of the Navy to develop hearing loss drug therapies and related clinical applications.

High Energy Laser system integration

The committee is encouraged by the Navy's rapid demonstration of Laser Weapon Systems (LaWSs) on surface ships. In a short period of time, the Navy has deployed the 30 kilowatts (kW) LaWS on the USS Ponce (Afloat Forward Staging Base (Interim)-15) followed by the 150 kW Laser Weapon System Demonstrator (LWSD) on the USS Portland (Landing Platform/Dock-27) in 2019. The improvements in power and beam quality make this a near 100 fold improvement in lethality. The committee is also encouraged by the 60 kW HELIOS program for integration on Destroyer Designated Guided ships by 2020. However, there appears to be more opportunity to integrate High Energy Laser (HEL) systems on large capital ships including aircraft carrier, fixed wing, nuclear powered (CVNs) and large amphibious ships to increase defensive capability and lethality of our expeditionary forces as evidenced by the deployment of LWSD on the USS Portland. The committee directs the Secretary of the Navy to submit a report to the congressional defense committees not later than April 1, 2020, describing a path forward for integration of HEL Systems 150–300 kW on large capital warships, including CVNs and large amphibious ships.

Navigation channel clearance for nuclear powered ballistic missile submarines

The committee recognizes that 70 percent of the United States nuclear deterrent is committed to ballistic missile submarines (SSBNs) concentrated at just two Navy bases in Bangor, Washington, and Kings Bay, Georgia. Each time an SSBN departs or returns to its respective home port, it must travel through shallow, restricted waterways that are open to commercial and private traffic. The committee is aware that U.S. Strategic Command has a requirement to survey these waterways in order to monitor for threats and obstructions which could damage transiting submarines and is interested in steps being taken by the Navy to meet this requirement to protect critical strategic assets.

Therefore, the committee directs the Secretary of the Navy to submit a report to the congressional defense committees by October 1, 2019, on measures instituted to ensure the safety and security of ballistic missile nuclear submarines operating in the approaches to Navy bases in Bangor, Washington, and Kings Bay, Georgia. The report should include:

(1) security measures mandated by the Department of Defense related to the operation of ballistic missile submarines entering and leaving the ports of Bangor, Washington, and Kings Bay, Georgia;

(2) current operational posture and capabilities employed to meet the mandated security requirements and any requirements not currently met; and

(3) specific measures to ensure the navigation channels for these ports are free of obstructions and other threats to transiting ballistic missile submarines.

Office of Naval Research Manufacturing Technology Program

The budget request contained $60.1 million in PE 63680N for the Navy's Manufacturing Technology (ManTech) program.

The Office of Naval Research's (ONR) ManTech program supports the productivity and responsiveness of the U.S. Defense Industrial Base by funding development, optimization, and transition of enabling manufacturing technologies to key naval suppliers. Submarine and undersea vehicle industries are a key part of this industrial base. The contribution of subsurface vehicles to continued undersea dominance are measured in decades of service life and are based on the creation and implementation of near- and long-term technological advances. However, global access to technology, accelerated rate of technology development, and implementation and budget constraints threaten to undermine our dominance in this crucial area.

ManTech fosters partnerships between academia, industry, and government research and development communities in support of undersea vehicles and technologies, with the goal of creating and rapidly transitioning innovative technologies and specially trained personnel to enable continued U.S. dominance in undersea warfare and weapon systems.

Therefore, the committee recommends an increase of $20.0 million in PE 63680N for ONR's ManTech program to enhance joint private and academic partnerships and performance and reduce costs of the shipbuilding process while ensuring that advanced technologies are incorporated into the next-generation of undersea vehicles.

Warfighter safety and performance

The budget request contained $63.8 million in PE 62236N for Warfighting Sustainment Applied Research.

The committee is aware that this program funds critical technology efforts to improve warfighter safety and enhance individual performance under adverse conditions. The program also funds ongoing research efforts to prevent occupational injury in hazardous, deployed environments, including studies on decompression sickness, oxygen toxicity, optimization of diver performance, and assessment of the impact of thermal stress on operational performance. The committee encourages the Navy to continue studies and research into new technologies that improve care for sailors in extreme environments and mitigate the effects of undersea stresses on human safety, performance, and resilience.

Therefore, the committee recommends $68.8 million, an increase of $5.0 million, in PE 62236N for warfighter safety and performance.

RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, AIR FORCE

Items of Special Interest

Advanced composites for large structures

The committee is aware of the current constraints on large-scale space and hypersonic vehicle fabrication, material process equipment, and composites. The committee is also aware of the demand for new epoxy resins and composite materials that can expand the process envelope for aerospace composite structures and operate in extreme temperatures, including space environments. Developing advanced, on-demand composite fabrics can reduce material waste, shorten production lead times, and provide additional manufacturing flexibility for large vehicle sections. The committee believes additional research is needed on epoxy and composite fabric formulas and equipment to understand the material properties and effects to meet space and hypersonic vehicle system requirements.

Aerospace Career Training Expansion Report

The committee recognizes the important role depots provide in achieving the Air Force's mission to fly, fight and win in air, space and cyberspace, and believes in the value of ensuring that the depot feeder communities have strong science, technology, engineering, and math (STEM) educational and workforce development opportunities. Critical investments in workforce are necessary to be better prepared to meet the future needs of the aerospace and defense industry sector. Diverse aerospace training programs and stackable credentials can also provide a clear sequenced pathway to ensure success and goal-oriented outcomes.

Therefore, the committee directs the Under Secretary of Defense for Research and Engineering and the Under Secretary of Defense for Acquisition and Sustainment, with support from the Assistant Secretary of the Air Force for Acquisition, Technology and Logistics, to provide a report to the congressional defense committees not later than February 28, 2020 on the Department's innovation, acquisition, and STEM programs that could be extended to the communities supporting Air Force depots. The report should include, but not be limited to, programs such as: Hacking4Defense within the National Security Innovation Network; the program on enhancement of preparation of dependents of members of armed forces for careers in science, technology, engineering, and mathematics as laid out in Chapter 111 of title 10 United States Code; small business programs such as Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) as defined under section 9 of the Small Business Act (15 U.S.C. 638); university research programs; public/public and public/private programs under the authority of the Air Force Research Laboratory; and Defense Acquisition University virtual or regional campuses.

Aerospace Composites Manufacturing

The budget request contained $43.1 million in PE 63680F for the Manufacturing Technology Program, including funds to initiate the program on Transforming Aerospace Composites Manufacturing.

Transforming Aerospace Composites Manufacturing enables key cost reductions, low cost tooling, and agile rapid response require-

ments identified as a critical need for new unmanned aerial systems and other future vehicles without sacrificing high performance requirements. The committee believes this investment is critical for maintaining the United States' technological edge by allowing for rapid innovation and reduced lead time as well as reduced procurement cost of these high performance systems.

Therefore, the committee recommends $53.1 million, an increase of $10.0 million, in PE 63680F for cost reduction for aerospace composite structures.

Briefing on Surface to Air Electronic Warfare Threats

The committee recognizes that advanced enemy threat systems continue to evolve and modernize and as a result could be immune to current U.S. defensive systems, including Air Force electronic warfare (EW) jamming systems. The committee further recognizes that existing radar guided surface-to-air systems can detect and identify legacy jamming signals, which could significantly increase U.S. military aircraft vulnerabilities for deployed military air crews. Therefore, the committee directs the Secretary of the Air Force to conduct an advisability and feasibility analysis of developing open standards compliant advanced threat system exploitation techniques that could rapidly defeat advanced threat systems within an open system framework. The committee believes this technology could provide increased protection to U.S. military aircraft, resulting in increased mission effectiveness and air crew survivability. The committee further directs the Secretary of the Air Force to provide a briefing to the House Committee on Armed Services by February 1, 2020 on the results of this analysis, as well as update the committee on current actions being taken to improve current EW jamming systems.

Digital twinning

The committee notes that "digital twin" technology has the ability to combine numerous technologies within a weapon system, such as the F–35 Joint Strike Fighter, to create a full-scale digital replica of the original weapon system. This digital replica could assist the Department of Defense in conducting predictive analyses to determine and more fully comprehend performance, reliability, and maintenance requirements before issues impact a weapon system's performance during development and manufacturing, or after the system is fielded.

Therefore, the committee directs the Secretary of Defense to provide a briefing to the House Committee on Armed Services not later than March 1, 2020, that explains how the F–35 program is implementing the use of digital twinning technology across the F–35 system enterprise.

Distributed Common Ground System and 10 U.S.C. 2377

The committee notes the significant progress that the Army has made in deploying the distributed common ground system of the Army. The transition to "Capability Drops'" and the increased use of readily available technology integration have improved program outcomes and accelerated deployment timelines.

The committee encourages the other military services and agencies of the Department of Defense to review the Army's approach

to determine whether that approach would improve outcomes for their own distributed common ground system programs. In particular, the committee urges program managers for the other distributed common ground system programs to learn more about the Army's approach to the requirements of 10 U.S.C. 2377 and directs the Secretary of the Air Force to brief the committee on the acquisition strategy for the distributed common ground system of the Air Force, with particular attention to the process used to determine whether commercial technologies can meet requirements pursuant to 10 U.S.C. 2377, not later than September 30, 2019.

Educational partnership agreements for aerospace propulsion

The budget request contained $198.8 million in PE 62203F for aerospace propulsion research and development.

The committee recognizes that confronting emerging threats to vital U.S. assets in space is critical to the national security of the United States. The committee further understands the U.S. Air Force is pursuing advanced science and technology research to maintain secure operations to and in space and that effort will require additional rocket and space focused engineers over the next decade.

The committee commends the Air Force for its ongoing effort to accelerate its strategic capabilities in space operations through next generation access to space and maneuverability through the use of Educational Partnership Agreements (EPAs) (10 U.S.C. 2194). The committee supports the use of EPAs, which are a vital resource that provides authorized funding directed to academic institutions to stimulate growth in science, technology, engineering and mathematics education. EPAs play a critical role in encouraging and enhancing study in scientific disciplines at all levels of education and in generating future generations of scientists and engineers within the United States.

Therefore, the committee recommends an increase of $10.0 million in PE 62203F to accelerate Educational Partnership Agreements that advance the mission of the Air Force Research Laboratory to pioneer transformative aerospace technologies and accelerate its long-term strategic objectives in key areas such as energy security, energy optimization, reusability, maneuverability, and multi-mission mobility.

Kessel Run Commercial Outreach

The committee notes the Air Force's continued use of agile development methods in the Kessel Run program. The committee encourages continued commercial outreach and commercial market research by the Kessel Run program in order to ensure that innovative commercial solutions are available to meet Air Force needs, while focusing on national security-unique challenges with in-house development teams.

The committee directs the Air Force to provide a briefing on Kessel Run plans not later than September 1, 2019. Such a briefing should include:

(1) an update on current priorities for Kessel Run;

(2) measures to ensure compliance with section 2377 of title 10, United States code, section 855 of the National Defense Authorization Act for Fiscal Year 2016 (Pub. L. 114–92, 129 Stat. 919), and

other attempts to ensure the use of innovative commercial technologies;

(3) plans to transition Kessel Run technologies into established programs of record.

Light attack and armed reconnaissance experimentation

The budget request contained $35.0 million in PE27100F for continuation of Light-Attack Armed Reconnaissance (LAAR) experimentation.

The committee notes that the Air Force plans to apply $100.0 million in fiscal year 2018 appropriated funding, and plans to request reprogramming authority to realign $25.0 million in fiscal year 2019 appropriated funding, to purchase six test article LAAR platforms (three AT–6 and three A–29 aircraft) to continue Phase 3 experimentation activities.

The committee notes that the Air Force is not ready to make a decision on a potential procurement for LAAR without completing additional analyses on all potential solutions in order to find a solution that fits tactical, operational, and strategic requirements for a wide variety of allies and partners. The Air Force determined after the conclusion of Phase 2 experimentation that the results gained thus far have not provided enough information, nor has the LAAR experiment strategy explored other platforms that could fill lesser contingency and international partner mission requirements. The committee further notes that the Air Force believes continued experimentation during Phase 3 will allow for additional consideration of current and emerging unmanned, rotorcraft, and turbojet technologies to assess cost-effectiveness and capability sufficiency to ensure that a future LAAR platform or platforms will maximize meeting a diverse set of mission requirements and capability gaps.

The committee appreciates the deliberate and methodical approach the Secretary of the Air Force is taking through experimentation and data analysis to fully inform a future procurement decision for LAAR capabilities and this new mission area. However, prior to entering Phase 3 experimentation activities, the committee expects the Secretary to establish and document the Phase 3 experimentation strategy, design, goals, objectives, and metrics. The committee also expects the Secretary to consult with the Commander, Special Operations Command to assess how both general purpose forces and special operations forces can leverage experimentation activities. The committee directs the Secretary of the Air Force to provide a briefing to the House Committee on Armed Services not later than September 1, 2019, on the scope and plans for Phase 3 experimentation.

Low-cost attritable aircraft technology

The committee supports the intent of the Assistant Secretary of the Air Force for Acquisition, Technology, and Logistics to accelerate the Air Force Research Laboratory's Low-Cost Attritable Aircraft Technology (LCAAT) program for collaborative pairing with manned platforms, potentially including the 35. The committee views the combined application of commercial technology, autonomy, and artificial intelligence as imperative for solving current military challenges. Teams of low-cost collaborative systems provide new mechanisms to ensure survivability and mission success

without leveraging exquisite technology and the associated high cost and long development timelines.

Integration and technology demonstrations reduce the risk and time required to transition technologies into operational systems. Accordingly, further prototyping and technology enhancements are necessary to transition the LCAAT demonstrator aircraft system into a fully operational capability. Continued testing and the development and integration of technology is required to provide a runway takeoff capability; airborne weapons deployment capability (in support of manned platforms); human machine interface enhancements; development and integration of a secure Common Data Link-based network system; and development of operation and maintenance systems, processes, and tests to operationalize the evolving Manned-Unmanned Teaming capability.

Accordingly, the committee directs the Assistant Secretary of the Air Force for Acquisition, Technology, and Logistics to submit a report to the House Committee on Armed Services not later than April 1, 2020, on the Air Force's efforts for the design, test, and integration of these air vehicles.

Major test range and facility enhancements

The budget request contained $717.9 million in PE 65807F for Department of the Air Force test and evaluation support. The committee notes that this amount is $25.1 million, or approximately 3 percent, higher than the budget for fiscal year 2019.

In the committee report accompanying the National Defense Authorization Act for Fiscal Year 2018 (H. Rept. 115–200), the committee reported on a briefing it received on a comprehensive assessment of Major Range and Test Facility Base needs and investments to meet the testing required for advanced generation aircraft and air armaments, including offensive hypersonic weapons, autonomous systems, and advanced sub-surface systems. The committee noted that among its findings were that advanced generation aircraft and weapons introduce test and evaluation profile and data gathering gaps, and that greater research and development, operations and support investments are required to fill those gaps. The committee is further concerned that with a growing volume of test and training requirements, more instrumentation throughout test ranges, especially open-water test ranges, that support testing activities is required for efficient use of air, surface, and subsurface test areas to reduce the competition for range space between operational readiness priorities and fielding new system capabilities. The committee assesses that technologies such as Telemetry Extension Satellite Communications Relay projects could assist range safety, testing and evaluation personnel executing over water missions supporting test events of long-range weapons, aircraft, and sea-surface platforms. The committee notes these technologies focus on prototype integration and modification of wave gliders by using an array of sensors, antennas, receivers, and transmitters to gather and transmit secure data. The committee is further concerned that the potential development of open-water energy projects has the potential to encroach and negatively impact military test and training operations, and expects the Secretary of the Air Force to thoroughly evaluate impacts of such projects on Air Force test missions.

Therefore, the committee recommends $743.4 million, an increase of $25.5 million, in PE 65807F for Air Force test and evaluation support to enhance open-air range test capabilities in the development of next-generation platforms and air armaments and to mitigate growing open-water test range challenges and risks.

Metals Affordability Initiative

The budget requested contained $36.6 million in PE 63112F for Advanced Materials for Weapons System.

The committee recognizes the importance of this program in providing affordable materials and manufacturing technologies across the entire life-cycle of aerospace materials. Specifically, the Air Force Research Lab-managed Metals Affordability Initiative has reduced metallic aircraft component costs and accelerated the implementation and transfer of technologies across a wide range of aircraft platforms. The committee notes the value of this public-private partnership and the risk sharing model that has directly led to a nearly $2.4 billion return on the U.S. Government's investment. The committee recommends the Secretary of the Air Force create a dedicated funding line for the Metals Affordability Initiative to show the Air Force's clear commitment to this program.

The committee recommends $41.6 million, an increase of $5.0 million, in PE 63112F for Advanced Materials for Weapons System.

Modular Open Systems Architecture Intelligence Sensor Readiness Initiative

The committee is pleased by the recent memorandum from the Secretaries of the military departments supporting a move to Modular Open Systems Architectures (MOSA). Many of today's Air Force Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR) gathering systems are built by single vendors who have a lock on future enhancements and capability drops. Obsolescence and vendor-lock lower the Air Force's capability and increase its operation and maintenance costs. Platform agnostic MOSA standards have the ability to enable airborne C4ISR systems to be fielded at a quicker pace while lowering logistics and procurement costs. The committee believes that the Department should endeavor to move away from stove piped systems and reduce dependence on single vendors and that MOSA would enable the Air Force to swap out capabilities and take advantage quickly of new innovations. The committee encourages the Air Force to establish a 3- to 5-year technical refresh cycle, versus the current 10-plus year cycles, and work to reduce its logistical overhead by taking advantage of common hardware and software, reduced maintenance, enhancement, and upgrade costs.

OC–135B Open Skies Treaty aircraft recapitalization

The committee notes that the current fleet of OC–135B aircraft conducting the Open Skies Treaty flights are over 55 years old and experience significant sustainment and reliability issues, resulting in an average mission completion rate of 65 percent between 2007 and 2017. Further, the range of the legacy OC–135 aircraft is insufficient to fully execute mission options within the treaty's 96-hour in-country observation period. In addition to maintenance and range limitations, the current wet-film imaging used to collect data

will become obsolete sometime around 2022. To avoid any gap in Open Skies Treaty collection capability, the committee supports the Air Force's plan to upgrade the fleet with digital visual imaging systems (DVIS) for the near-term, and ultimately replace the OC–135 Open Skies aircraft with two commercially-available small airliner class aircraft with integrated DVIS sensors.

The committee supports recapitalization of the OC–135 but remains concerned about the Air Force's ability to stay on schedule and meet the fiscal year 2022 aircraft certification and treaty compliance date. Unanticipated technical challenges with the DVIS sensors have already affected the schedule and could cause additional delays if not remedied soon.

Therefore, the committee directs the Secretary of the Air Force to provide a report to the House Committee on Armed Services by October 1, 2019, on the Open Skies Treaty aircraft recapitalization. The report shall include:

(1) an assessment of the DVIS data technical package maturity and the cost and feasibility of integrating it onto the replacement commercial aircraft;

(2) the plan for and status of developing or acquiring associated ground processing systems;

(3) the plan for management of programmatic risk and an assessment of the ability to meet the fiscal year 2022 deadline for an upgraded, treaty-compliant system;

(4) existing or planned mitigation options should the Air Force not be able to achieve current DVIS and treaty compliance milestones, and should there be any future delay to the upgrade or replacement of the OC–135; and

(5) a copy of any assessment conducted by an independent organization employed by the program for technical assistance.

Open mission systems

The committee supports the Department of Defense and each of the military services in their commitment to open-systems standards and the inclusion of those standards to the maximum extent possible in requirements, programming, and development activities for future weapon system modifications and new start development programs as agreed to in the January 2019 memorandum of understanding.

However, the committee notes that the military services are independently pursuing open-standards that are unique to each service, as the Air Force has focused efforts on the Open Mission Systems/Universal Command and Control Interface standard, the Army has focused on the VICTORY standard, and the Navy has focused on the Future Airborne Capability Environment standard. The committee further notes the open-standards as currently defined may not be interoperable and do not explicitly include requirements to ensure interoperability across services, thereby coupling warfighting capability to a specific standard and a specific service.

To accelerate and simplify the incremental delivery of new capabilities into systems across all military services, the committee recommends that the Department consider a cross-service interoperability requirement in future releases of their open standards and create a plan for identifying and managing compatibility across re-

leases of the standards. The committee further recommends that the Department identify current and future programs that would benefit from cross-service interoperability, such as the Air Force's Common Range Integrated Instrumentation System and the Navy's Tactical Combat Training System Increment II, and utilize these programs for experimentation, demonstration, and deployment of cross-service interoperable open standards.

Persistent intelligence, surveillance and reconnaissance

The committee remains concerned about the worldwide shortage of available intelligence, surveillance, and reconnaissance (ISR) assets to support combatant commander requirements. While the committee is encouraged by the Department of Defense's renewed prioritization in acquiring and fielding ISR assets, the committee also notes that the Department and each of the military services are developing and fielding programs to provide joint persistent ISR to the warfighter. The committee understands that one of the pathways identified in the Air Force's recently released Intelligence, Surveillance, and Reconnaissance Flight Plan is the use of multi-role and cross-domain ISR collection capability to increase readiness and lethality. The committee notes that these include high altitude assets and penetrating, persistent, multi-role capabilities. Therefore, the committee encourages the continued prioritization and funding for research and development of advanced ISR assets to include high-altitude, multi-day capable unmanned platforms, to fill existing persistent ISR capability gaps.

Thermal management and robust power generation systems

The budget request contained $198.8 million in PE 62203F, and $128.9 million in 62102F for the development and demonstration of electrical power, thermal management, and distribution for aerospace applications and materials.

The committee recognizes the Air Force is highly focused on developing next generation weapon systems, both for aircraft self-protection and to provide offensive capability for future aircraft. In order to meet these goals, the Air Force will need a power generation system that can meet these new power demands in addition to other electrical and avionic subsystems power requirements and will also need an efficient modular cooling system capable of handling increased thermal loads, specifically for hypersonic vehicles. The committee encourages the Air Force to focus developmental work on the aerospace electrical power and modular cooling technologies required for future aircraft concepts and cost-effective upgrades to current aircraft.

Therefore, the committee recommends an increase of $5.0 million in PE 62203F to accelerate design, fabrication, and testing to support robust electrical power and thermal management systems for future aircraft needs, and an increase of $10.0 million in PE 62102F for advanced thermal protections systems.

Unmanned aerial systems cyber operations research

The committee recognizes the critical importance of developing new technologies to detect and counter adversarial unmanned aerial systems (UAS) and UAS swarms. The committee notes that countering UAS operations presents a special series of unmet com-

munications, command and control, cyber, computation, and intelligence challenges at the tactical edge. Due to this emerging threat, the committee directs the Director of the Air Force Research Laboratory Information Directorate to provide a briefing to the House Committee on Armed Services by October 30, 2019, on their continued research and development into the countering of unmanned aerial systems using advanced technologies to facilitate UAS detection and geolocation, determination of individual and swarm behavior, dissection of swarms to identify critical nodes, situational awareness, elucidation of threats and mission intent, and counter UAS capabilities.

Vertical lift demonstration

The budget request contained $102.9 million in PE 63211F for aerospace technology development.

The committee is aware of the Air Force's requirement for advanced technologies that provide the capability to operate from forward bases in highly contest environments with unimproved landing zones and limited maintenance facilities. A new class of runway independent aircraft could greatly enhance speed, range, and agility to support operations within these highly contested areas. The committee encourages the Air Force to continue research, development, and demonstration of next generation aircraft that are scalable, autonomous, and capable of vertical lift flight with high speed cruise performance.

Therefore, the committee recommends an increase of $5.0 million in PE 63211F for aerospace technology vertical lift demonstrations.

Wide area motion imagery

The committee notes that the Gorgon Stare wide area surveillance capability continues to support daily operations in both Afghanistan and Iraq with critical intelligence, surveillance, and reconnaissance (ISR), and that other combatant commands have requested the Gorgon Stare capability. The committee is concerned that, despite daily operational tasking and despite the Air Force's designation of Gorgon Stare as a program of record in 2014, there is still no formal budget request for this combat-proven ISR system. The committee notes that prior year congressional funding has resulted in the system developing beyond line-of-sight communications and multi-intelligence capabilities.

Accordingly, the committee directs the Chairman of the Joint Chiefs of Staff to provide a briefing to the House Committee on Armed Services by November 1, 2019, on the plan for apportionment of Gorgon Stare into the Department's ISR forces and the full extent of combatant command requirements for Gorgon Stare ISR wide-area support to worldwide operations.

RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, DEFENSE-WIDE

Items of Special Interest

Additive manufacturing

Defense-wide Manufacturing Science and Technology (DMS&T) is the joint, defense-wide component of the Department of Defense's Manufacturing Technology (ManTech) program directed by section

2521 of title 10, United States Code. Investments in ManTech provide for a healthy industrial base necessary for national security. The committee is aware that eight Department Manufacturing Innovative Institutes are funded under DMS&T, including an institute focused on additive manufacturing. The committee believes that additive manufacturing supports improved life-cycle maintenance and readiness, especially when capabilities are provided in-theater. Therefore, the committee directs the Under Secretary of Defense for Research and Engineering to provide a briefing to the House Committee on Armed Services not later than October 1, 2019, on the DMS&T program investments in additive manufacturing and the value and efficiencies such investments may have, especially when capabilities are provided in-theater.

Advanced composites and manufacturing technologies

The budget request contained $10.1 million in PE 67210D8Z for industrial base analysis and sustainment.

The committee believes that advances in structural materials, composites, metals, ceramics, thermoplastics, nanomaterials, metamaterials, hybrid composites, and cellulose nanocomposites have the potential to transform manufacturing requirements for military weapon systems. These materials can be low-cost, low-weight, low-logistics, recyclable, corrosion resistant, and strong enough to have the potential to be used as a substitute in many military vehicles' primary structural applications and maintenance to maximize force projection through speed, range, enhanced mobility, and payload.

Additionally, the Department of Defense, through the Manufacturing Technology program, has worked in recent years to advance technology development for defense-essential manufacturing capabilities, cutting across all of the military services. Specifically, the Department has identified manufacturing technology requirements that would have the largest cost-effective impact on warfighter capability improvements.

These technologies potentially could enable the strategic goals of timely, affordable delivery of revolutionary technologies to the warfighter. Therefore, the committee recommends that the Department perform research, development, and testing on these advanced materials in order to demonstrate shorter development and manufacturing cycle times, more reliable joining methods, and optimization for desired performance and economical manufacturing.

Therefore, the committee recommends an increase of $5.0 million in PE 67210D8Z for industrial base analysis and sustainment for smart digital manufacturing.

AI-enabled Robotics in CBRN and Complex Environments

The committee supports Department of Defense efforts to advance artificial intelligence (AI) and machine learning technologies in support of the National Defense Strategy and notes its commitment to rapid innovation and delivery of emerging capabilities to achieve military superiority over near-peer competitors. However, the committee also observes with interest the emerging application of AI enabled technologies to facilitate human-machine teaming for special operations forces operating in dangerous and non-permissive environments. For this reason, the committee encourages the

Department to pursue collaborative partnerships with small businesses, industry, and academia to aggressively develop and field AI enabled robotics to enable safer and more effective maneuver operations. The goal of these efforts should be to put revolutionary technology in the hands of warfighters to speed decision-making, increase lethality, and better enable complex tactical operations in contested or denied environments, especially those where chemical, biological, radiological or nuclear (CBRN) threats are present or where positioning, navigation and timing (PNT) services are degraded. Therefore, the committee directs the Undersecretary pf Defense for Research and Engineering, in coordination with the Commander of U.S. Special Operations Command, to provide a briefing to the House Committee on Armed Services by November 1, 2019, on its strategy to leverage AI-enabled robotics in support of special operations forces and CBRN environments.

Analysis of Science and Technology Reinvention Laboratories

The committee recognizes that the Department of Defense's organic science and technology (S&T), research, development, and test ecosystem, to include the test centers and laboratories, struggles to compete with the tech sector in attracting and maintaining a talented workforce. These entities also face challenges in obtaining resources for military construction projects and other improvements as the Department has not prioritized investment in organic institutions. In fact, the Defense Science Board reported in 2017 that most Department laboratory directors feel they are unable to maintain their facilities and infrastructure at a reasonable standard.

The committee believes that the Department's in-house ecosystem is vital to maintaining a technological advantage for our warfighters, sustaining a healthy industrial base, and protecting the research and development of critical technologies. Many prior years' National Defense Authorization Acts have granted the Directors of the Science and Technology Reinvention Laboratories (STRLs) authorities to promote modernization and allow for hiring of technical talent. The committee understands most of these authorities have not been fully implemented by the Department and elsewhere in this Act, the committee includes two legislative provisions that would require the Secretary of Defense to establish plans for implementation.

The committee believes that comprehensive data and analysis relating to the STRLs available to senior leaders will promote better decision making and resource allocation to ensure these entities remain viable. Therefore, the committee directs the Director of Cost Assessment and Program Evaluation to conduct an independent analysis of the Department's STRL infrastructure, modernization, and workforce. The analysis shall include the components that comprise total costs at each facility; accounting practices with regards to direct and indirect costs as compared to other typical S&T entities; effects of labor cost-rate growth; the use of research and development funding for military construction projects; the loss of buying power on spending for materials, equipment and other nonlabor resources; and any other matters deemed appropriate by the Director to maintain high-quality institutions. The Under Secretary of Defense for Research and Engineering shall provide the Director

with the information and resources necessary. The Director shall provide the analysis to the House Committee on Armed Services by September 1, 2021.

Artificial intelligence in force protection activities

The committee is encouraged by the ongoing rapid fielding of commercially-available technologies that utilize artificial intelligence (AI) and sensor fusion to deliver enhanced force protection for Department of Defense personnel and installations. Recent advances in commercially available technology, including artificial intelligence, computer vision, and sensor technology, have made it possible to develop, manufacture, and deploy more effective and cost-efficient Reconnaissance, Surveillance, and Target Acquisition technologies. Accordingly, the committee believes that AI can significantly improve situational awareness and security for Department of Defense personnel through faster and better processing and exploitation of sensor data, recognition and classification of potential threats, and dissemination of that information to human operators for the purposes of enhanced self-defense. The committee further believes that AI-based technologies for personnel security and base defense can provide more effective capability and will improve operators' ability to detect, classify, and respond to threats. The committee believes that the application of AI to improve the safety of Department of Defense personnel and installations is central to improving the security of military personnel and encourages the Department to consider these technologies in the continuous effort to enhance force protection.

Autonomous distribution for critical supplies

The committee is aware that the 2015 Joint Concept for Logistics 2.0 highlighted the growing gap between increasing logistics requirements and constrained logistics resources in the context of globally integrated operations. To close this gap, the Department of Defense is investigating advanced technologies suitable for distributed logistics. The committee understands that the Defense Innovation Unit has been prototyping commercial, autonomous drone services to deliver critical, life-saving supplies like blood and medical products to military units in combat zones. The committee supports the continued development and expansion of autonomous distribution systems for these efforts to move faster, reduce costs, and ultimately save lives. Therefore, the committee directs the Under Secretary of Defense for Research and Engineering to provide a report to the congressional defense committees by February 15, 2020, on efforts to modernize logistical operations since the publication of the 2015 Joint Concept for Logistics 2.0. The report shall include a summary of any prototyping efforts and an assessment of all missions and requirements that could be met through autonomous distribution technologies.

Battery Development and Safety Enterprise

The committee recognizes the importance of battery research and development as a readiness enabler. The committee notes that the military departments must be able to provide rapid, safe, and effective deployment of batteries and battery systems to support and enhance modern systems ranging from directed energy weapons to

microgrids. The committee further notes that research to develop advanced energy storage including safe storage and transport, facilitates the ability to field systems in austere environments. The committee commends the Navy for establishing the Battery Development and Safety Enterprise Office to address these issues in a systematic way with the added benefit of reducing life-cycle costs of battery usage enterprise-wide.

The committee recommends an additional $13.0 million in PE 63724N for the Navy's Battery Development and Safety Enterprise Office. The committee encourages the Department of Defense to consider establishing a Battery Center of Excellence to benefit all services, encourage information sharing, and leverage efficiencies using the Navy's Battery Development and Safety Enterprise Office as its foundation.

Chemical and Biological Decontamination Solutions

The committee is aware of the Department of Defense's continuing interest in chemical and biological decontamination technologies. The Department has invested significantly in research and development efforts in academia, Department of Defense laboratories, and commercial industry. The committee understands there are a number of different domestic and foreign providers of chemical and biological decontamination solutions for the Department. The committee is interested in understanding the costs, benefits, and variances of these different solutions, including any impact on the domestic industrial base. Therefore, the committee directs the Secretary of Defense to provide a briefing to the House Committee on Armed Services by February 1, 2020, on the evaluation criteria for chemical and biological decontamination solutions procured by the Department, including an assessment of the cost, benefits, and any impact to domestic suppliers.

Commercializing defense technologies

The committee recognizes the value of defense research to the technological advancement and its history of ground breaking innovations that includes global positioning system navigation, the precursor of the Internet, and radar. These technologies that originated in the Department of Defense have had wide ranging impacts on society through their commercialization. The committee further recognizes that while significant effort has recently been made to streamline the use of commercial technology within the Department and in each of the military services, less attention has been given to commercializing defense technologies and continuing the Department's long record of successful innovation. The committee encourages the Department to create initiatives for commercialization of defense research, to include using public and private means and leverage the authorities provided in section 2359 of title 10, United States Code.

Counterterrorism detection technology

The budget request contained $70.5 million in 63122D8Z for the Combating Terrorism Technical Support Office.

The committee recognizes the importance of identifying and developing capabilities to combat terrorism, particularly in the global fight against terrorism and protecting Americans at home and

abroad. The committee believes it is imperative that the Department of Defense continue to advance technological solutions to improve counterterrorism measures and deliver these capabilities to Department of Defense components and interagency partners. The committee is especially interested in the use of artificial intelligence enabled capabilities, including national language processing, phonetic identification across languages, and financial data tracking, that would provide the interagency real-time indications and warnings of possible threats or sanction violations.

Therefore, the committee recommends an increase of $3.0 million in PE 63122D8Z for Combating Terrorism Technical Support Office detection technologies.

Cyber institutes at senior military colleges

The budget request included no funds for cyber institutes.

Section 1640 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232) authorized the Secretary of Defense to establish cyber institutes at each of the senior military colleges for purposes of accelerating and focusing the development of foundational expertise in critical cyber operational skills for future military and civilian senior leaders. The committee understands that the cyber institutes have not yet been established, but that the senior military colleges, as defined by section 1640, have a formal proposal for establishment.

The committee notes that women and minorities remain underrepresented in the cyber security sector in both military and civilian settings. To increase diversity and opportunity, the committee expects the Department to use the cyber institutes to conduct effective outreach, recruiting, and retention programs focused on increasing matriculation in and completion of cyber security programs by women and underrepresented minorities. The committee directs the Secretary of Defense to provide a briefing to House Committee on Armed Services not later than 180 days after the designation of cyber institutes on the strategy of each cyber institute to achieve diversity in the cyber security sector.

The committee recommends an increase of $12.0 million in PE 303140D8Z for such institutes in order to facilitate development of critical cyber operational skills for future civilian and military leaders.

Cyber-physical research

The budget request contained $121.5 million for applied research.

The 2018 Department of Defense Cyber Strategy highlights the Department's plan to strengthen the security and resilience of networks and systems that contribute to current and future U.S. military advantages and to support the development of the U.S. cyber workforce. As no system can be completely isolated from all cyberattacks, which continue to occur at unprecedented levels, there is also an evolving national requirement for cyber-physical security. Cyber-physical security is a combination of cybersecurity and systems engineering designed to ensure that critical cyber-physical systems, such as marine vessels, submarines, unmanned vehicles, and power grids, become more resilient to avoid or survive damage if they are attacked. Failure to protect these systems against inherent communication and control issues (e.g., network congestion and

real-time computing constraints) as well as malicious acts (e.g., cyberattacks) can have catastrophic consequences.

Therefore, the committee recommends $129.5 million, an increase of $8.0 million, in PE 0602123N for applied research into cyber-physical security.

Directed energy test range workloads

The committee remains concerned that U.S. Major Range and Test Facility Bases (MRTFBs) have inadequate infrastructure to support next generation weapon systems. The committee also recognizes the need to transition new and game-changing directed energy technologies to the warfighter. The Department of Defense established the Nation's first High Energy Laser System Test Facility (HELSTF) in 1975, but the technology has seen significant advancements over the course of four decades. As directed energy weapon systems mature, the need to validate their performance becomes increasingly important. The workload and number of directed energy demonstrations and exercises have increased significantly since 1975 and the projected workload for fiscal years 2018–22 for HELSTF is large and growing, and has expanded to include High Power Microwave (HPM) testing. Additionally, there are currently no available enduring frequency agile and tunable HPM assets for evolving doctrine or HPM Directed Energy Concept of Operations development any at MRTFBs.

The committee directs the Assistant Director for Directed Energy in the Office of the Under Secretary of Defense for Research and Engineering to provide a briefing to the House Committee on Armed Services not later than September 30, 2019, on the test and evaluation infrastructure and test asset needs to meet directed energy requirements over the next 5 years. Included in this briefing should be the plans for HELSTF and other service MRTFB test sites, to include HPM testing, required for directed energy experimentation in order to develop the tactics, techniques, and procedures required to incorporate the emerging capabilities into the Department's inventory. This presentation should also include mitigation procedures for operations in the national aerospace system against above-the-horizon targets.

Electronic warfare planning for near-peer adversaries

The Department of Defense's 2013 Electromagnetic Spectrum Strategy recognizes that Department operations in all domains are fundamentally dependent on our use and control of the electromagnetic spectrum. All joint functions such as movement and maneuver, fires, command and control, intelligence, protection, sustainment, and information are accomplished with systems that use the spectrum. The safety and security of U.S. citizens, the effectiveness of U.S. combat forces, and the lives of U.S. military members, our allies, and non-combatants depend on spectrum access. More recently, in December 2018, the Government Accountability Office issued an Emerging Threats report that similarly echoed that adversaries are developing electronic attack weapons to target U.S. systems with sensitive electronic components, such as military sensors, communication, navigation, and information systems. These weapons are intended to degrade U.S. capabilities and could restrict situational awareness or may affect military oper-

ations. The committee is concerned about the extent to which the Department is planning and preparing to defend itself and operate in an environment where peer and near-peer adversaries could use existing and emerging capabilities that degrade use of the electromagnetic spectrum.

Therefore, the committee directs the Comptroller General of the United States to assess the Department's electronic warfare and electromagnetic spectrum operations strategy and implementation efforts. The assessment should include the current electronic warfare threat from peer or near-peer adversaries and actions the Department has taken in response to include the protection of critical warfighting capabilities; the extent to which the Department has incorporated current and emerging electromagnetic spectrum risks into service and combatant command operational planning efforts and exercises; the status and effectiveness of the Electronic Warfare Executive Committee established by the Secretary of Defense in 2015; the Department's implementation of the 2013 Electromagnetic Spectrum Strategy; and any other matters the Comptroller General determines to be relevant.

The committee further directs the Comptroller General to provide a briefing to the House Committee on Armed Services not later than March 1, 2020, on preliminary findings, and to present final results in a format and timeframe agreed to at the time of the briefing.

Energy systems for forward and remote operating bases

The committee is aware of the Defense Science Board Study examining energy systems for forward and remote operating bases and encourages the Department of Defense to continue to invest in alternatives to improve the energy effectiveness of expeditionary forces. The committee is also aware of the Defense Science Board conclusion to explore the use of micro-nuclear reactors as an expeditionary energy source. The Department's Strategic Capabilities Office has released a Request for Information as to the feasibility of small nuclear reactor prototype demands that could meet the increasing energy demands of expeditionary operational units. The committee recognizes the urgent need to provide energy to remote operating locations to minimize the use of fuel and resupply land transport missions, as well as provide a rapidly deployable energy source during humanitarian relief operations, and urges the Department to consider options to meet this demand, including benefits, risks, operational requirements, safety and costs.

Hacking for Defense

The budget request contained $25.0 million in PE 63950D8Z for the Hacking for Defense (H4D) National Security Technology Accelerator within the National Security Innovation Network program.

The committee believes that the H4D program is an innovative, educational, low cost, and exciting introduction to challenging national security problems for college students. H4D is a university course developed by U.S. military combat veterans and taught at 22 universities around the country, in which students apply cutting edge research and problem solving techniques to real-world security problems. Currently in its third year, the requested funding

will make it possible to scale up H4D training and ensure that courses are available year-round in every State.

Therefore, the committee recommends $30.0 million, an increase of $5.0 million, in PE 63950D8Z for the H4D National Security Technology Accelerator within the National Security Innovation Network program.

Hacking for Defense Support to Defense Innovation

The committee notes that Hacking for Defense (H4D) is authorized as a National Security Innovation and Entrepreneurial Education Program in the National Defense Authorization Act for Fiscal Year 2018 (Public Law No. 115–91) to enable Department of Defense innovation. H4D is a university course developed by U.S. military combat veterans and private sector entrepreneurs taught at universities across the United States in which students apply cutting-edge problem solving techniques to real-world national security and defense problems. The committee believes that H4D also enhances innovation education at military universities, including the United States Military Academy at West Point, the United States Air Force Academy, the National Defense University, the Defense Acquisition University, and other professional military education programs. The committee finds that H4D supports solution development directly for the warfighter, improves U.S. military readiness, and stimulates growth within the National Security Innovation Base, consistent with the 2018 National Defense Strategy. Further, the committee believes H4D fosters the growth of an emerging generation of national security leaders and mission-driven entrepreneurs by improving and expanding the Science, Technology, Engineering, and Math (STEM) skill sets within the United States workforce.

The committee believes that the Department of Defense should fully resource H4D and its growing ecosystem of national security innovators and entrepreneurs through the provision of the annual funding required to enhance existing H4D university courses. The committee notes that the National Security Innovation Network (formerly the MD5 National Security Technology Accelerator) plans to deliver H4D at up to 25 universities in Academic Year 2020–2021, as described in the President's Budget Request for Fiscal Year 2020, and which the committee supports. Further, the committee directs the Secretary of Defense to provide a report to the congressional defense committees by December 1, 2019 on the plan to expand H4D as described in the President's Budget Request for Fiscal Year 2020, and on the funding and other resources required to expand Hacking for Defense to at least 25 additional universities by Academic Year 2025–2026.

Historically black colleges and universities and minority serving institutions

The budget request contained $30.7 million in PE 61228D8Z for research work with historically black colleges and universities and minority serving institutions (HBCU/MI).

The committee recognizes the important role this program plays in bolstering the research capabilities at HBCU/MIs. Not only is such work important in meeting the research needs of the Department of Defense, the committee also believes it provides an added

benefit by diversifying the Department's supply of scientists, engineers, and researchers working on the its most challenging problems.

The committee also acknowledges the ongoing efforts of the Department to increase the participation of women from underserved populations in science, technology, engineering, and mathematics (STEM) related areas of research. The committee urges the Department to continue funding for Center of Excellence efforts at historically black colleges and universities that support training and education of minority women in STEM fields of interest to the military, particularly through research funding, fellowships and internships, and cooperative work experiences at the Defense Laboratories. The committee recommends that the Department consider increasing investments in these kinds of activities in future budgets to support Administration initiatives on HBCU/MIs.

The committee additionally recommends that the Department strengthen its engagement and investments via the quantity and value of grants, studies, technical support contracts, and subcontracts with HBCU/MIs with a goal of elevating the quality of research and scientific activity at those institutions to the R1 and R2 level of the Carnegie Classification of Institutions of Higher Education. Therefore, the committee directs the Under Secretary of Defense for Research and Engineering to submit a report to the congressional defense committees by March 1, 2020, on how the Department can expose HBCU/MIs to new levels of research and scientific problems for the benefit of the Department.

In addition, the committee recommends $50.7 million, an increase of $20.0 million, in PE 61228D8Z for additional research between HBCU/MIs, and increased teaming opportunities between these institutions and other research universities with experience supporting the Department's unique requirements. This amount is above the enacted budget of fiscal year 2019.

Human simulation and human factors modeling

Section 227 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232) required the Secretary of Defense to develop and provide for the carrying out of human factors modeling and simulation activities with the purpose of accelerating research and development to enhance capabilities for human performance, human-systems integration, and training for the warfighter. The committee directs the Secretary of Defense to provide a briefing to the House Committee on Armed Services not later than January 30, 2020, on the status of this requirement. Specifically, the committee would like to know the extent of the activities implemented, the effects as yet of these activities with respect to their purpose, which activity participants, locations of the activities, and the plan to sustain these activities going forward.

Hybrid and electric air vehicle power and propulsion systems

The committee understands that hybrid and electric power and propulsion systems and vehicles hold the potential to significantly increase range and endurance for military aviation. The committee believes such aviation capabilities could support the National Defense Strategy. The Department of Defense requires a process to certify airworthiness to allow flight testing of these systems. How-

ever, the committee notes that the Department lacks adequate design, test, and certification procedures and facilities for aviation-purposed electric motors, motor controllers, traction bus systems, and large primary power battery systems. The committee is concerned that without a certification process in place, the military may miss the opportunity to capitalize on these advanced systems to reduce logistical requirements and costs.

Therefore, the committee directs the Secretary of Defense to provide a report to the House Committee on Armed Services by February 1, 2020, on establishing procedures and facilities for airworthiness certification of hybrid and electric power and propulsion aviation systems. The report should include estimated cost and schedule to implement a certification process.

Hypersonic test infrastructure and workforce

The committee acknowledges the joint-effort to expand and develop conventional prompt strike capabilities (CPS), which was codified in a memorandum of agreement between the Department of Defense, military services, and the Missile Defense Agency to deliver hypersonic boost glide technology. To achieve success in the multiple service efforts to deliver CPS capabilities, the committee recognizes the importance of state-of-the-art facilities and infrastructure to support research, development, prototyping, testing, and deployment.

The committee notes that recent advances have been made in high temperature manufacturing, hypersonic wind tunnel capability and material testing technology. Specifically, the committee is encouraged by the Department's efforts to expand the number of hypersonic wind tunnel and testing facilities, specifically at Arnold Air Force Base Engineering Development Center and the joint-investment at several universities, including Purdue, Notre Dame, and Texas A&M. However, even with these increases, current facilities will be stressed to provide the level of testing needed across the joint-efforts.

In addition to the high demand for testing infrastructure, the U.S. currently lacks the workforce with sufficient knowledge and experience in hypersonic materials manufacturing and testing to develop these next generation systems. Therefore, the committee directs the Under Secretary of Defense for Research and Engineering, in coordination with the military services and Missile Defense Agency, to provide a report to the House Committee on Armed Services not later than December 31, 2019, on the health of hypersonic testing technologies and workforce. The report should include an analysis of current capacity to meet existing requirements, options to improve testing facilities, with cost, schedule, and operational considerations, and efforts that are being taken to address workforce gaps.

The committee also acknowledges that System Integration Labs are necessary to support testing of hypersonic weapon systems, specifically for the U.S. Army as it proceeds with the long range hypersonic weapon. Therefore, the committee directs the Commander of U.S. Army Space and Missile Defense Command to provide a briefing to the House Committee on Armed Services not later than December 31, 2019, on capability and capacity assessments to support future ground testing. The briefing should include

an analysis of integrated hardware and software processes and system integration and development.

Implementation of existing authorities for the science and technology reinvention laboratories

The committee understands that the Department of Defense's in-house science and technology (S&T) ecosystem, to include the science and technology reinvention laboratories (STRLs), suffers from the common struggle to compete with the tech sector in attracting talented Innovation, Science, Technology, Engineering, Math (iSTEM) trained researchers and scientists. Yet the committee is frustrated that the military services have yet to use many of the authorities and responsibilities granted in previous National Defense Authorization Acts, such as:

(1) personnel hiring authorities, including the authorities provided under: section 1599h, 2358a, and 2360 of title 10, United States Code; section 1109 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92;); and section 1124 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328);

(2) the authority to enter into partnerships with institutions of higher education, including the authorities provided under section 2194 of title 10, United States Code; section 236 of Public Law 114–328;

(3) the authority to reengineer management and business processes, including the authorities provided under section 2368 of title 10, United States Code; sections 211 and 233 of Public Law 114–328;

(4) the authority to carry out prize competitions, including the authority provided under section 2374a of title 10, United States Code;

(5) the authority to make technology transfers, including the authority provided under section 233 of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115–91); and

(6) defense-wide authorities, including the authorities provided under sections 217 and 232 of Public Law 115–91.

Therefore, elsewhere in this title, the committee includes a provision that would require the Secretary of Defense to develop a master plan for using current authorities and responsibilities to strengthen and modernize the workforce and capabilities of the Department's STRLs to enhance the ability of the laboratories to execute missions in the most efficient and effective manner. The provision would require the Under Secretary of Defense for Research and Engineering to submit the master plan for using these authorities and a report on the Department's progress in implementing these authorities to the congressional defense committees not later than October 30, 2020.

Integrated Silicon-Based Lasers

The committee is aware that the Department of Defense's weapons platforms, such as aircraft and radars, are still largely burdened with difficult to install and maintain, slow, expensive, and heavy copper wire cabling. The Department's initial investments in Integrated Silicon-Based Lasers have identified opportunities for transforming the state-of-the-art in the manufacture of integrated

photonics devices. Integrated Photonics, the use of light for applications traditionally addressed through electronics, is used in a wide range of areas including telecommunications; 5G cell towers; cell phones; military laser-based radars; data communications; sensing; and could be used to replace heavy coaxial cabling in aircraft with fiber optic cables that are significantly smaller and lighter.

The committee directs the Under Secretary of Defense for Research and Engineering to submit a report to the House Committee on Armed Services by April 30, 2020, on how future military and commercial applications could use integrated photonics to benefit from higher bandwidth of data transfer, faster data transmission, and lower energy loss due to optical fiber being more energy efficient and lower weight than copper.

Investments in Science and Technology

The Department of Defense's Science and Technology (S&T) ecosystem is complex and is comprised of agencies, offices, laboratories, federally funded research and development centers, university affiliated research centers, academic partnerships, test and evaluation entities, and partnerships with the private sector to include small businesses. The Department's S&T ecosystem is charged with delivering the best capabilities to the warfighter in the near-, mid-, and long-term.

However, Defense Planning Guidance issued by the Under Secretary of Defense for Policy has for many years mandated only a base of zero percent real growth in the annual S&T budget. The fiscal year 2020 budget request for S&T was only 2.7 percent of the Department of Defense's base budget request and only 3.2 percent above the fiscal year 2019 requested funding level. Adjusted for inflation, the fiscal year 2020 request was only 1 percent higher than the fiscal year 2019 budget request.

The committee is concerned that the lack of growth negatively impacts the ability of the Department to keep pace with the real-world cost increases in the S&T ecosystem, such as the ability to attract highly specialized technical labor like scientists and engineers with advanced degrees and PhDs, and maintain a technological edge.

The committee is disappointed that this year's Defense Planning Guidance removed the base requirement of zero percent real growth. The committee is concerned that future budgets will show negative real growth and the Department's investments in its future technological edge will be even more dire. Therefore, the committee directs the Director, Cost Assessment and Program Evaluation, with analytical and resource support from the Under Secretary of Defense for Research and Engineering, to conduct a study and provide a briefing to the House Committee on Armed Services not later than September 1, 2021, on the effects of the Department submitting future budget requests with negative real growth in the Department's funding for S&T efforts.

Joint Electromagnetic Spectrum Operations

Joint Electromagnetic Spectrum Operations (JEMSO) include all activities in military operations to successfully plan and execute joint or multinational operations to control the electromagnetic operational environment. Electronic warfare planning and manage-

ment tools can be customized for different services and fielded in almost any deployment environment. Joint electronic warfare planning and management tool technology demonstrations are good initial steps towards managing technologies across a broader integrated electronic warfare system, which have the potential to neutralize and exploit enemy signals and equip combat forces with essential electronic warfare mission-planning capabilities. The committee therefore recommends expeditiously establishing joint electromagnetic spectrum operations cells at the combatant commands and ensuring they are equipped with the right resources and technology to successfully meet mission needs.

Joint Threat Warning System

The committee recognizes that the Joint Threat Warning System (JTWS) provides credible threat warning and intelligence information to special operations forces (SOF). The committee notes that this program has been critical to enhancing the situational awareness of SOF elements by alerting them to threats to the force and illuminating targeting opportunities. The committee is concerned that the program does not include an air-variant precision high frequency band capability. This gap in coverage exposes SOF operators to unknown threats and decreases their situational awareness. Therefore, the committee directs the Commander, U.S. Special Operation Command to provide a briefing to the House Committee on Armed Services not later than December 1, 2019, on efforts to address this critical air-variant high frequency gap in coverage.

Lithium-ion batteries

The budget request contained $10.0 million in 67210D8Z for industrial base analysis and sustainment support.

The committee understands that a viable, domestic source of lithium-ion batteries is critical to national security and Department of Defense manufacturing. Advances in battery cell manufacturing using modern equipment has the potential to increase the readiness and performance of essential Department of Defense warfighting capability that relies on safe, high-performance portable power. The committee notes that the advances in modern manufacturing equipment will ensure the supply of domestically produced lithium-ion batteries and secure a competitive domestic industrial base. Additionally, the committee understands that the military services have an important role communicating that rapid, safe, and effective deployment of batteries and battery systems is essential to support and enhance the lethality of weapons systems. The committee further notes that development of advanced energy storage systems that facilitate safe storage and transport of these batteries is a critical element of this effort. The committee understands that energy storage and thermal management are essential to both future weapon systems and microgrids. The committee applauds the Navy's effort to address these issues through the establishment of a battery office dedicated to addressing these issues and reducing the cost of battery usage enterprise-wide through the development and implementation of batteries and battery storage systems.

Therefore, the committee recommends an increase of $4.0 million in PE 67210D8Z for industrial base analysis and sustainment support related to lithium-ion battery manufacturing.

Microelectronics

The committee recognizes that microelectronics technology provides critical capabilities to Department of Defense, other government organizations' systems, and the commercial marketplace. With China's declared policy and commitment of dominating microelectronics market by 2025, the committee remains concerned with the Department of Defense's long-term strategy to maintain supply chain integrity and assurance against counterfeit parts and ensure continued access to trusted microelectronics. The committee is also concerned about the Department of Defense's lack of a robust industrial base and domestic supply chain for radiation-hardened microelectronics. The Department relies extensively on weapon and communications systems that must operate in high ambient radiation levels for national security, surveillance, battlefield communications, and missile defense. While there have been a number of attempts to address the challenges associated with the domestic microelectronics industry, the onset of 5G and the national security concerns associated with use of commercial microelectronics devices in military and other sensitive national security systems have increased the immediacy and level of concern. The committee supported the requirement in section 231 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) requiring the development of a microelectronics strategy. However, with the introduction and proliferation of 5G technologies, the strategy must be updated.

Therefore, the committee directs the Secretary of Defense to provide a briefing to the House Committee on Armed Services not later than February 15, 2020, on the Department's Trusted Microelectronics strategy. The briefing should include the original elements of the strategy including supplier base capacity and need for trusted, radiation-hardened and anti-tamper microelectronics, and also address how the onset of 5G technologies is changing the national security and commercial marketplace for trusted microelectronics.

Military rotorcraft safety

The committee recognizes that military rotorcraft operate in hazardous conditions using special tactics, techniques, and procedures that can lead to increased risk for pilots and their crews. The committee is aware of the significant risk that uncharted wires and obstacles pose to military rotorcraft, especially those flown by special operations forces and combat search and rescue elements. The committee also notes that military rotorcraft face safety and readiness challenges stemming from excessive aircraft vibration. The committee further understands that current vibration mitigation efforts often seek to mask or absorb vibrations without resulting in an actual decrease in vibration. The committee is concerned that there is insufficient focus on developing and fielding effective technology for detecting uncharted wires and obstacles, as well as insufficient focus on developing materiel solutions to help mitigate excessive vibration in legacy rotorcraft platforms.

The committee directs the Secretary of Defense, in coordination with the Secretaries of the Army, Navy, and Air Force, to provide a briefing to the House Committee on Armed Services by February 1, 2020, on Department-wide efforts to identify, develop, and procure capabilities related to the detection and avoidance of uncharted wires and obstacles, as well as efforts to mitigate excessive vibration in rotorcraft. The briefing should include to the maximum extent practicable an evaluation of current commercially available systems for obstacle detection and analysis of any tools, processes, software, or methodologies currently being evaluated towards mitigating vibration levels.

Moving Target Defense

The budget request contained $81.8 million in PE 603563N for Ship Concept Advanced Design.

The committee supports the Department's efforts to explore alternatives to traditional cyber defense architectures and approaches to mitigate cyber vulnerabilities. The committee encourages the Secretary of Defense to continue to explore and invest in cyber technology that provides multi-tiered defensive capabilities, such as moving target defense.

The committee recommends an increase of $5.0 million, in PE 603563N, for Moving Target Defense technology.

National Academies Science, Technology, and Security Roundtable

The budget request contained $16.9 million in PE 65798D8Z for Defense Technology Analysis.

Intellectual property theft and counterintelligence threats pose significant challenges to maintaining a United States technological edge. To that end, the committee mandated the Department of Defense establish an initiative to support protection of national security academic researchers from undue influence and other security threats in section 1286 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232). The committee is aware that implementation of this initiative, specifically gathering information on persons performing Department of Defense research at universities and participants of foreign talent programs, has presented policy challenges relating to privacy and civil liberties, and sharing of data between federal agencies. The committee is also aware that sharing of threat information by the Federal Government to academia has not increased through this initiative and believes that efforts under this initiative would be more effectively executed with the inclusion of appropriate domestic law enforcement agencies and entities, such as the Federal Bureau of Investigation.

Therefore, the committee supports the Secretary of Defense convening a National Science, Technology, and Security Roundtable through the National Academies of Science, Engineering and Medicine in order to facilitate dialogue and formulate solutions related to protecting U.S. critical technology and national security information while simultaneously preserving civil liberties and an open science and technology research environment. The committee believes that key stakeholders from the interagency and scientific and academic communities, as well as foreign partner and allies should be part of this roundtable.

The committee therefore recommends $19.9 million, an increase of $3.0 million, in PE 65798D8Z for the Secretary to convene the National Science, Technology, and Security Roundtable through NASEM.

National Consortium for the Study of Terrorism and Responses to Terrorism

One of the key tenants specified in the 2018 National Defense Strategy (NDS) is reforming the Department of Defense for greater performance and affordability. In the NDS, the Department acknowledged that an increasingly complex security environment, coupled with the need to modernize and improve readiness, are among the factors that will require difficult and informed prioritization decisions. Machine learning and related concepts offer promise to deliver data driven decision making tools where the potential consequences and risk of selected actions can be evaluated in real time based on a wide variety of input sources and emerging conditions.

The committee is aware the Department has been investing in the National Consortium for the Study of Terrorism and Responses to Terrorism (START) and is the largest consumer of data from this program. START is a university-based research and education center that provides an effective resource that has informed current counterterrorism policies and strategy. Aligning with the objectives specified in the National Defense Strategy, this funding has supported a robust and versatile decision matrix created by leading social scientists from more than 50 academic and research institutions across the country and around the globe.

For example, one of the effective elements within START is the Leadership of the Extreme and Dangerous for Innovative Results Dataset and Collection, developed to assess and better understand the motivations and maneuvering of the leadership of current and emerging Violent Extremist Organizations, such as the Islamic State of Iraq and the Levant. The research provides an analytical framework and risk based consequence management prediction capability that has been tested and proven effective on battlefields around the globe.

The committee believes that because of the success and maturation of START's analytical framework, as well as its multi-disciplinary approach, there may be alignment with other Department funded priorities. The committee notes that there could be benefit in using the program as a prototype for other applications that require a mission focused capability that crosses functional domains and enhances warfighter lethality, technical superiority, adaptability, and resilience. Therefore, the committee encourages the Department to evaluate and fully fund a prototype using the START database foundation as a consequence management counterterrorism decision support application.

National Defense Education Program

The budget request contained $92.1 million in PE 61120D8Z for the National Defense Education Program (NDEP).

NDEP fosters and enhances the Department of Defense's ability to access high-quality science, technology, engineering, and mathematics personnel vital to national defense now and in the future.

This is accomplished through initiatives such as the Science Mathematics and Research for Transformation program, a scholarship-for-service program, as well as the Military Child Pilot Program formally established by section 233 of the National Defense Authorization Act for Fiscal Year 2015 (Public Law 113–291). The committee believes that investments in science, technology, engineering, and mathematics education to develop a future technical workforce are critical to maintaining a technological edge.

Therefore, the committee recommends $112.1 million, an increase of $20.0 million, in PE 61120D8Z for NDEP.

Optical fiber in next generation information infrastructure

The committee is aware of the significant wired and wireless information infrastructure deployments that will be required to operate a robust, secure next generation 5G network. As the Department of Defense increases investments in next generation information technology research and development, it will be critical that the Department also understand the strategic industries that will be required to grow and sustain this technology modernization. One of these critical technologies is the optical fiber industry, which will form the backbone of the wired 5G infrastructure for national security applications. The committee encourages the Department of Defense to consider the security implications of foreign optical fiber on 5G modernization and the importance of maintaining a secure, domestic industrial base for optical fiber.

Pilot Program for Supply Chain Awareness and Cybersecurity in the Defense Industrial Base

The budget request contained $40.1 million in PE 64771D8Z, for the Joint Tactical Information Distribution System, which includes funds for cybersecurity support to the Defense Industrial Base.

The committee recognizes the thoughtful approach that the Department of Defense has taken on its pilot program, Cyber Maturity Model Certification (CMMC). This program managed by the Under Secretary of Defense for Acquisition and Sustainment has brought together experts from academia and the private sector to create a framework for evaluating a defense contractor's cybersecurity posture. The program recognizes the challenges of robust cybersecurity programs for small and medium-sized businesses seeking opportunities with the Department of Defense, while ensuring that cyber risk to Department equities is managed appropriately. As this program continues to evolve in its development, the committee expects the Department to provide regular briefings on the program's status.

The committee recommends $43.1 million, an increase of $3.0 million, in PE 64771D8Z to support the Department's program.

Protecting Critical Technologies Task Force

According to a memorandum issued by the Secretary of Defense on October 24, 2018, "each year, it is estimated that American industry loses more than $600 billion to theft and expropriation. Far worse, the loss of classified and controlled unclassified information is putting the Department's investments at risk and eroding the lethality and survivability of our forces." Protection of classified and controlled unclassified information, and intellectual property,

when appropriate, is necessary for the U.S. to maintain a warfighting advantage.

The committee believes that effective protection of appropriately designated information requires a comprehensive, data-based understanding of theft and exportation and that impacted entities, such as academia and the Defense Industrial Base, must be part of the Department's efforts to develop solutions. The committee further believes that privacy and civil liberties, as well as an open research environment, must not be compromised by efforts to protect information.

For example, the Department funds basic research that benefits greatly from the global science and technology ecosystem. National Security Decision Directive 189 on the National Policy on the Transfer of Scientific, Technical and Engineering Information from President Reagan's administration outlined that the products of "fundamental research," defined as "basic and applied research in science and engineering, the results of which ordinarily are published and shared broadly within the scientific community," should remain unrestricted.

The committee is aware the Protecting Critical Technologies Task Force (PCTTF), established by former Secretary of Defense James Mattis, is one of the entities in the Department leading the effort to mitigate the loss of classified and controlled unclassified information. The committee supports the PCTTF and expects to be continually updated on its efforts. Additionally, the committee directs the Director of the PCTTF to provide a briefing to the House Committee on Armed Services not later than October 30, 2019, on efforts and progress to date.

Protection of National Security Research

The committee believes that institutes of higher learning, laboratories, and other entities and organizations play critical roles in advancing national security within the U.S. science and technology ecosystem that is charged with delivering the best capabilities to the warfighter in the near, mid, and long-term. The committee understands that near-peer competitors such as China and Russia attempt to exploit and benefit from the open and collaborative global research environment created by the Reagan Administration's National Security Decision Directive 189 on the National Policy on the Transfer of Scientific, Technical and Engineering Information, which established that the products of "fundamental research"—defined as "basic and applied research in science and engineering, the results of which ordinarily are published and shared"—should remain unrestricted.

The committee is also aware that academia is not always kept apprised by the interagency of a complete picture of potential activities and threats in the research community, such as improper technology transfer, intellectual property theft, and cyber-attacks directly affiliated with nation-state governments. Elsewhere in this bill and report, the committee includes measures to promote increased information sharing across the interagency and with academia.

The Committee therefore directs the Secretary of Defense to provide to the Committees on Armed Services of the Senate and House of Representatives, not later than January 1, 2020, a report listing

Chinese and Russian academic institutions that have a history of improper technology transfer, intellectual property theft, cyber espionage, or operate under the direction of their respective armed forces or intelligence agencies. The report should be in unclassified form, though it may contain a classified annex.

Provision of Analysis to U.S. Humanitarian Demining Organizations

The committee recognizes the prevalence and growing use of improvised threats in war and the work being conducted by humanitarian demining organizations, with support from the U.S. government, to alleviate the lasting impacts of such threats on civilian populations. The committee also recognizes the expertise of the Defense Threat Reduction Agency, Joint Improvised-Threat Defeat Organization Directorate (JD), which has conducted extensive research on these improvised threats.

Therefore, the committee directs the Director, JD, to submit a report to the House Committee on Armed Services not later than October 1, 2020 cataloguing previous JD research that could be released to U.S. humanitarian demining organizations to improve the efficiency and effectiveness of humanitarian demining efforts.

Radio frequency countermeasures for rotary wing aircraft

The committee supports the Department's commitment to modernizing the vertical lift and rotary-wing capabilities across the services. The committee also notes with concern the rapid development and proliferation of advanced radio frequency threat systems that would possess the ability to engage rotary-wing aircraft currently operated by the Army, Navy, Marine Corps and Air Force. Therefore, the committee directs the Secretary of Defense to provide a briefing to the House Armed Services Committee, no later than January 31, 2020, that includes: a near and long-term acquisition and development strategy to provide radio frequency countermeasure (RFCM) protection for current and future rotary wing aircraft for each of the military services. The briefing should also include all current rotary-wing RFCM production programs and address any additional applicable programs with mature technology readiness levels.

Report on Designation of a National Center of Excellence for Pathogen and Microbiome Analysis

The Committee is concerned that the Department has no central research center dedicated to dangerous pathogen and microbiome research; therapeutics and vaccine development; workforce education and training; and advanced computational analysis. The lack of a central laboratory that can handle and ship highly dangerous pathogens while employing the most advanced genomic, immunology, and computational analyses has resulted in a suboptimal effort to research, develop, test, and evaluate (RDT&E) some of the most lethal threats to the warfighter. The Committee believes that the lack of a central RDT&E Institute to coordinate nationwide efforts results in higher costs to the taxpayer.

The Committee believes that it is critical that the next generation of pathogen and microbiome researchers are educated through university partnerships, as neither the Defense Threat Reduction

Agency (DTRA) nor federal contractors have the tools for such training. Formally designating a university-housed Center of Excellence within DTRA would enable a central entity staffed with experts in different research disciplines to include immunology; vaccines; therapeutics; genomics; bioinformatics; disease models; and artificial intelligence to coordinate these many efforts without the need to create another entity within DTRA.

The Committee therefore directs the Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs, with support from the Director of DTRA, to submit a report by December 31, 2019 to the Committees on Armed Services of the Senate and House of Representatives on the benefits and feasibility of designating and funding an existing operational entity which has a proven record of zero violations for safety, shipping, and compliance as the National Institute for Pathogen and Microbiome Analysis under DTRA to coordinate, focus, and assist DTRA's RDT&E efforts to protect warfighters from biological threats.

Role of universities in rapid prototyping

The committee recognizes that the ability to rapidly prototype services, technologies, and systems is critical to expanding warfighting capabilities by reducing time and cost to field systems. While the Department of Defense engages with the university community in support of basic research and workforce development, the committee believes universities can also contribute to rapidly integrating existing and new technologies into the Department's systems. The committee encourages the Department to explore the establishment of partnerships with academia under a university consortium, cooperative agreement, or multi-institution task order contract model, as authorized in section 217(e) of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115–91), to rapidly prototype services, technologies, and systems with national security applications into Department of Defense command, control, communications, computers, cyber, and intelligence systems and infrastructure.

Tactical data links

The committee remains concerned with the lack of a Department of Defense-wide, comprehensive effort to achieve a resilient and survivable network for 5th and 4th generation systems data sharing in a highly contested operational environment. Section 234 of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115–91) directed the then-Under Secretary of Defense for Acquisition, Technology, and Logistics to coordinate with the Secretary of the Navy and the Secretary of the Air Force to develop a competitive acquisition plan for low probability of detection/low probability of intercept (LPD/LPI) datalink network capability. The committee notes, however, that the Department's plan was not sufficient or comprehensive.

The National Defense Strategy's shift to peer and near-peer threats requires joint force capabilities for operations in highly contested environments. The F–22 and the F–35 aircraft possess LPD/LPI datalinks, but their two systems, the Intra-Flight Data Link and the Multifunction Advanced Data Link (MADL), cannot share information between aircraft. The Department identified F–35's

MADL as the preferred airborne datalink to meet the requirement, but the associated form, fit, and function changes required rendered this unaffordable and the effort was cancelled. Additionally, the Air Force's concept for an Advanced Battle Management System (ABMS) for battle management and command and control (BMC2) also depends upon LPD/LPI datalinks to exchange intelligence, surveillance, and reconnaissance (ISR) and BMC2 information between current and future sensor network nodes.

The committee believes LPD/LPI networked communications must be a priority, and therefore, directs the Under Secretary of Defense for Acquisition and Sustainment, in coordination with the Secretaries of the Air Force and Navy, to provide a report to the congressional defense committees by December 1, 2019, on plans to ensure LPD/LPI communications among and between 5th and 4th generation airborne platforms as well as other network nodes for command, control, communications, and intelligence, surveillance, and reconnaissance. The report shall include:

(1) all current and planned LPD/LPI data link developments, with requirements, technology specifications and readiness levels, and applicability to specific platforms and network-enabled weapon systems;

(2) a plan and schedule for flight testing the data links in operationally relevant environments; and,

(3) estimated cost and schedule to implement each solution.

University and industry research centers

The budget request contained $86.2 million in PE 61104A for University and Industry Research Centers.

The committee is concerned that although many valuable innovations, such as combat gauze and tourniquets, have derived from lessons learned on the battlefield and are now commercially available, many more get lost in institutions, laboratories, and the "Valley of Death". Key components of accessing capital, sharing information on current military medical gaps and private-sector capabilities to address them, forming synergistic collaborations across academic institutions, businesses and government, and providing guidance to entrepreneurs and start-ups all remain essential to enable innovations to transition for Military Medical Innovations. Additionally, university and industry research centers of excellence conduct a wide range of research to advance technology in support of the Army's modernization priorities.

The committee recommends $91.2 million, an increase of $5.0 million, in PE 61104A for University and Industry Research Centers to help address the challenges to expand the entrepreneurial ecosystem to address unmet needs for the Department of Defense and produce dual-use innovations.

LEGISLATIVE PROVISIONS

SUBTITLE A—AUTHORIZATION OF APPROPRIATIONS

Section 201—Authorization of Appropriations

This section would authorize appropriations for research, development, test, and evaluation at the levels identified in section 4201 of division D of this Act.

SUBTITLE B—PROGRAM REQUIREMENTS, RESTRICTIONS, AND LIMITATIONS

Section 211—Program on Enhancement of Preparation of Dependents of Members of Armed Forces for Careers in Science, Technology, Engineering, and Mathematics

This section would make section 233 of the Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act for Fiscal Year 2015 (Public Law 113–291) permanent. Section 233 created a pilot program on enhancement of preparation of dependents of members of Armed Forces for careers in science, technology, engineering, and mathematics (STEM). The program improves STEM learning and performance for children; helps retain service members; provides STEM education opportunities to children in lower socioeconomic communities from which the U.S. military recruits heavily; and is a national level curriculum that works well for families that move around the country.

The committee expects the Secretary of Defense to continue to coordinate with other government organizations and departments as appropriate, to include the Secretary of Education, the National Science Foundation, and the heads of such other Federal, State, and local government and private sector organizations as the 0Secretary of Defense considers appropriate. Additionally, the committee expects the Secretary to continue, to the maximum extent practicable, to make use of the authorities under chapter 111 and sections 2601, 2605, and 2374a of title 10, United States Code, section 219 of the Duncan Hunter National Defense Authorization Act for Fiscal Year 2009 (10 U.S.C. 2358), and such other authorities as the Secretary of Defense considers appropriate.

Section 212—Temporary Inclusion of Joint Artificial Intelligence Center of the Department of Defense in Personnel Management Authority to Attract Experts in Science and Engineering

This section would extend personnel management authorities to the Director of the Joint Artificial Intelligence Center to facilitate recruitment of eminent experts in science or engineering through December 31, 2024.

Section 213—Joint Hypersonics Transition Office

This section would amend section 218 of the John Warner National Defense Authorization Act for Fiscal Year 2007 (Public Law 109–364) by directing the Department of Defense to establish a coordinating office that standardizes the technical priorities across the Department and provides discretionary authorization of funding of new technologies for expeditious transition to the service weapons systems.

Section 214—Modification of Proof of Concept Commercialization Program

This section would amend section 1603(g) of the National Defense Authorization Act for Fiscal Year 2014 (Public Law 113–66) by extending the Proof of Concept Commercialization Pilot Program

through 2024 and amending the title of the section heading by inserting "of Dual-Use Technology" after "Commercialization."

Section 215—Contract for National Security Research Studies

This section would direct the Secretary of Defense, acting through the Under Secretary of Defense for Acquisition and Sustainment, to seek to enter into a contract to support the JASON scientific advisory group, and would require notification to the congressional defense committees 90 days before termination of such contract. The committee also expects the Department of Defense to provide notification to the congressional defense committees if the contract expires without renewal.

Section 216—JASON Scientific Advisory Group

This section would require the Secretary of Defense to seek to engage the members of the private scientific advisory group known as "JASON" as advisory personnel to provide advice, on an ongoing basis, on matters involving science, technology and national security.

Section 217—Direct Air Capture and Blue Carbon Removal Technology Program

This section would authorize a program for carbon capture from the sea to support energy security and increase the efficiency of forward deployed units.

Section 218—Foreign Malign Influence Operations Research Program

This section would require the Under Secretary of Defense for Research and Engineering to carry out a research program on foreign malign influence operations research as part of the university and other basic research programs of the Department of Defense, such as the Minerva Research Initiative.

Section 219—Sensor Data Integration for Fifth Generation Aircraft

This section would require the Secretary of Defense to ensure fifth generation aircraft such as the F–35, F–22, and B–21 can share and disseminate data collected by on-board sensors with other joint service users and platforms. This section would further require the Comptroller General of the United States to assess and provide an interim briefing to the congressional defense committees within 180 days after the date of the enactment of this Act, the Department's doctrinal, organizational, and technological methods of managing sensor data collected by fifth generation aircraft and the ability of fifth generation aircraft to share information collected in real-time with other joint service users and platforms.

Section 220—Documentation Relating to Advanced Battle Management System

This section would require the Secretary of the Air Force to provide program documentation for the Advanced Battle Management System (ABMS) family of systems.

The fiscal year 2019 budget request for the Air Force cancelled the long-planned Joint Surveillance Target Attack Radar System recapitalization and included a small amount of funding in existing programs as a bridge to a new concept for comprehensive battle management command and control. The committee notes that this concept, the Advanced Battle Management System, envisions several existing airborne and ground intelligence, surveillance, and reconnaissance (ISR) and command and control systems connected by resilient, protected communications and data links.

The budget request provided limited programmatic details on ABMS. The committee is concerned with the lack of discernible benchmarks to assess and measure progress. The committee understands that the ABMS Analysis of Alternatives (AOA) will conclude in 2019. At that time, the committee expects the Air Force to complete the documentation requested by this section and submit it to the congressional defense committees not later than 180 days after completion of the AOA.

The committee also notes that Air Force modernization plans rely on introducing artificial intelligence and machine learning into a range of major weapon systems. Given the intended capability of ABMS, the committee believes the Air Force should consider prototyping and demonstrating the utility of artificial intelligence and automated sensor fusion as part of the ABMS concept.

Section 221—Documentation Relating to B–52 Commercial Engine Replacement Program

This section would limit funds for the B–52 commercial engine replacement program until the Secretary of the Air Force submits a capability development document and a signed test and evaluation master plan.

Section 222—Diversification of the Science, Technology, Research, and Engineering Workforce of the Department of Defense

This section would require the Secretary of Defense to assess critical skillsets required in the Department of Defense's science, technology, research, and engineering workforce to support emerging and future warfighter technologies, to include an analysis of the recruiting, retention and representation of minorities and women in the current workforce, and geographic diversity.

Additionally, this section would require the Secretary of Defense to develop and implement a plan to diversify and strengthen the Department's science, technology, research, and engineering workforce using existing programs and authorities to include authorities granted in sections 2304d, 2371, and 2358 of title 10, United States Code.

Finally, this section would require the Secretary to submit a report to the congressional defense committees within 1 year from the date of the enactment of this Act with the plan to diversify the workforce.

Section 223—Policy on the Talent Management of Digital Expertise and Software Professionals

This section would create a Chief Digital Engineering Recruitment and Management Officer at the Department of Defense re-

sponsible for promoting and maintaining digital expertise and software development as core competencies for civilian and military employees at the Department of Defense.

Section 224—Development and Implementation of Digital Engineering Capability and Automated Software Testing and Evaluation

This section would direct the Under Secretary of Defense for Research and Engineering and the Director, Operational Test and Evaluation, in consultation with Under Secretary of Defense for Acquisition and Sustainment, the military service acquisition executives, the service testing commands, and Defense Digital Service, to design, develop, and implement digital engineering capability and infrastructure to provide technically accurate digital models to the acquisition process that serve as the foundation for automated approaches to software testing and evaluation.

Additionally, this section would direct the Under Secretary and Director to carry out pilot programs to demonstrate whether it is possible for automated testing to satisfy developmental and operational test requirements to enable the Department to find and prevent defects in software earlier and deliver new capability to the field faster and on an iterative basis. This section would also direct the Under Secretary and Director to implement policies and guidance for both efforts and would require an initial report be submitted to the congressional defense committees outlining details on the selected pilot programs.

Section 225—Process to Align Policy Formulation and Emerging Technology Development

This section would direct the Secretary of Defense to establish a process to ensure that the policies of the Department of Defense relating to emerging technology are formulated and updated continuously as such technology is developed by the Department not later than 180 days after the date of the enactment of this Act. This section would also require the Secretary to submit a report on the process to the congressional defense committees.

The committee notes that technology development often outpaces policy formulation. For example, the Department is investing significantly in hypersonics, artificial intelligence, directed energy, and other cutting-edge technologies without a cohesive policy regarding development and employment of such capabilities, including the use of these technologies for offensive purposes. The committee believes the Department should better align policy formulation with technology development in order to promote responsible capability development and facilitate rapid and appropriate deployment to the warfighter.

Section 226—Limitation on Transition of Strategic Capabilities Office of the Department of Defense

This section would limit the ability of the Secretary of Defense to transfer the functions of the Strategic Capabilities Office to another organization or element of the Department unless certain conditions are met.

SUBTITLE C—REPORTS AND OTHER MATTERS

Section 231—Master Plan for Implementation of Authorities Relating to Science and Technology Reinvention Laboratories

This section would require the Secretary of Defense, acting through the Under Secretary of Defense for Research and Engineering (USD(R&E)), to provide a master plan to the congressional defense committees by October 30, 2020, on how the Department of Defense will use its current authorities and responsibilities granted in previous National Defense Authorization Acts to modernize the workforce and capabilities of its science and technology reinvention laboratories. Further, this provision would require an initial report from USD(R&E) to be submitted to the congressional defense committees within 180 days after the date of the enactment of this Act on the barriers that prevent each military service from fully implementing currently available authorities and responsibilities. This section would direct the USD(R&E) to create the plan and report in consultation with the Secretary of each military department, the Service Acquisition Executives, and the affected commanders of each military command with responsibilities relating to research and engineering.

Section 232—Master Plan for Infrastructure Required to Support Research, Development, Test, and Evaluation Missions

This section would require the Secretary of Defense, in consultation with the Secretaries of the military departments, to develop and implement a master plan that addresses the research, development, test, and evaluation infrastructure and modernization requirements of the Department of Defense, to include the science and technology reinvention laboratories and the Major Range and Test Facility Bases. This section would require the master plan be provided to the congressional defense committees by October 30, 2020.

The committee is aware that the laboratories and test facilities do not compete well across the military departments for military construction and other infrastructure funding and that authorities provided to promote and allow for infrastructure investment remain underutilized by the Department. The committee expects the Department to utilize authorities provided by Congress to ensure the in-house infrastructure of the Department remains viable in order to continue to support warfighter requirements.

In developing the master plan, the committee expects the Secretary to enlist the expertise of the Under Secretary of Defense for Research and Engineering, the Under Secretary of Defense for Acquisition and Sustainment, and the Director of Operational Test and Evaluation. Finally, the committee expects the Secretaries of the military departments to enlist the expertise of their Service Acquisition Executives and civilian research leadership as well as the relevant commanders of each military command with responsibility for research and engineering.

Section 233—Strategy and Implementation Plan for Fifth Generation Information and Communications Technologies

This section would require the Secretary of Defense to develop and implement a strategy for fifth generation information and communications technologies not later than 270 days after the date of the enactment of this Act and to provide a briefing to the congressional defense committees not later than 180 days after the date of the enactment of this Act on progress in developing the strategy.

Section 234—Department-Wide Software Science and Technology Strategy

This section would require that the Secretary of Defense, acting through the Under Secretary of Defense for Research and Engineering, designate a senior official with principal responsibility for guiding the direction of research and development of next generation software and software intensive systems for the Department of Defense. Further, this section would require that the designated senior official develop a strategy for research and development of the next generation software and software intensive systems and submit the strategy to the congressional defense committees not later than 1 year after the date of the enactment of this Act.

Section 235—Artificial Intelligence Education Strategy

This section would require the Secretary of Defense to develop a strategy which identifies the key aspects, applications, and challenges associated with artificial intelligence that can be developed into an educational curriculum for military service members who utilize the technology in the execution of responsibilities. This section would also require the development of an implementation plan for the educational curriculum, and mandates that the Department of Defense provide the Artificial Intelligence Education Strategy and the associated implementation plan to the congressional defense committees not later than 270 days after the date of the enactment of this Act.

Section 236—Biannual Report on the Joint Artificial Intelligence Center

This section would require a biannual report by the Secretary of Defense on the Joint Artificial Intelligence Center (JAIC) and its efforts to harmonize the Department's work on artificial intelligence (AI) issues. The report would require the Department to detail the status of the JAIC, its current staffing, hiring efforts, and investment priorities. The report would specify how the JAIC is working with the military services, academia, industry, and international partners to develop and operationalize AI.

The committee supports the work of the Department of Defense on matters related to AI, as evident in section 238 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232), which directed the establishment of a set of activities within the Department of Defense to coordinate the efforts of the Department to develop, mature, and transition artificial intelligence technologies into operational use. The committee will ensure that the Department approaches issues involving AI, such

as workforce development and ethical use, in a substantive and comprehensive manner.

Section 237—Quarterly Updates on the Optionally Manned Fighting Vehicle Program

This section would require the Assistant Secretary of the Army for Acquisition, Logistics, and Technology to provide quarterly briefings, beginning October 1, 2019, to the congressional defense committees on the status and progress of the Optionally Manned Fighting Vehicle program.

Section 238—Grants for Civics Education Programs

This section would require that the Secretary of Defense carry out a program under which the Secretary makes grants to eligible entities, on a competitive basis, to support the development and evaluation of civics education programs.

Section 239—Technology and National Security Fellowship

This section would establish a Technology and National Security Fellowship program within the Department of Defense to increase national security professionals with science, technology, engineering, and math degrees.

Section 240—National Security Commission on Defense Research at Historically Black Colleges and Universities and Other Minority Institutions

This section would establish an independent Federal commission to advance the research capability of Historically Black Colleges and Universities and other Minority Institutions.

TITLE III—OPERATION AND MAINTENANCE

ITEMS OF SPECIAL INTEREST

ENERGY ISSUES

Energy Efficiency Improvements for Shelters and Hard Containers

The committee notes that Department of Defense use of shelters, hard containers, and mobile units plays an integral role in overseas deployment. Many of these units are climate controlled in diverse and austere environments across the world in support of our Armed Services, often at great financial cost. The committee notes that use of shelters and hard containers requires cost avoidance, energy efficiency and sustainability.

Accordingly, the committee directs the Secretary of Defense to submit a report to the House Committee on Armed Services by February 1, 2020, on the development of energy efficient shelters and hard containers. At a minimum, the report shall contain the following:

(1) A discussion of the utility, viability, cost-effectiveness, and environmental benefit of energy efficiency improvements for shelters;

(2) The viability of including mobile insulation systems to standard Department of Defense shelters and hard containers with heating or cooling systems;

(3) A discussion of other cost-saving, efficiency enhancing technologies;

(4) The potential for cost savings through reduced environmental control system costs; and

(5) Energy consumption and energy loss data from field tests of current shelters.

Enhancing Installation Energy Resiliency through Renewable Energy

The committee notes that the Department of Defense has a goal of 25 percent renewable energy for military facilities and institutions by 2025. The committee further notes that renewable energy can be an important element of ensuring energy resiliency and mission assurance at Department of Defense installations, and to that end some services have already exceeded the 25 percent goal in pursuit of enhanced energy resiliency. The committee encourages the Secretary of Defense to procure, construct, operate, maintain, test, and upgrade independent energy resilient systems for critical energy requirements on its military installations.

Additionally, the committee directs the Secretary of Defense to provide a report to the Senate Committee on Armed Services and the House Committee on Armed Services by February 1, 2020, on the following:

(1) the Department's progress towards meeting the 25 percent goal by military service, the feasibility of increasing this goal as a means of enhancing energy resiliency, and the resources that would be required to accomplish a higher goal;

(2) the extent the services share best practices in achieving energy resiliency through renewable energy sources; and

(3) the Department's plans for achieving 100 percent energy resilience for its critical energy loads and the feasibility of achieving this goal by fiscal year 2030. If 2030 is not attainable, the report shall include a projection for when this goal will be attainable.

Fuel Resiliency Issues within the Department of Defense

The committee notes that the Federal Aviation Administration and commercial aviation industry are assessing sustainable alternative fuel options as a means to address fuel cost and energy security challenges. The committee understands that a commercial airline achieved enhanced performance and lower fuel consumption through use of a sustainable fuel blend. If these results can be replicated, sustainable fuel usage will likely increase in commercial aviation. The committee further notes that as these fuel options come into commercial use, military aircraft may encounter them when using commercial airfields either in the course of normal operations or as an emergency divert location. An assessment of sustainable fuel blends for military aviation use will contribute to operational resiliency.

Accordingly, the committee directs the Under Secretary of Defense for Acquisition and Sustainment, in coordination with the Director of the Defense Logistics Agency, to provide a report to the

House Committee on Armed Services not later than December 1, 2019, on fuel resiliency and availability worldwide. The report shall include an assessment of the range of fuel formulations in use worldwide, particularly at divert locations where commercially available fuels may differ from military specifications; trends in the commercial aviation fuel market and how they may impact fuel resiliency; and what the Department is doing to ensure that it retains the maximum flexibility to refuel military aircraft worldwide.

Geothermal Revenue Sharing Process Improvements

The committee notes that section 313 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232) amended section 2916 of title 10, United States Code, to require that half of the revenue generated by sale of geothermal energy resources be set aside for the installation that is the source of the geothermal energy to use on local energy, water, or military construction projects.

The committee is concerned that the process used by the Navy to distribute these funds to eligible installations is unwieldy and slow. Therefore, the committee directs the Secretary of the Navy to provide a report to the House Committee on Armed Services by December 1, 2019, describing the current process for distributing these funds, a plan to improve the process so that local commanders can rapidly address base-level needs, and the timeline for implementing process improvements.

Maintenance Availability for Destroyers for Hybrid Electric Drive Retrofit

The committee understands that hybrid electric drive (HED) propulsion systems operate with greater efficiency and facilitate greater range and on-station time. Given these benefits, the committee believes the Navy should make maximum use of the HED technology currently in its inventory. Accordingly, the committee directs the Secretary of the Navy to provide a report to the House Committee on Armed Services by September 30, 2019, on the availability of Flight II Arleigh Burke-class destroyers for retrofit with previously procured hybrid electric drive systems. The report shall include a description of upcoming maintenance availability periods that would be of adequate duration to allow for installation of the HED, any additional barriers to installation, and any plans the Department of the Navy has for use of the remaining HED systems that would not involve installation on a naval vessel.

Medium Power Mobile Transformer Substations

The committee is aware of the Department of Defense's continuing interest in grid resiliency as it pertains to military installations. The committee is interested in understanding and determining the military installations with the greatest critical energy requirements and exhibiting the most significant energy resilience vulnerabilities. Therefore, the committee directs the Secretary of Defense to provide a briefing to the House Committee on Armed Services by February 1, 2020, on the ten military installations with the greatest critical energy requirements and their top five installation critical energy vulnerabilities and appropriate mitigation

strategies, strategies to ensure resilience, and mature technologies that enhance capabilities.

Plug-in Hybrids and Electric Vehicles on Department of Defense Installations

The committee believes that military installations could improve resiliency through a network of microgrids supporting hybrid or fully electric administrative vehicles. Further, the committee notes that the majority of government administrative vehicles do not transit large distances, and are therefore ideally suited for plug-in hybrid or fully electric technology. Accordingly, the committee directs the Under Secretary of Defense for Acquisition and Sustainment to provide a briefing to the House Committee on Armed Services not later than September 30, 2019, on the feasibility of requiring Department of Defense installations to procure plug-in hybrids or fully electric vehicles for the government vehicle fleet and install appropriate microgrids to support charging infrastructure to charge the vehicles.

Report on Department of Defense and NATO Cooperation on Energy Infrastructure

The committee recognizes that energy security in Europe is a critical enabler to United States military readiness in the region. The committee further appreciates that the United States has economic and national security interests in assisting Central and Eastern European countries in achieving energy security through diversification of energy sources and supply routes. To that end, the committee encourages the Secretary of Defense, in coordination with the Secretary of State, to work with our North Atlantic Treaty Organization (NATO) allies and partners to study vulnerabilities from energy instability in Europe and develop ways to mitigate these vulnerabilities. The committee directs the Secretary of Defense to provide a report to the House Committee on Armed Services by March 1, 2020, that provides the results of this study. The report shall include at least the following:

(1) identify and list energy vulnerabilities that impact the military readiness of the United States and its allies in Central and Eastern Europe;

(2) identify and list vulnerabilities to supply routes that impact the military readiness of the United States and its allies in Central and Eastern Europe;

(3) assess the Department of Defense's current ability to mitigate and respond to these vulnerabilities;

(4) identify ways in which the Department can enhance integration and mitigate these vulnerabilities in the future; and

(5) results of coordination with the Department of State on ways in which diplomatic relationships can be leveraged to provide energy security.

Review of Offshore Energy Development Projects

The committee understands that the Department of Defense has streamlined its process for evaluating energy development projects to include both onshore and offshore energy development under the Military Aviation and Installation Assurance Siting Clearinghouse

(Siting Clearinghouse). The committee applauds this consolidation and believes it will ensure a consistent process for evaluating energy development projects for their potential impacts to military activities. The committee directs the Under Secretary of Defense for Acquisition and Sustainment to provide a briefing to the House Committee on Armed Services not later than September 30, 2019, on the consolidation of these functions under the Siting Clearinghouse. The briefing should address how offshore projects will be evaluated under the Siting Clearinghouse process, how the Siting Clearinghouse will interact with the Department of Interior when evaluating offshore projects, and whether any legislative changes to section 183a of title 10, United States Code, are required in order to support the Siting Clearinghouse review of offshore projects.

Siting Clearinghouse Process for Wind Energy

The development of wind energy off the Central California coast would provide a reliable renewable energy resource that would enhance energy independence and grid stability. The committee notes that the Department of Defense has traditionally used the Siting Clearinghouse process to provide a timely, transparent, technical, mission-specific and science-based analysis of potential impacts to military operations from proposed domestic energy development. Through this process, the Clearinghouse traditionally looks for impacts on military testing and training operations. However, given the proliferation of offshore wind turbines in the Indo-Pacific theater, wind energy development off the Central California coast could also provide an area to develop tactics, techniques, and procedures for military operations in the vicinity of offshore wind turbines. Therefore, the committee directs the Executive Director of the Department of Defense Siting Clearinghouse to provide an analysis to the House Committee on Armed Services, not later than September 1, 2019, which outlines how the Clearinghouse process will evaluate real-world environments in which the military may need to operate to determine whether offshore wind development is compatible with or may enhance military testing and training operations. The Executive Director shall provide the House Committee on Armed Services with a detailed briefing that includes analysis of the existing California call areas identified by the Bureau of Ocean Energy Management (BOEM), a summary of Department concerns, alternatives being evaluated, and how real-world environments are being considered in the evaluations. In the interim, the Committee directs the Department not to communicate a final position of opposition to offshore wind leasing in any of the three California call areas identified by BOEM.

Logistics and Sustainment Issues

B–52 Stratofortress power plant sustainment

The Committee understands that technologies exist to achieve increased performance on aircraft engines using an advanced foam wash. Recent tests on military aircraft with the same or similar engines as B–52s using foam cleaning technology have demonstrated the ability to reduce engine temperatures, increase engine performance, reduce engine maintenance costs, increase visual inspection

for maintainers, and save fuel. The Committee strongly encourages the Air Force to evaluate the benefits that can be achieved with advanced engine wash technologies. The Committee also directs the Secretary of the Air Force to provide a brief to the Committee outlining the interim B–52 power plant sustainment program while each aircraft awaits engine replacement.

C–17 Sustainment

The committee recognizes the critical capability of the C–17 Globemaster 111, which provides strategic and tactical airlift, medical evacuation and aerial deliveries in support of combat and humanitarian missions around the world. The committee further recognizes that the existing sustainment C–17 Globemaster Ill strategy, which is a performance-based logistics contract, has resulted in consistent mission readiness rates that exceed 80% and fully conforms with the percentage limitations on performance of depot-level maintenance (50/50 requirements) of Section 2466 of Title 10, United States Code.

The committee is aware that at a time when aviation readiness rates on other fleets have been lagging, the Air Force is considering changing the sustainment strategy for C–17. The committee notes that Section 2337 of Title 10, United States Code, requires a periodic review product support arrangement to ensure the arrangements are consistent with the overall product support strategy. The committee understands that the Air Force contracted PricewaterhouseCoopers (PWC) to conduct an independent Product Support Business Case Analysis of the C–17 sustainment strategy and that analysis has been completed and delivered to the Air Force. The committee directs the Secretary of the Air Force to provide the PWC business case analysis on C–17 sustainment to the House Committee on Armed Services no later than June 30, 2019.

The committee further directs the Secretary of the Air Force to provide a briefing to the House Committee on Armed Services no later than July 31, 2019, detailing the Air Force's analysis and decision-making related to changes to C–17 sustainment

Commercial Best Practices for Maintenance and Logistics

The committee notes that commercial industries, such as passenger and cargo airlines, maritime fleets, and retail merchants, must manage international maintenance and supply chain to stay competitive. As a result, private industry seeks to reduce sustainment costs and increase operational availability by implementing innovative solutions to areas such as supply chain management, inventory accountability, workload forecasting, and maintenance practices and procedures. The committee believes many of these industry best practices can and should be leveraged by the Department of Defense to reduce sustainment costs and increase readiness. Therefore, the committee directs the Assistant Secretary of Defense for Sustainment, in coordination with the Secretaries of the military departments, to provide a briefing to the House Committee on Armed Services not later than March 1, 2020, on initiatives to incorporate commercial best practices into weapon system maintenance, inventory accountability, workload forecasting, and supply chain management. The briefing should address specific ex-

amples of commercial partnerships or best practices that have been adopted by the Department of Defense, areas of focus the Department of Defense is looking to industry for lessons learned or best practices, and barriers to implementing commercial best practices in areas of maintenance, inventory management, workload forecasting, and supply chain management.

Comptroller General Report on F–35 Sustainment

The committee recognizes the importance of the F–35 Lightning II program to U.S. national defense and cooperation with foreign allies and partners. The F–35 is replacing a variety of aircraft in the Air Force, Navy, and Marine Corps, representing the future of tactical air for the Department of Defense. The F–35 program is the most ambitious and expensive weapon system in the Department's history, with total life-cycle costs estimated by the Department to be in excess of $1.0 trillion. While the F–35 brings advanced, fifth-generation aviation capabilities to our military, the program faces sustainment challenges in areas including repair capacity, global spare parts availability and capability, mission capability, and functionality of its Autonomic Logistics Information System. In addition, affordability concerns have led the military services to identify a need to reduce total operation and support costs per aircraft by 43 percent for the Air Force, 24 percent for the Marine Corps, and 5 percent for the Navy.

Given the significance of the F–35 program to the future of tactical air for the military, the Department's need to operate and deploy the F–35 on a widespread basis in the coming years, the involvement of international partners and foreign military sales customers, and the importance of maintaining affordability, the committee directs the Comptroller General of the United States to review the Department's sustainment efforts related to the F–35 to include issues such as:

(1) the status of the F–35 Lightning II aircraft program sustainment strategy.

(2) Department oversight and prime contractor management of key sustainment functions.

(3) the Department's ability to reduce costs or maintain affordability for F–35 fleet sustainment.

(4) other matters regarding F–35 sustainment and affordability that the Comptroller General determines of critical importance to the long-term viability of the program.

The committee directs the Comptroller General to provide a briefing to the House Committee on Armed Services not later than March 1, 2020, with the preliminary findings of the Comptroller General's review, with successive reports to follow on March 1, 2021, and March 1, 2022, respectively.

Comptroller General Report on Homeport of U.S. Aircraft Carriers

The committee notes that the Navy's 2018 Strategic Laydown and Dispersal Plan reversed a previous Navy decision to return an aircraft carrier to Naval Station Everett in fiscal year 2019. The Secretary of the Navy has stated the decision was made due to maintenance efficiencies and to minimize the impact to personnel. However, the committee is concerned that the Navy did not make

this decision by fully considering operational impacts, installation capacity, or State and local plans that could mitigate impacts to the maintenance of, and personnel assigned to, the ship.

Therefore, the committee directs the Comptroller General of the United States to submit a report to the House Committee on Armed Services on recent changes to the Navy's west coast aircraft carrier homeporting. The review should address the following:

(1) a description of recent changes to west coast aircraft carrier homeporting plans and the process used to make those changes;

(2) the extent to which the Navy considered fleet dispersal, access to deep water and dredging requirements, man-made or natural restrictions to deployability, encroachment, installation capacity, and previous analyses of west coast aircraft carrier homeporting conducted pursuant to the National Environmental Policy Act (42 U.S.C. 4321);

(3) the degree to which State and local governments were consulted about alterations to previous homeporting plans and potential cost-sharing arrangements; and

(4) any other matter the Comptroller General determines appropriate.

The committee further directs the Comptroller General to provide a briefing to the House Committee on Armed Services not later than March 1, 2020, on the Comptroller General's preliminary findings and present final results in a format and timeframe agreed to at the time of the briefing.

Comptroller General Report on Littoral Combat Ship Operations and Sustainment

The committee notes that 16 of 33 planned littoral combat ships (LCS) have been delivered to the Navy, with at least 15 more under construction or in the pre-production phase. The LCS comprises a growing proportion of the surface fleet, yet the ship has limited operational experience and its mission packages remain behind schedule. In response to program challenges with executing the ships' unique operational and sustainment concepts, the Navy conducted an LCS program review in 2016 and announced fundamental changes to the ships' crewing, maintenance, and other operational concepts. As the Navy implemented these changes, it canceled planned 2018 LCS deployments but has announced three planned LCS deployments for 2019. These deployments will be another opportunity for the Navy to test the feasibility of revisions to its operational and sustainment concepts, even as more LCS enter the fleet.

Given these issues and the vital importance of affordably operating and sustaining the LCS, the committee directs the Comptroller General of the United States to conduct a study of the following topics:

(1) to what extent has the Navy implemented the LCS program changes announced in 2016;

(2) to what extent has the Navy demonstrated that revised LCS operational concepts and sustainment plans are executable; and what, if any, challenges did the Navy have on its initial deployments using this revised concept;

(3) how has the Navy prepared to support and maintain LCS while they are deployed overseas;

(4) what have been the operating and sustainment costs of the LCS program to date, how have these deviated from cost estimates, and to what extent has the Navy updated the LCS cost estimate to include the new operation and support strategy;

(5) what are LCS long-term contracting strategies for ship repair and maintenance and to what extent do they address challenges related to the cost of maintaining the vessels; and

(6) any other related matters the Comptroller General considers appropriate.

The committee further directs the Comptroller General to provide a briefing to the House Committee on Armed Services not later than March 1, 2020, on preliminary findings of the Comptroller General's review, and to present final results in a format and timeframe agreed to at the time of briefing.

Comptroller General Report on Ship Repair Capabilities and Capacity

The committee notes the Navy will seek to increase from 289 to 355 ships in order to meet the new National Defense Strategy. However, the committee is concerned that the current configuration and capacity of the U.S. industrial base, as well as maintenance capabilities overseas, may not be well-positioned to support the ship repair capabilities necessary to support a peacetime 355-ship Navy or to be successful in a protracted near-peer naval conflict. Of note, the Navy has consistently struggled to execute regularly scheduled maintenance on time with the size of the fleet it operates today. For example, over two-thirds of all aircraft carrier, submarine, and surface ship maintenance availabilities were completed late in the past 7 years. The Navy has also faced challenges in responding to emergent, unplanned ship maintenance work due to capability and capacity issues. The Navy's Long-Range Plan for the Maintenance and Modernization of Naval Vessels for Fiscal Year 2020 states that maintaining a 355-ship Navy will require a significant increase and upgrade of public and private industrial capability and capacity to meet the Navy's future ship repair needs.

Given these issues, and the critical importance ship repair plays in sustaining Navy readiness during both peacetime and conflict, the committee directs the Comptroller General of the United States to submit a report to the congressional defense committees that addresses the following:

(1) to what extent has the Navy identified the resources and investments necessary to maintain and modernize a 355-ship Navy and ensure sufficient ship repair capabilities and capacity during a near-peer conflict;

(2) to what extent has the Navy identified or assessed challenges or risks in the U.S. ship repair industrial base and/or overseas Navy capacity as part of its planning to maintain a 355-ship Navy and respond to battle-damaged ships during a conflict;

(3) to what extent has the Navy developed plans to mitigate or address those challenges to ensure effective and efficient ship maintenance of a larger fleet and during conflict with a near-peer; and

(4) any other related matters the Comptroller General considers appropriate.

The Comptroller General shall provide a briefing to the House Committee on Armed Services not later than March 1, 2020, on preliminary findings of the Comptroller General's review and shall present final results in a format and timeframe agreed to at the time of the briefing.

Conditions Based Maintenance Plus

The committee is aware the Army, Marine Corps, Navy, and Air Force are each conducting, to differing degrees, pilot initiatives to assess the benefits of using a conditions based maintenance plus (CBM+) maintenance model on weapon systems. With CBM+, maintenance personnel can use algorithms that analyze data collected from onboard sensors or from historic data and maintenance trends to make informed decisions before a part fails. The committee believes that a CBM+ maintenance system can help reduce maintenance workloads, minimize the maintenance downtime of a weapon system, improve the management and response of the supply chain, reduce maintenance costs, and increase overall military readiness. The committee believes CBM+ has potential applications on both legacy weapon systems and new acquisition programs. Therefore, the committee directs the military service chiefs to each provide a briefing to the House Committee on Armed Services not later than November 1, 2019, on the use of conditions based maintenance systems and processes. The briefings should address specific weapon systems that are currently utilizing CBM+ approaches, observations on the impact CBM+ practices have had on the readiness of these weapon systems, plans to expand CBM+ to additional weapon systems, and any barriers to the expansion of CBM+.

Contracted Aerial Refueling Aircraft

The committee is aware that the Department of the Navy utilizes the contracted air services program to provide contractor-owned, contractor-operated aerial refueling in support of Navy pilot initial qualification, recurring pilot training, operational test and evaluation, and cross-country and overwater refueling services. The Commander of U.S. Transportation Command testified that the Air Force's aerial refueling fleet is "the most stressed capability in terms of sufficiency." The committee is also aware that as many as 30,000 hours of aerial refueling missions are not being supported annually. Given the current demands placed on the Air Force's aerial refueling fleet, as well as the readiness rates associated with those aircraft, the committee believes the options to complement the Air Force's current and planned organic aerial refueling fleet should be assessed.

Therefore, the committee directs the Secretary of the Air Force, in coordination with the Commander of U.S. Transportation Command, to provide a report to the House Committee on Armed Services not later than March 1, 2020, assessing the feasibility, affordability, and advisability of expanding the use of contractor-operated aerial refueling aircraft to support Air Force receiver requirements. The assessment should consider the types of refueling missions that would be appropriate for support by a contractor-operated aircraft.

Corrosion Control and Prevention

The committee recognizes that corrosion negatively affects military equipment and infrastructure, can lead to the reduced availability or capability of weapon systems, and creates safety hazards for military personnel. According to a study conducted for the Department of Defense, the estimated annual cost of the impact of corrosion is $20.6 billion on the Department of Defense. To help prevent corrosion, the military services have invested in the research and development of innovative coatings that can be applied to weapon systems to increase the durability and operational capability of the weapon system while reducing the cost and amount of time required to maintain these weapon systems. In addition to developing and utilizing innovative coatings, the committee believes the military services should ensure that sufficient training on the application of such coatings is available for military and civilian personnel involved in weapon systems sustainment at the installation and depot level. Therefore, the committee directs the Assistant Secretary of Defense for Sustainment to provide a report to the House Committee on Armed Services not later than November 1, 2019 that assesses the current capability and capacity of its workforce to perform corrosion prevention and control, to include the application of preventative coatings. The report should address any identified training shortfalls, to include whether there is a need to establish a center focused on training and research related to the development and application of paint and coatings.

Optimized Fleet Response Plan

The committee notes that the Navy began a multi-year process of implementing the Optimized Fleet Response Plan (OFRP) in November 2014. The stated goal of OFRP was to maximize the availability of Navy ships for operations while ensuring adequate time for maintenance and training while providing an appropriate and predictable operational tempo for Navy personnel. As directed in the committee report accompanying the National Defense Authorization Act for Fiscal Year 2016 (H. Rept. 114–102), the Comptroller General reviewed matters related to OFRP and, while noting it was too early to assess the overall effectiveness, did note that there were signs of challenges with implementation and execution of OFRP. Since the Comptroller General's report in 2016, the committee notes the Navy has experienced delays in the schedule of ship maintenance availabilities, implemented a number of changes following the release of the Navy's Comprehensive Review of Surface Force Incidents and the Navy's Strategic Readiness Review, and is responding to the Dynamic Force Employment requirements of the 2018 National Defense Strategy. Therefore, the committee directs the Comptroller General of the United States to conduct an updated assessment of the Navy's Optimized Fleet Response Plan (OFRP), to include:

(1) an analysis of the extent to which the Navy has been successful in achieving the goals it established under OFRP in terms of maintenance completion and timeliness, training certifications, personnel fit/fill rates, operational availability, and others;

(2) the impact that the performance of OFRP on ship maintenance and training have had on the carrier air wings maintenance, training, and readiness;

(3) how assumptions about operational availability and costs under OFRP are affecting the Navy's force structure assessment; and

(4) any other matter the Comptroller General determines appropriate.

The committee directs the Comptroller General to provide a briefing to the House Committee on Armed Services not later than March 1, 2020, with the preliminary findings of the Comptroller General's review, with the report to follow at a date to be determined at the time of the briefing.

Planning, Programming, and Budgeting for Sustainment

After several years of civilian and military leaders of the Department of Defense raising concerns about the readiness of the Armed Forces, the Congress passed a 2-year budget agreement that provided additional resources for the Department of Defense. Despite the readiness challenges raised, and additional resources provided, the committee is concerned that the Department failed to sufficiently plan, program, or budget for key readiness-enabling accounts that provide for the sustainment of weapon systems and equipment. For example, the budget request for fiscal year 2020 provides for only 82 percent of the Marine Corps ground depot requirement, 92 percent of the Navy ship depot maintenance requirement, and 90 percent of the Air Force weapon systems sustainment requirement. The committee is concerned that the military departments frequently state the accounts are funded to their "maximum executable rate" without being able to provide supporting analysis or describe what actions need to be taken to increase the execution rates. While the committee recognizes the need to invest in modernization and new weapon systems in support of long-term readiness, such investments must be appropriately balanced with the sustainment accounts that maintain and improve the materiel condition of today's weapon systems and equipment. Without sufficient investment in the sustainment accounts, the near-term readiness of the Department will continue to be challenged.

Therefore, the committee directs the Secretaries of the military departments to each provide a report to the House Committee on Armed Services not later than February 1, 2020, that provides a detailed plan for the planning, programming, budgeting, and execution of funding that support the sustainment of weapon systems and equipment. The reports should describe how the military departments calculate their sustainment requirements, how the maximum executable sustainment funding level is calculated, barriers to increasing sustainment execution, and actions being taken to improve the planning, programming, budgeting, and execution of accounts that support the sustainment of weapon systems and equipment.

Report on the National Guard's Equipment Reimbursement Policies

In accordance with National Guard Regulations, State Adjutant General have the authority to use federal equipment during State Active Duty (SAD) missions, and the United States Property and Fiscal Officers have the responsibility to seek reimbursement for the use of that equipment. Comptrollers who have received these reimbursements from the states had been depositing them in three different ways: to current fiscal year operation and maintenance accounts of the National Guard, to the operation and maintenance accounts of the National Guard for the fiscal year during which the SAD mission took place, and to the General Fund of the U.S. Treasury. The committee is aware of a recent legal interpretation and updated policy guidance that requires all reimbursements to be deposited in the General Fund of the U.S. Treasury. The committee is concerned that this new policy may adversely impact maintenance and sustainment of equipment used for SAD missions.

The committee understands that the Chief of the National Guard Bureau has been working with the State Adjutant Generals to identify potential legislative changes that may be necessary to allow reimbursements to be retained and utilized by the National Guard. Therefore, the committee directs the Chief of the National Guard Bureau to provide a report to the House Committee on Armed Services, not later than March 1, 2020. At minimum, the report should provide details on the amount of reimbursements for SAD missions deposited to the U.S. Treasury in fiscal year 2019 and, if required, a legislative proposal that would ensure reimbursed funds could be utilized for the maintenance and sustainment of equipment utilized in SAD missions.

Readiness Issues

Allocation of Excess Property for Wildfire Fighting

The Committee is supportive of Department of Defense programs that transfer surplus and excess military equipment to federal, state, and local agencies with responsibilities for combating wildfires and emergency services. As the threat of wildfires increases, the Firefighter Property Program (FFP) and the Federal Excess Personal Property Program (FEPP) provide first responders with critical firefighting and emergency service resources.

Wildfire risks are not evenly distributed, and the Committee is supportive of ensuring that communities with the greatest need and threat of wildfire have equitable access to Department of Defense surplus property.

Therefore, the Committee directs the Secretary of Defense, acting through the Director of the Defense Logistics Agency, in coordination with the Secretary of Agriculture, acting through the Chief of the United States Forest Service, to develop an assessment of FFP and FEPP implementation, training, best practices, and equipment distribution taking into account need and risk. Further, the Secretary of Defense acting through the Director of the Defense Logistics Agency, shall provide a report on its findings and any recommendations to more efficiently increase firefighting and emergency service capabilities to the Committees on Armed Services

and Agriculture of the U.S. House of Representatives, no later than 180 days after the date of enactment of this Act.

ARMY URBAN TRAINING

The committee remains concerned that the Department of Defense is not prepared to operate in complex, densely populated urban cities which are the likely terrain of future major conflict. The committee supports the Department's ongoing efforts, but questions whether the Army has prioritized this challenge. Specifically, the committee believes the Army should establish two entities to address this gap. First, the Army should establish an Army urban warfare center dedicated to the study and research of urbanization, mega-cities, urban warfare, and military operations in dense urban environments.

Second, the Army should construct an urban warfare training center that focuses on advanced skills to fight, survive, and win in urban operating environments at the brigade level and higher. This training facility would address the challenges associated with vertical, subterranean, and dense urban terrain, and the inclusion and integration of joint and interagency enablers.

Therefore, the committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services not later than December 1, 2019, on the Army's plan to prepare and train for high-intensity conflicts in dense urban warfare. The briefing should include:

(1) how the Army plans and prepares doctrine for urban warfare, including any plans to establish an urban warfare center;

(2) an updated overview of a plan and timeline to construct an urban warfare training center for dense urban warfare at the brigade level and higher; and

(3) an identification of costs associated with the construction of an urban warfare training center.

Assessment of Air Combat Maneuvering Instrumentation and Collision Awareness Systems

The committee understands that despite numerous safety procedures designed for safe, effective training—such as assignment of different block altitudes, low altitude training rules, and dive recovery rules—the majority of midair collisions and terrain crashes involving combat aircraft occur during training exercises, not combat operations. These mishaps have repeatedly and tragically resulted in losses of life and aircraft. To mitigate the current risk for midair collision and controlled flight into terrain during air combat training, the committee encourages the Air Force, Navy, and Marine Corps officials to consider a collision awareness system that can leverage existing infrastructure and systems that would allow range training officers and pilots to receive notifications in the event a potential midair or terrain crash is assessed.

Therefore, the committee directs the Secretaries of the Air Force and Navy, not later than November 29, 2019, to provide to the congressional defense committees a report of the utilization of air combat maneuvering instrumentation systems for these purposes. This report shall include detailed analyses on the costs, benefits, and feasibility of building out this capability on air combat maneuver

instrumentation equipment on all combat aircraft as the basis for a collision awareness system at all relevant training ranges.

Cold Weather Organizational Clothing and Individual Equipment

The committee commends the Army for taking necessary steps to improve and modernize cold weather organizational clothing and individual equipment (OCIE) such as glove systems and handwear to provide soldiers with a distinct combat advantage. The committee is concerned that current procurement timelines are too lengthy and will prevent cold weather units from receiving the most effective cold weather items in a timely manner. Such delay could negatively impact both the readiness and lethality of the Army's cold weather combat units. Therefore, the committee encourages the Secretary of the Army to review these acquisition timelines and take steps to make cold weather OCIE items, including handwear, available to all eligible soldiers as soon as possible through the programs of record. Further, the committee supports efforts by the services to support a strong domestic industrial base to ensure that innovative and cost-effective cold weather OCIE items are available now and in the future.

Comptroller General Assessment of Surface Fleet Manning, Workload, and Training

The committee notes the Navy has taken steps to improve shipboard manning and decrease sailor fatigue and workload after the loss of life from ship collisions in 2017. The Navy has reevaluated shipboard and in-port workload, updated surface fleet manpower requirements, established minimum thresholds for filling billets with sailors ("fill") possessing the appropriate skills ("fit"), and directed the implementation of watchbills and shipboard routines to combat fatigue. However, the committee is concerned that manning difficulties and cultural resistance may hinder full implementation of these initiatives. While the Navy is attempting to improve manning and fatigue management, it is simultaneously implementing the Ready Relevant Learning (RRL) initiative, meant to provide sailors with more timely and targeted training. The committee remains concerned about RRL's implementation across the fleet and its efficacy in preparing sailors to execute their workload, especially as the Navy grows the size of the surface fleet.

Therefore, the committee directs the Comptroller General of the United States to submit a report to the House Committee on Armed Services not later than December 1, 2020, and to provide a briefing on preliminary findings not later than April 1, 2020, addressing the following:

(1) to what extent is the Navy meeting manning fit and fill goals for sea duty;

(2) actions the Navy is taking to mitigate any manning fit and fill shortfalls and when shortfalls are projected to be addressed;

(3) how manning guidance and implementation in the surface community differs from that of the aviation and submarine communities and from Federal guidelines for other professions;

(4) whether the Navy is positioned for a significant manpower increase based on an increase to a 355-ship Navy and to what extent

the Navy's training pipelines are being resourced to accommodate the increased demand;

(5) to what extent circadian rhythm watchbills and shipboard routines have been implemented in the surface fleet, factors that impede full implementation, and actions the Navy has taken to mitigate these factors;

(6) the measures of effectiveness for RRL training and the effect the RRL approach has on fleet readiness; and

(7) how RRL is affecting the qualifications of sailors when they arrive at their first duty assignment as part of the Forward Deployed Naval Forces, and how ship manning affects the successful implementation of this training approach.

Comptroller General Report on Army Rail Capability

The committee notes that in 2012, the Army proposed a force design update that would provide the rail capabilities required for the contemporary operational environment. This force design was approved by the Army Training and Doctrine Command's Army Capabilities Integration Center and thereby created the Army Reserve Expeditionary Railway Center.

The committee notes that the Expeditionary Railway Center's mission is to provide rail network capability and infrastructure assessments; perform rail mode feasibility studies; provide advice on the employment of rail capabilities; perform and track railway rolling stock capability assessments; and perform and assist with rail planning in support of military strategic and operational requirements.

In order to determine whether these actions have resulted in an improvement to the Department of Defense's rail capabilities, the committee directs the Comptroller General of the United States to submit a report to the Committees on Armed Services of the Senate and the House of Representatives by December 1, 2020, explaining to what extent the Army, through the Expeditionary Railway Center, has assessed current rail capabilities and addressed any identified gaps; if the Army's 2012 force design update and the Expeditionary Railway Center have been successful in meeting combatant command requirements; and how existing mechanisms inform Army and Department decision makers about the ability of the Department's rail system to meet combatant command needs.

The committee further directs the Comptroller General to provide a briefing to the House Committee on Armed Services by March 1, 2020, on the Comptroller General's preliminary findings.

Comptroller General Report on Navy Collective Training for High-End Combat Missions

The committee notes that the 2018 National Defense Strategy stated that, in order to prepare for long-term strategic competition, the U.S. military must train to "high-end combat missions" alongside allies in bilateral and multinational exercises. However, as the Government Accountability Office testified in 2018, the Navy has focused recent efforts on training up to existing standards and certifications in order to rebuild readiness. Meanwhile, foreign militaries have been improving the scope, complexity, and realism of their training. As a result, the committee recognizes that U.S.

Navy training and exercises need sufficient realism in order to match our near-peer competitors and provide the readiness and capabilities needed to succeed in a high-end fight. Accordingly, the committee directs the Comptroller General of the United States to conduct a study addressing:

(1) the extent to which the Navy's training standards have been updated or changed to portray realistic scenarios, as based on current intelligence;

(2) the extent to which Navy training and exercises incorporate current and future threats, including cyber attacks, electronic warfare, new acoustic sensors, and unmanned underwater vehicles;

(3) the extent to which current warfare certifications and training readiness data provide an accurate portrayal of the Navy's readiness to perform in high-end combat missions; and

(4) any other related matters the Comptroller General considers appropriate.

The committee further directs the Comptroller General to provide a briefing to the House Committee on Armed Services not later than March 1, 2020, on preliminary findings of the Comptroller General's review, with the report to follow at a date to be determined at the time of the briefing.

Comptroller General's Report on the Army's Use of Global Combat Support System

The committee notes that logistics is a key combat support area and a critical enabler underpinning U.S. military power. The Army manages tactical logistics with the Global Combat Support System-Army (GCSS-Army), which replaces several separate legacy information systems used to manage logistics support activities at the Army tactical unit level. Once fully fielded, GCSS-Army will manage billions of dollars in assets on an annual basis and will have more than 150,000 users. In April 2015, the Government Accountability Office reviewed the early implementation of GCSS-Army at selected units and found that it was generally meeting their logistics requirements. At that time, however, very few tactical units had the full system capability and the units were not deployed when using the system. The Army was expecting to fully field GCSS-Army to its tactical units by September 2017, but this did not occur.

Given this limited field experience to date, the committee directs the Comptroller General of the United States to submit a report to the House Committee on Armed Services by June 1, 2020, explaining the following:

(1) how tactical units manage and track logistics support activities using GCSS-Army when deployed in a military operation,

(2) to what extent the Army has tested and evaluated the use of GCSS-Army for logistics support during military operations, and

(3) to what extent is GCSS-Army able to provide geographic combatant commanders and other military leaders a common operating picture of logistics support during military operations.

The committee further directs the Comptroller General to provide a briefing to the House Committee on Armed Services by March 1, 2020, on the Comptroller General's preliminary findings.

Corrosion Mitigation for Tactical Aircraft

While the U.S. military updated aircraft cleaning and corrosion control requirements to mitigate corrosion and maintain aircraft readiness, the committee understands that the U.S. Army may not be currently performing recommended rinsing procedures at certain locations due to lack of appropriate equipment at those locations. The committee also notes that lack of rinse equipment can present greater challenges in austere environments where sand, dirt, and salt can cause significant damage to aircraft and components and where the lack of infrastructure and water resources also poses challenges. Noting the significant costs associated with airframe corrosion, the committee believes the use of commercial, off-the-shelf (COTS) tactical rise systems may provide a quick return on investment.

Therefore, the committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services no later than September 27, 2019, on the potential for wider fielding of COTS tactical rinse systems for taxi-through fixed and rotary wing aircraft. This briefing shall include a detailed description of evaluations of such rinse systems to date, a list of locations that currently lack such rinse systems, whether there is a plan for using fielding additional capabilities to address corrosion prevention and control for taxi-through aircraft, and the potential for a program of record for this capability.

Department of Defense Fire and Emergency Services Reductions

The committee commends the Office of the Assistant Secretary of Defense for Sustainment for its efforts to achieve cost savings and provide military installations with the necessary services in the event of an emergency. However, the committee is concerned that the planned reductions in fire and emergency services go too far in its reduction of appropriate response personnel. As the reductions in services proceed, the committee encourages the Office of the Assistant Secretary of Defense for Sustainment to ensure that there is an appropriate number of fire and emergency personnel to provide adequate response protection at military installations. Therefore, the committee directs the Secretary of Defense to submit a report to the House Committee on Armed Services by December 1, 2019 on the effects of currently planned reductions to fire and emergency services as it pertains to providing adequate fire and emergency response protection at military installations.

Hearing Protection Measures

The committee notes that despite the widespread availability of ear protection equipment across the Department of Defense, service members continue to experience hearing loss attributed to their military service. The committee believes that the Department of Defense should adopt a more innovative approach to prevent hearing loss.

Therefore, the committee directs the Secretary of Defense to submit a report to the House Committee on Armed Services by January 1, 2020, on current hearing protection measures in use during combat and training and the effectiveness of these devices for a range of combat, combat support, and administrative specialties.

The report should also compare hearing for service members upon entry into the military services to the end of the first term of service and compare discharged members receiving service-connected benefits for hearing loss. This report should also include recommendations for innovative safe technologies that could be used to deter hearing loss or improve hearing through training and combat.

Live, Virtual, and Constructive Training

The committee continues to recognize the important role that Live, Virtual, and Constructive (LVC) and game-based (LVC–G) systems can play to improve military capabilities and readiness for missions in contested environments. While the Army, Marine Corps, Navy, and Air Force each have various programs and initiatives to leverage LVC and LVC–G systems, the committee is concerned the services lack clear investment strategies or plans to scale the use of LVC and LVC–G systems to improve and sustain military readiness. Therefore, the committee directs the Secretaries of the military departments to provide a briefing to the House Committee on Armed Services not later than November 1, 2019, on the military services' investment strategies and plans to scale the use of LVC and LVC–G systems. In addition, the briefing should address efforts to use LVC and LVC–G systems to enhance joint and multinational training and readiness and how LVC and LVC–G training will be assessed within the Defense Readiness Reporting System.

Minimal-Notice Examinations of Naval Vessels and Associated Manpower Requirements

The committee notes that naval vessel examinations are critical for assessing the material readiness of the U.S. Navy fleet. In order to provide a more accurate representation of the material condition of each vessel without the benefit of dedicated inspection preparation, section 322 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232) required that examinations of naval vessels be conducted on a minimal-notice basis. The committee is aware that the Navy is undertaking a phased implementation of this requirement that aims to achieve 100 percent minimal notice by late 2019. The committee therefore directs the President of the Navy's Board of Inspection and Survey to provide a briefing to the House Committee on Armed Services by March 1, 2020, on the results and lessons learned from its implementation of minimal-notice examinations. In addition, the committee is aware of a potential shortfall in the number of inspectors available to meet the Navy's new examination requirements and directs the President of the Board of Inspection and Survey to provide a briefing to the House Committee on Armed Services by March 1, 2020, on the results of its upcoming Shore Manpower Requirements Determination.

Mission Capability Rating Assessment

On September 17, 2018, the Secretary of Defense issued a memorandum to the Secretaries of the military departments directing they achieve a minimum of 80 percent mission capability rates and

reduce operating and sustainment costs for F–35, F–22, F–16, and F–18 aircraft by the end of fiscal year 2019. In addition, the memorandum directed the military departments to "set and pursue aggressive targets for other enduring fixed- and rotary-wing aviation assets." The committee supports the military departments' efforts to improve the mission capability rates of aviation assets and reduce the operating and sustainment costs of such assets. The committee seeks to understand the lessons learned from this initiative and how the improved readiness levels can be sustained and applied to other components of the Armed Forces.

Therefore, the committee directs the Secretaries of the military departments to each provide a briefing to the House Committee on Armed Services, not later than November 1, 2019, on the results of their efforts to meet the directive outlined in the September 2018 memorandum. The briefing should address specific actions taken to meet the 80 percent mission capability objective for each of the aircraft identified, the framework for sustaining an appropriate mission capability rating for each of the aircraft going forward, and plans to expand the mission capability initiative to other weapons systems that operate in the air, land, and sea domains.

NAVY READINESS ASSESSMENT TEAMS

The committee is aware that the Navy leverages Engineering Readiness Assessment Teams (ERATs) and Combat Systems Readiness Assessment Teams (CSRATs) to provide periodic material condition assessments and training assistance to the Navy's surface forces in the Atlantic and Pacific Fleets. Conducting approximately 150 ship visits per year, ERATs help improve technical knowledge, operational understanding, and operational performance of the crews aboard Navy surface ships. The Navy has identified ERATs as an integral component of the Optimized Fleet Response Plan training cycle and the committee believes ERATs help enhance unit readiness.

The committee is concerned about differences in the contracting process for the ERAT and CSRAT programs. Of particular concern is the lack of a uniform, standard, and consistent funding source and the lack of an integrated program management construct to unify the ERAT and CSRAT requirements, management, and execution across both the Atlantic and Pacific Fleets. This, coupled with the use of a non-Navy contract vehicle, has further contributed to decline in execution of both ERAT and CSRAT requirements. The committee believes the Navy should seek ways to improve the coordination, administration, and execution of these programs.

The committee is aware that Navy Surface Forces Atlantic is in the process of adjusting its acquisition strategy for the delivery of ERAT services. As these adjustments are made, the committee will continue to closely monitor these changes, as well as the management and funding of the ERAT and CSRAT programs, to ensure the ERAT and CSRAT programs continue to efficiently and effectively support the readiness of the Navy's surface ships.

Northern Strike Exercise Funding

The committee notes that the Northern Strike exercise is one of the largest Reserve Component exercises supported by the Department of Defense. This annual event develops full-spectrum combat readiness of National Guard, Active Component, and coalition partner units through realistic, joint live-fire training with an emphasis on joint and coalition force cooperation. The committee recognizes that the Northern Strike exercise has over 5,000 participants from all military services and military units from the United Kingdom, Germany, Poland, Hungary, Estonia, Lithuania, and Latvia. However, the committee is concerned that the Department of Defense has inconsistently programmed funding for this annual event. Accordingly, the committee directs the Chief, National Guard Bureau to submit a report to the Committees on Armed Services of the Senate and the House of Representatives by December 1, 2019, that provides the following:

(1) the annual cost of the Northern Strike exercise broken out by account over the last 5 years;

(2) the number and countries of foreign partner participants over the last 5 years;

(3) the number of military personnel by service and component over 5 years broken out by service; and

(4) the anticipated funding for future exercises in the Future Years Defense Program.

Report on Security Clearance Processing

The Committee is concerned with the persistent backlog of security clearance applications and the impact that has on our national security apparatus' ability to effectively recruit and retain high-quality professionals. In 2018, the Government Accountability Office added the government-wide personnel security clearance process to their High-Risk List, which identifies federal areas in need of urgent reforms to address significant challenges. Pursuant to Executive Order 13869, the responsibility for background investigations functions has been transferred to the DoD, which combines the Defense Security Service, the Consolidated Adjudication Facility, the National Background Investigative Bureau, and several other components under the newly renamed Defense Counterintelligence and Security Agency. Consistent with this transfer of authority, the committee directs the Secretary of Defense to submit a report to the congressional defense committees not later than 180 days after the enactment of this Act detailing the scope of both the investigative and adjudicative backlog, how cases are disposed of (whether adjudicated or otherwise disposed of some other way), current staffing levels at DSCA, and what reforms are being put in place to reduce these backlogs while ensuring a high-quality security clearance process.

Use of Funds Provided for the Defense Community Infrastructure Program

The committee believes the Defense Community Infrastructure Pilot Program (DCIP) authorized by section 2861 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232) can be a powerful tool for the long-term

sustainment and resiliency of defense installations. However, the committee is concerned that the Department of Defense has yet to issue a policy, guidance, or other documents regarding the use of this new authority.

Therefore, the committee directs the Under Secretary of Defense for Acquisition and Sustainment, in coordination with the Director of the Office of Economic Adjustment, to provide a report to the House Committee on Armed Services not later than February 1, 2020, on the Department's implementation of DCIP. The report should address how the DCIP program will be structured, policy guidance that has been issued for the management of the program, how projects will compete and be selected for funding, a description of projects that have been selected, and a timeline for the award and completion of such projects.

Utilization of Recycled Products in Military Clothing Items

The committee commends the Department of Defense on its most recent update to its internal instruction on the implementation of a sustainable procurement program for recycled content products. In line with the Department's internal instruction, and in the committee report accompanying the National Defense Authorization Act for Fiscal Year 2012 (S. Rept. 112–26), the Secretary of Defense was required to submit a report to the Committees on Armed Services of the Senate and the House of Representatives on the utilization of recycled products in military clothing items. That report cited four military clothing items made from recycled materials at the time, including the Protective Combat Uniform for the Special Forces, the Third Generation Extended Cold Weather Clothing System, Underwear, and the Army Fleece Jacket. Given the amount of clothing items in the Department of Defense and prevalence of recycled content products, the committee directs the Secretary of Defense to submit a report to the House Committee on Armed Services by March 1, 2020, on the feasibility of incorporating additional recycled content products into these clothing items and other environmental protection clothing items currently being utilized by service members.

Value of Energy and Logistics Informed Exercises

The committee notes that logistics play a critical role in the success of military operations. Unfortunately, logistics, specifically fuel and energy resource availability, are routinely "assumed out" of military exercises, diminishing the value of those opportunities to identify critical gaps in our logistics plan. Additionally, the Department of Defense can do more to protect logistics information from adversaries. Therefore the committee encourages the Department of Defense to conduct realistic war games and exercises that accurately reflect the potential threats and limitations of the joint logistics enterprise and encourages continued investment in its logistics enterprise as an enabler of power projection and sustainment operations against strategic competitors.

Women, Peace and Security Strategy in Military Training

The committee recognizes that the Women, Peace and Security Strategy Act of 2017 (Public Law 115–68) required that relevant

personnel receive training, as appropriate, in conflict prevention, peace processes, mitigation, resolution, and security initiatives that specifically addresses the importance of meaningful participation by women, gender considerations and meaningful participation by women, and effective strategies and best practices for ensuring meaningful participation by women. Therefore, the committee directs the Secretary of Defense to provide a report to the House Committee on Armed Services, not later than March 1, 2020, on how the Department is complying with the requirements of Public Law 115–68 and how the required training is incorporated into predeployment training for units and military personnel deploying overseas.

OTHER MATTERS

Aircraft Noise Mitigation

The committee is concerned that decisions made by the military departments with respect to basing and operating military aircraft may have adverse noise impacts on the private property and municipal properties such as schools that are located in close proximity to military installations and auxiliary military airfields at which tactical aircraft are based and train. The committee is concerned that, while these impacts are considered during required environmental reviews and consultations, the military departments may not be taking sufficient action to mitigate the impacts identified during these reviews and consultations.

Therefore, the committee directs the Secretary of Defense to provide a report to the House Committee on Armed Services not later than March 1, 2020, on the available programs and authorities to mitigate the effects of military aircraft noise on private residences, schools, and hospitals. The report should address specific programs and authorities that are available for such mitigations, the process used to provide for such mitigations, a list of military installations where such mitigations have been made to private residences or other entities outside the installation within the last 5 years, and a list of military installations where there are currently private residences or other entities being considered for such mitigations in the future.

Alternatives to Burn Pits

The Committee notes the Department's efforts to phase out the use of open burn pits for disposal of waste in contingency locations, unless there is no feasible alternative, and the May 31, 2019 report to Congress that indicated that "no technology or equipment solution has been devised that could eliminate all waste burning requirements for every contingency location." The Committee encourages the Department to accelerate RDT&E for technology or equipment solutions to eliminate the need for open burn pits and to establish a safe, cost-effective, long term solution for toxic waste disposal that can be used in any contingency environment. The Committee directs the Undersecretary of Defense for Acquisition and Sustainment to provide a briefing to the House Committee on Armed Services by February 1, 2020, on the Department's assessment of available alternatives to open burn pits, including any

commercially available solutions, RDT&E efforts to develop a feasible alternative for use in contingency environments, any resource constraints for acquisition of a technology or equipment solution to eliminate the need for open burn pits, and a plan of action and timeline for the projected transition to a new technology or equipment solution.

Aqueous Film Forming Foam Training

The committee notes that while there has been significant policy guidance issued from headquarters related to perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA), it is unclear whether there is adequate training of individuals who are in regular contact with aqueous film forming foam (AFFF) about the potential dangers associated with PFOS and PFOA. The committee encourages the military services to ensure that service members are aware of the potential hazards related to AFFF and are aware of best practices for its use, maintenance, and disposal.

Authorities Available to the Department of Defense for Tribal Mitigation

The committee notes that there are many situations in which military training or construction activities impact tribal lands, cultural properties, or tribal treaty rights. The committee further observes that consultation between the service action proponent and the impacted tribe is required by law. While consultation on these impacts often occurs in parallel to environmental planning under the National Environmental Policy Act (Public Law 91–190), impacts to tribes and the potential mitigation of those impacts goes beyond the scope of environmental mitigation. The committee notes that environmental authorities and funding mechanisms such as the Sikes Act (Public Law 86–797) are one tool for addressing these impacts, but should not limit the Department of Defense from using other authorities or mechanism to mitigate impacts.

The committee directs the Secretary of Defense to submit a report to the House Committee on Armed Services by January 31, 2020, on the authorities available to the Department and military services to address tribal mitigation and funding mechanisms for those mitigations. The report shall include analysis on whether the existence of a treaty with the United States changes the authorities available, and if so describe the differences.

Best Practices for Cleanup and Disposal of PFOS- and PFOA-Contaminated Groundwater, Soils, and Filters and Gaps That Require Further Study

The committee notes that the class of man-made chemicals known as per- and polyfluoroalkyl substances have presented particular challenges with respect to cleanup and disposal. The committee further notes that as the Department of Defense transitions from cutting off exposure to perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) to cleanup actions under the Comprehensive Environmental Response, Compensation, and Liability Act, the Department must conduct these actions in a manner that is effective in protecting human health and the environment.

The committee understands that further research and study are required to develop disposal methodologies beyond high-heat incineration, which is the only known way to dispose of PFOS- and PFOA-contaminated materials. The committee notes that this method of disposal presents concerns about whether the chemicals are adequately broken down and about the production of hydrogen fluorine gas as a by-product of that incineration.

Accordingly, the committee directs the Under Secretary of Defense for Acquisition and Sustainment to provide a briefing to the House Committee on Armed Services by November 1, 2019, on the Department's understanding of best practices for the cleanup and disposal of PFOS- and PFOA-contaminated soils, and disposal of spent filters and Aqueous Film Forming Foam. The briefing should include a discussion of current research on these chemicals being conducted by the Strategic Environmental Research and Development Program or Environmental Security Technology Certification Program and what areas require additional research.

Chase Aircraft at NASA Armstrong Flight Research Center

The Committee is increasingly concerned about the availability of chase aircraft at NASA Armstrong Flight Research Center, which provides total flight safety during developmental and operational tests of various experimental aircraft, to include the new generation of highly maneuverable Unmanned Aerial Vehicles (UAV). As a regular provider of direct support to Air Force and Navy test missions, the Committee believes the Center is critical to helping the U.S. military maintain its technological superiority. The Committee understands the Navy is unable to provide F/A–18F models to the Center due to fleet requirements, but remains concerned that without replacement chase planes, the Center will lose all capability to support the high transonic and supersonic research required by the majority of current and projected Department of Defense projects dedicated to maintaining national security. Accordingly, the Committee directs the Secretary of the Navy to submit a report to the House Committee on Armed Services, not later than 90 days after enactment of this Act, on the feasibility of transferring two low-time serviceable F/A–18, either D, E, or F models, to the NASA Armstrong Flight Research Center that do not jeopardize the operational needs of the Navy, nor are reaching the end of their useful life based on logistics supportability criteria and flying hours. The report should include:

(1) The feasibility of transferring two F/A–18 aircraft to NASA;

(2) The proposed timeline for delivery;

(3) The minimum number of remaining flight :hours of each aircraft to be transferred and their sustainability requirements; and,

(4) The radar capabilities, centerline and wing station stores management system, and advanced targeting forward looking infrared equipment of such aircraft.

Climate Impacts on Installation Resiliency

The committee notes that section 335 of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115–91) required the Department of Defense to report on the impacts of climate change to the Department. The committee notes that this re-

port was spurred by multiple statements by senior Department of Defense officials characterizing climate as a national security issue that would increase instability around the world. The committee further notes that the report was focused on facilitating effective preparation and planning to enhance military installation climate resiliency. To that end, the Department was required to submit a report that included the following:

(1) a list of the 10 most vulnerable military installations within each service based on the effects of sea-level rise, flooding, drought, desertification, wildfires, and thawing permafrost;

(2) an overview of the mitigations that may be necessary to increase installation resiliency; and

(3) an estimate of the cost of these mitigations.

The committee notes that in January 2019, the Department submitted the report. While the committee commends the Department for unequivocally stating that the majority of its installations assessed in the report are vulnerable to climate and weather impacts, the committee is disappointed that the Department failed to adequately respond to the three requirements above. The deficiencies of this report are particularly acute in light of the extreme weather events that caused billions of dollars in damage to military installations in 2018. The committee notes that data suggests that new and renovated buildings that included extreme weather mitigation measures generally fared better during Hurricanes Florence and Michael, providing an unfortunate real-world illustration of the benefits of planning for military installation climate resiliency. These events have also provided data from which services can extrapolate an estimated cost for mitigation and create more accurate methodologies for setting facility standards.

To that end, the committee directs the Secretaries of the military departments each to provide a report to the House Committee on Armed Services by December 1, 2020, that shall include the following:

(1) the total plant replacement value of each installation in the service's inventory;

(2) the plant replacement value of buildings in the 100-year floodplain that have not been mitigated to address flood risk, by installation and State;

(3) the plant replacement value of buildings with roofs that do not meet current building codes listed by installation and State;

(4) the plant replacement value of buildings in coastal and hurricane-prone areas that are currently in a poor or failing condition, listed by installation and State;

(5) a description of how the extreme weather events of 2018 have impacted the decision to continue to defer facility sustainment projects;

(6) if the service's methodology has changed, a description of how it has changed; and

(7) any additional investment as a percentage of plant replacement value that would be required to adequately address climate resiliency. If the Department has failed to meet the industry standard for investment in facilities of 2 percent of plant replacement value, the calculation shall include both the investment to achieve the industry standard, and any additional that would be required to address climate resiliency.

Defense Personal Property Program

The committee is aware that many military families have experienced poor service in the movement of their household goods during recent moving seasons. The movement of military families is a complex system, administered by U.S. Transportation Command (TRANSCOM) in coordination with the military services. The committee believes the Department of Defense's management of this system must improve and recognizes that TRANSCOM's proposed solution relies on the pending Global Household Goods Contract (GHC). Given the importance of the GHC and the large share of military moves in the domestic market, the committee believes that stakeholders must have adequate time to thoughtfully review and comment on the draft request for proposals (RFP). Accordingly, the committee encourages the commander of TRANSCOM to extend the comment period for the draft GHC RFP to allow at least 60 days for comments and delay the release of the final RFP until August 15, 2019. Finally, the committee directs the Secretaries of the military departments to provide a report to the House Committee on Armed Services by December 1, 2019, on the Secretaries' plans to improve installation-level relocation services to military families.

Feasibility of Using Non-Fluorinated Fire Fighting Foam in Training

The committee is aware of the adverse health impacts related to perfluorooctane sulfonate and perfluorooctanoic acid and believes the Department of Defense should minimize the use of these chemicals wherever possible. While the committee understands that certain emergency situations may still require use of these foams, the committee is concerned about the continued use of fluorinated firefighting foams for non-emergency purposes such as training. The committee directs the Secretary of Defense to provide a report to the House Committee on Armed Services by February 1, 2020, on the feasibility of using non-fluorinated foam for firefighter training. The report shall include cost estimates related to instituting the use of fluorine-free foams for training.

Health Impact to Service Members from Live-Fire Small Arms Training Ranges

The committee remains concerned that short- and long-term health impacts to service members are not adequately assessed when the Department of Defense considers technologies that would mitigate operational safety, environmental, and health concerns on live-fire small arms training ranges. These hazards include bullet ricochets, toxins from bullets and projectiles leeching into the natural water system, and hearing loss from excessive noise.

The committee remains concerned that the Department of Defense focuses too heavily on initial investment costs, which fails to recognize the long-term health impact to service members. The committee urges the Secretary of Defense and the Secretaries of the military departments to consider the totality of human, environmental, and equipment costs when assessing the best technologies available to mitigate environmental impacts and health impacts generated at live-fire small arms training ranges.

Information Processing Efficiency

The committee observes that the Department of Defense is inconsistent in application of modern web-based tools and urges all departmental organizations to migrate to more user-friendly systems. For that reason, the committee supports the Defense Logistics Agency (DLA) efforts to modernize its internal and external digital services. The committee believes the modernization effort with regard to forms and workflow will enable the DLA to improve its service and internal workflows. Therefore, the committee encourages the Department of Defense to expand this program, focusing on those requirements that have the most significant impact on mission enhancement and that most effectively modernize Department of Defense services. This effort should include modernizing forms, an overlooked ubiquitous inefficiency in information processing.

Kirtland Air Force Base Fuel Spill Remediation

The committee is aware of the efforts of the Air Force to clean up the extensive, years-long fuel spill at Kirtland Air Force Base, New Mexico, but the committee is concerned that the Air Force has not adequately engaged with local stakeholders on their plans and progress for remediation of the spill. Accordingly, the committee directs the Secretary of the Air Force to provide a report to the House Committee on Armed Services by December 1, 2019, on the environmental remediation of the fuel spill at Kirtland Air Force Base. The report shall contain a section on the progress made to remediate contaminated soil and groundwater, and detail the Air Force plans for fiscal year 2020 remediation actions. In addition, the report shall contain an engagement plan for coordination with the local water utility authority, applicable State environmental agencies, and surrounding communities on Air Force remediation activities.

Military Munitions Response Program (MMRP)

The committee notes that in 2014, DOD established goals to implement Interim Risk Management (IRM) at Formerly Used Defense Sites (FUDS) Military Munitions Response Program (MMRP) sites but the program has struggled to reach its goals. The committee further notes that the management challenges facing MMRP have been longstanding dating back to at least 2010, when the Government Accountability Office (GAO) issued a report which found that the Department had not established clear criteria for prioritizing its work or established clear performance goals for work done at FUDS. Most concerning, the GAO expressed concern about DOD recording sites as "complete" in cases where the Department took no action at the site, which could be misleading to the Committee and the public. Therefore, the committee directs the Comptroller General to conduct a review and provide a report to the House Armed Services Committee by June 1, 2020 that examines the following:

(1) the management of the MMRP program including its staffing arid funding levels,

(2) progress DOD has made in cleaning up munitions response sites,

(3) resources allocation across MMRP sites in the last 5 years;
(4) program priorities for the next five years, and
(5) MMRP protocols for communicating with stakeholders and the public.

National Guard Unit Equipped Flying Squadrons

The committee recognizes that the Air National Guard enterprise is based on established Capstone Principles that notionally set the foundational framework for mission allocation in the 54 states and territories. One of those Capstone Principles is to allocate at least one unit-equipped wing and flying squadron to each state. New Mexico is one of three states—New Mexico, Virginia, and Washington—that have an operational flying mission, but due to the classic associate construct they lack ownership of aircraft. The committee therefore directs the Secretary of the Air Force, in consultation with the Chief of the National Guard Bureau, to report back to the committee by December 15, 2019 to present additional options for achieving an operational flying mission in each state.

Reducing Costs Associated with Single-use Plastics

The Committee notes the growing costs associated with the recycling and disposal of single-use plastics, and particularly single-use plastic water bottles. The Committee directs the Assistant Secretary of Defense for Sustainment to provide a briefing to the House Committee on Armed Services by February 1, 2020, on efforts and opportunities to reduce expenditures on, and waste from, single-use plastics, with a focus on single-use plastic water bottles. The briefing should address—
(1) Costs associated with the procurement and disposal of single-use plastics;
(2) Current and planned efforts to reduce procurement and disposal of single-use plastics, and estimated cost and waste savings from such efforts, to include any public information campaigns; and
(3) Additional opportunities to avoid costs and waste from single-use plastics, and estimated cost and waste savings from such efforts.

Removal of Unexploded Ordnance on Tribal Lands

The committee is concerned that unexploded ordnance endangers Indian Reservations. There are millions of acres of land previously used by Department of Defense that still contain unexploded ordnance. In many cases, these lands are on current Indian Reservations. Accordingly, the committee directs the Secretary of Defense to provide a report to the House Committee on Armed Services by February 1, 2020, on the state of unexploded ordnance on Indian Reservations, including:
(1) a catalogue of lands on Indian Reservations which contain unexploded ordnance,
(2) historical and current efforts to remove unexploded ordnance from these lands,
(3) the estimated cost of finishing the removal of unexploded ordnance from Indian Reservations, and
(4) the feasibility of entering into agreements with non-government entities through the Indian Incentive Program through the

Department of Defense to remove unexploded ordnance on Indian Reservations.

Report on Fiscal Impacts of Intergovernmental Service Agreements

The committee is aware that many military instillations have entered into Intergovernmental Service Agreements (IGSA). These IGSAs allow the Department of Defense and State or Local Governments to provide, receive, or share installation support services. The committee is also aware that many of these ISGAs have resulted in millions of dollars in cost savings to DoD. The savings realized by these agreements are not returned to the installation that has used them to reduce costs. Therefore, the committee directs the Secretary of Defense to submit a report to the House Committee on Armed Service by December 31, 2019, on the actual cost savings realized by IGSAs, the feasibility of returning a portion of the savings realized from IGSAs back to the installations, and the overall fiscal impact to the services of IGSAs.

Report on Phytoremediation to Clear Heavy Metal Contaminants

The committee directs the Secretary of Defense to submit a report to Congress before May 1, 2020 on the use of plants that have hyperaccumulatory and phytoremediation capabilities to clear contaminants from or related to heavy metal contamination, including but not limited to arsenic, lead, mercury, copper, chromium, and nickel, and other related toxic areas, including for contaminants in soil, water, and air.

Report on the Feasibility and Cost of Net-Zero Greenhouse Emissions and Implementing H. Res. 109, the Green New Deal

The Committee acknowledges that renewable energy sources only account for approximately 17 percent of domestic energy production, with wind accounting for less than 7 percent and solar accounting for less than 2 percent. The Committee also notes the Green New Deal, H. Res. 109 in 116th Congress, purports to require the United States to achieve net-zero greenhouse gas emissions through a ten-year national mobilization. Some who support this course of action, namely the Green Party, recommend achieving the goals of the Green New Deal by cutting the military budget in half, returning all members of the Armed Forces who are deployed or stationed overseas to the United States, and closing all of the more than 800 United States military installations around the world. The Committee believes implementing the Green New Deal would be devastating to the military readiness of the United States and the ability of the Government of the United States to protect the homeland.

The Committee affirms energy security and diversity are vital to national security, and that it is in the Nation's best interest for the Department of Defense to maximize the use of renewable energy sources, and that an effort to achieve net-zero greenhouse gas emissions would have a negative effect on the preparedness of the Armed Forces.

The Committee directs the Secretary of Defense to provide a report to the Committees on Armed Services of the Senate and the House of Representatives within 180 days after the date of the en-

actment of this Act which provides the following: an assessment of the technical feasibility of the Department of Defense achieving net-zero greenhouse emissions by the date that is ten years after the date of the enactment of this Act; the cost of the Department of Defense achieving net-zero greenhouse emissions by the date that is ten years after the date of the enactment of this Act; an assessment of the effects the effort to achieve net-zero greenhouse emissions by the date that is ten years after the date of the enactment of this Act would have on the requirements for major service acquisition programs an assessment of the ability of the Department to implement the national defense strategy if required to achieve net-zero greenhouse emissions by the date that is ten years after the date of the enactment of this Act; how the implementation of the proposed Green New Deal would affect military readiness; the cost of closing all of the more than 800 overseas military installations; and how complying with the Green New Deal would affect the current threat environment and the ability of the Department of Defense to protect the homeland.

Survey to Locate and Identify the Remains of Native American Children Buried at Carlisle Barracks

The committee commends the Department of the Army for its work to identify, exhume, and return to their respective families the remains of Native American children buried at Carlisle Barracks, Pennsylvania. However, the committee notes that given the tragic legacy of Carlisle Indian Industrial School, more work is required. Accordingly, the committee directs the Secretary of the Army to provide a report to the House Committee on Armed Services by January 1, 2020, that provides a plan for conducting a comprehensive survey of the land at Carlisle Barracks for remains of Native American children and the repatriation of those children. The report shall include at a minimum information on how the Department can achieve the following:

(1) conducting a comprehensive survey of the cemetery and surrounding land at Carlisle Barracks to identify the number of whole sets of remains; the number of partial sets of remains; the location of the remains, including how the sets of remains match with existing headstones; and groups of remains containing two or more individuals;

(2) establishing a process to facilitate coordination with other relevant Federal agencies and tribes to ensure that the survey, exhumation, identification of remains and repatriation of remains, as appropriate and desired, to the family is handled in a culturally appropriate manner;

(3) establishing a process to work with tribes to determine the appropriate measures to be taken for remains of children whose family or relatives have not been found, including options for repatriating those remains to the appropriate tribe;

(4) establishing a process to work with tribes to determine what, if any, actions should be taken for remains that are unidentifiable; and

(5) working with tribes and relevant Federal agencies to establish other actions that can be taken to recognize the tragic history of the Carlisle Indian Industrial School at Carlisle Barracks.

Tijuana Sewage Runoff Impact to Readiness

The committee notes that sewage runoff from Tijuana can cause unhealthy conditions off the coast of southern California whose waters are routinely used for military training. When scheduled training corresponds with sewage spills or discharges, military personnel may be exposed to untreated sewage with consequences to their health. Accordingly, the committee directs the Secretary of the Navy to provide a briefing to the House Committee on Armed Services by February 1, 2020, on the readiness impacts of Tijuana sewage runoff in waters adjacent to military installations. The briefing shall address whether spills, discharges, and debris in the Tijuana River have any impact on the national security interests of the United States. The briefing must also address what steps should be taken to resolve or mitigate the impacts from these releases. Further, the Secretary of the Navy shall make every effort to coordinate the briefing with the Department of State, the Environmental Protection Agency, the Department of Homeland Security (to include U.S. Customs and Border Patrol and the U.S. Coast Guard), the International Boundary and Water Commission, the Department of the Interior, San Diego County, and the San Diego Association of Governments.

Water Security under Sustainable Groundwater Management Act

The committee notes that the State of California enacted the Sustainable Groundwater Management Act (SGMA) in 2014. This California law requires communities whose groundwater resources are challenged to prepare and provide a Groundwater Sustainability Plan (GSP) by January 2020, for basins defined as medium- or high-priority. Under the law, medium- and high-priority basins must be managed consistently with their sustainable yield by 2040, though an extension is possible. The committee notes that three Navy installations are located in high-priority basins and that one Navy and three Air Force installations are located in medium-priority basins. These seven Department of Defense installations must work with their local communities in developing sustainable groundwater plans for their respective basins. The committee is concerned that the Department does not have a coordinated approach to meeting these new water sustainability requirements.

Therefore, the committee directs the Secretary of Defense to provide a report to the House Committee on Armed Services by October 1, 2019, that provides the Department's plan to address its response to the requirements of SGMA; a description of how the Navy and Air Force bases in California are working with local communities to achieve compliance with this law in a manner that does not impact the installation missions; the Department of Defense, Navy, and Air Force offices responsible for ensuring compliance; and the estimated cost of complying with the SGMA.

Water Usage Related to Landscaping

The committee understands that a significant percentage of the Department of Defense's water usage on installations goes to landscaping. Particularly in water constrained or arid environments, the Department should endeavor to mitigate its water use through practices such as use of non-potable or recycled water, use of native

or drought-resistant plants, and ground cover substitutes. The committee further notes that sustainable landscaping practices can provide significant cost avoidance through diminished water consumption.

Accordingly, the committee directs the Secretary of Defense to provide a report to the House Committee on Armed Services by March 1, 2020, on sustainable landscaping practices currently in use, practices that can be implemented to cut water consumption, a list of installations where 30 percent or more of water usage is for landscaping, and a plan for decreasing the percentage of water used for landscaping at these installations and other installations in water constrained geographical locations.

LEGISLATIVE PROVISIONS

SUBTITLE A—AUTHORIZATION OF APPROPRIATIONS

Section 301—Authorization of Appropriations

This section would authorize appropriations for operation and maintenance activities at the levels identified in section 4301 of division D of this Act.

SUBTITLE B—ENERGY AND ENVIRONMENT

Section 311—Timeline for Clearinghouse Review of Applications for Energy Projects That May Have an Adverse Impact on Military Operations and Readiness

This section would amend section 183a of title 10, United States Code, to allow the Military Aviation and Installation Assurance Clearinghouse 90 days to conduct its preliminary review of applications for an energy project.

Section 312—Authority to Make Final Finding on Designation of Geographic Area of Concern for Purposes of Energy Projects with Adverse Impacts on Military Operations and Readiness

This section would amend section 183a of title 10, United States Code, by changing the list of Department of Defense personnel who can make a final finding on the designation of a geographic area of concern.

Section 313—Authority to Accept Contributions of Funds from Applicants for Energy Projects for Mitigation of Impacts on Military Operations and Readiness

This section would amend section 183a of title 10, United States Code, to accept a voluntary contribution of funds from an applicant for an energy project.

Section 314—Department of Defense Improvement of Previously Conveyed Utility Systems Serving Military Installations

This section would amend section 2688 of title 10, United States Code, by authorizing the use of military construction funding to support improvements to the reliability, resiliency, efficiency, physical security, or cybersecurity of the conveyed utility system.

Section 315—Five-Year Authority for National Guard Environmental Restoration Projects for Environmental Responses

This section would amend section 2707 of title 10, United States Code, to allow the Chief of the National Guard Bureau to access Defense Environmental Remediation Account funds for the limited purpose of addressing perfluorooctanoic acid and perfluorooctane sulfonate exposure and contamination resulting from National Guard activities in and around National Guard bases. This authority would sunset 5 years after the date of the enactment of this Act.

Section 316—Sale of Electricity from Alternate Energy and Cogeneration Production Facilities

This section would amend section 2916(b)(3) of title 10, United States Code, to narrow the scope of recipients of funds generated from a geothermal energy resource located on a military installation.

Section 317—Transfer Authority for Funding of Study and Assessment on Health Implications of Per- and Polyfluoroalkyl Substances Contamination in Drinking Water by Agency for Toxic Substances and Disease Registry

This section would amend the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115–91) by extending the transfer authority for funding the study and assessment on health implications of per- and polyfluoroalkyl substances contamination in drinking water by the Agency for Toxic Substances and Disease Registry.

Section 318—Replacement of Fluorinated Aqueous Film-Forming Foam with Fluorine-Free Fire-Fighting Agent

This section would require the Secretary of the Navy to complete a military specification for a fluorine-free fire fighting agent to be used at all Department of Defense installations not later than January 2025. This provision would ban use of fluorinated foams on military installations by September 2029 or before such date, if possible.

Section 319—Prohibition of Uncontrolled Release of Fluorinated Aqueous Film-Forming Foam at Military Installations

This section would require the Secretary of Defense to prohibit uncontrolled release of fluorinated Aqueous Film Forming Foam (AFFF) at military installations except in cases of emergency response and limited non-emergency use for training or testing of equipment where complete containment, capture, and proper disposal mechanisms are in place to ensure no AFFF is released into the environment.

Section 320—Prohibition on Use of Fluorinated Aqueous Film Forming Foam for Training Exercises

This section would prohibit the use of fluorinated aqueous film forming foam for training exercises at military installations.

Section 321—Real-Time Noise-Monitoring Study at Navy and Air Force Installations where Tactical Fighter Aircraft Operate

This section would require the Secretary of the Navy and Secretary of the Air Force to conduct real-time noise monitoring at no fewer than three installations per military department where tactical fighter aircraft operate regularly and noise contours have been developed through noise modeling. The purpose of this monitoring would be to assess the validity of the noise contours developed through virtual analysis and modeling at those installations. In addition, this section would require the Secretary of the Navy and the Secretary of the Air Force to submit a report to the House Committee on Armed Services on the results of the noise monitoring study.

Section 322—Development of Climate Vulnerability and Risk Assessment Tool

This section would direct the Secretary of Defense to develop a climate vulnerability and risk assessment tool to assist in providing standardized risk calculations of climate-related impacts to military facilities and capabilities.

Section 323—Provision of Uncontaminated Water for Agricultural Use on Land Contaminated by PFOS and PFOA Used on Military Installations

This section would authorize the Department of Defense to provide water or water treatment for perfluorooctanesulfonic acid (PFOS) or perfluorooctanoic acid (PFOA) contaminated agricultural water.

SUBTITLE C—LOGISTICS AND SUSTAINMENT

Section 331—Material Readiness Metrics and Objectives

This section would add a new section to chapter 2 of title 10, United States Code, and would require the Secretary of Defense to develop material readiness metrics that would support the National Defense Strategy by requiring product support managers to develop product support strategies to meet material readiness objectives for major weapon systems.

Section 332—Clarification of Authority regarding Use of Working Capital Funds for Unspecified Minor Military Construction Projects Related to Revitalization and Recapitalization of Defense Industrial Base Facilities

This section would amend section 2208(u)(2) of title 10, United States Code, to clarify authority regarding use of working capital funds for unspecified minor military construction projects related to defense industrial base facilities.

Section 333—F–35 Joint Strike Fighter Sustainment

This section would require the Under Secretary of Defense for Acquisition and Sustainment to submit a report on steps being taken to improve the availability and accountability of F–35 parts within the supply chain. In addition, this section would limit funds

available to the Under Secretary until such time as the report is delivered.

Section 334—Report on Strategic Policy for Prepositioned Materiel and Equipment

This section would require the Assistant Secretary of Defense for Sustainment, in coordination with the Joint Staff, to submit a report to the Committees on Armed Services of the Senate and the House of Representatives by March 1, 2020, on the implementation plan for prepositioned materiel and equipment as required by section 321 of the National Defense Authorization Act for Fiscal Year 2014 (Public Law 113–66).

Section 335—Limitation on Use of Funds for Implementation of Elements of Master Plan for Redevelopment of Former Ship Repair Facility in Guam

This section would continue the limitations established by section 325 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232) on expending Department of the Navy funds to modify the Former Ship Repair Facility in Guam except in certain circumstances through fiscal year 2020.

SUBTITLE D—REPORTS

Section 341—Readiness Reporting

This section would amend sections 117 and 482 of title 10, United States Code, to modify the delivery method, timeline, and required elements of the Quarterly Readiness Report to Congress and the Joint Forces Readiness Review.

Section 342—Extension of Deadline for Transition from Service-Specific Defense Readiness Reporting Systems

This section would amend section 358 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232) to allow the military services to complete the transition to the Defense Readiness Reporting Systems-Strategic by October 1, 2020.

Section 343—Report on Navy Ship Depot Maintenance Budget

This section would require the Secretary of the Navy to submit reports for fiscal years 2021, 2022, and 2023 that provide additional information related to ship and submarine depot maintenance.

Section 344—Report on Runit Dome

This section would require the Secretary of Energy, in coordination with the Administrator of the Environmental Protection Agency and Secretary of Defense, to submit a report on the status of the Runit Dome in the Marshall Islands.

SUBTITLE E—OTHER MATTERS

Section 351—Inclusion of Over-the-Horizon Radars in Early Outreach Procedures

This section would amend section 183a(c)(6) of title 10, United States Code, to include over-the-horizon radar in the coverage of early outreach procedures issues by the Military Aviation and Installation Assurance Siting Clearinghouse.

Section 352—Extension of Authority for Secretary of Defense to Use Department of Defense Reimbursement Rate for Transportation Services Provided to Certain Non-Department of Defense Entities

This section would amend section 2642 of title 10, United States Code, to extend the date that the Secretary of Defense may use the Department of Defense reimbursement rate for military transportation services provided to certain non-Department of Defense entities until October 1, 2024.

Section 353—Expanded Transfer and Adoption of Military Animals

This section would amend section 2583 of title 10, United States Code, to allow for the transfer and adoption of Department of Defense-owned mules and donkeys and provide consistency for use of the word "transfer."

Section 354—Extension of Authority of Secretary of Transportation to Issue Non-Premium Aviation Insurance

This section would amend section 44310 of title 49, United States Code, to extend the authority of the Secretary of Transportation to issue non-premium aviation insurance until September 30, 2023.

Section 355—Defense Personal Property Program

This section would require the Commander of U.S. Transportation Command (TRANSCOM) to prepare a business case analysis for the proposed award of a Global Household Goods Contract (GHC) for the Defense Personal Property Program. In addition, this section would require that the Secretary of Defense establish an advisory council of outside stakeholders to provide feedback throughout contract execution and advice on recommended modifications to the contract, and would require the council to submit quarterly reports to the congressional defense committees on its activities. This section would also withhold funding for the single move manager contract until 30 days after the Commander of TRANSCOM has provided a briefing to the congressional defense committees on the business case analysis and proposed advisory council.

Section 356—Public Events about Red Hill Bulk Fuel Storage Facility

This section would require the Department of the Navy to hold quarterly events open to the public which provide information and updates on the Red Hill Bulk Fuel Storage Facility.

Section 357—Sense of Congress regarding Innovative Readiness Training Program

This section would express the sense of Congress on the importance of Innovative Readiness Training, particularly to non-contiguous States and territories.

Section 358—Pilot Program on Reduction of Effects of Military Aviation Noise on Private Residences

This section would create a pilot program that allows the Secretary of Defense to provide funds for the purpose of installing noise insulation on private residences impacted by aviation noise from military installations.

TITLE IV—MILITARY PERSONNEL AUTHORIZATIONS

LEGISLATIVE PROVISIONS

SUBTITLE A—ACTIVE FORCES

Section 401—End Strengths for Active Forces

This section would authorize the following end strengths for Active Duty personnel of the Armed Forces as of September 30, 2020:

Service	FY 2019 Authorized	FY 2020		Change from	
		Request	Committee Recommendation	FY 2020 Request	FY 2019 Authorized
Army	487,500	480,000	480,000	0	−7,500
Navy	335,400	340,500	340,500	0	5,100
USMC	186,100	186,200	186,200	0	100
Air Force	329,100	332,800	332,800	0	3,700
DOD Total	1,338,100	1,339,500	1,339,500	0	1,400

The committee is aware the Army will not meet the Active end strength of 487,500 required by section 402 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232) and is expected to attain an end strength of only 478,000, 9,500 less than required. The President's budget request for the Army Active end strength for fiscal year 2020 is 480,000. This is 7,500 below the Public Law 115–232 requirement. The committee notes that although the Army recently determined it could only increase the Active end strength by 2,000 per year, Army leadership has stated that, based on requirements, the Army intends to grow to approximately 500,000 soldiers.

Section 402—Revisions in Permanent Active Duty End Strength Minimum Levels

This section would establish new minimum Active Duty end strengths for the Army, Navy, Marine Corps, and Air Force as of September 30, 2020. The committee recommends 480,000 as the

minimum Active Duty end strength for the Army, 340,500 as the minimum Active Duty end strength for the Navy, 186,200 as the minimum Active Duty end strength for the Marine Corps, and 332,800 as the minimum Active Duty end strength for the Air Force.

SUBTITLE B—RESERVE FORCES

Section 411—End Strengths for Selected Reserve

This section would authorize the following end strengths for Selected Reserve personnel, including the end strength for Reserves on Active Duty in support of the Reserves, as of September 30, 2020:

Service	FY 2019 Authorized	FY 2020		Change from	
		Request	Committee Recommendation	FY 2020 Request	FY 2019 Authorized
Army National Guard	343,500	336,000	336,000	0	−7,500
Army Reserve	199,500	189,500	189,500	0	−10,000
Navy Reserve	59,100	59,000	59,000	0	−100
Marine Corps Reserve	38,500	38,500	38,500	0	0
Air National Guard	107,100	107,700	107,700	0	600
Air Force Reserve	70,000	70,100	70,100	0	100
DOD Total	817,700	800,800	800,800	0	−16,900
Coast Guard Reserve	7,000	7,000	7,000	0	0

Section 412—End Strengths for Reserves on Active Duty in Support of the Reserves

This section would authorize the following end strengths for Reserves on Active Duty in support of the Reserves as of September 30, 2020:

Service	FY 2019 Authorized	FY 2020		Change from	
		Request	Committee Recommendation	FY 2020 Request	FY 2019 Authorized
Army National Guard	30,595	30,595	30,595	0	0
Army Reserve	16,386	16,511	16,511	0	125
Navy Reserve	10,110	10,155	10,155	0	45
Marine Corps Reserve	2,261	2,386	2,386	0	125
Air National Guard	19,861	22,637	22,637	0	2,776
Air Force Reserve	3,849	4,431	4,431	0	582
DOD Total	83,062	86,715	86,715	0	3,653

Section 413—End Strengths for Military Technicians (Dual Status)

This section would authorize the following end strengths for military technicians (dual status) as of September 30, 2020:

Service	FY 2019 Authorized	FY 2020		Change from	
		Request	Committee Recommendation	FY 2020 Request	FY 2019 Authorized
Army National Guard	22,294	22,294	22,294	0	0
Army Reserve	6,492	6,492	6,492	0	0
Air National Guard	15,861	13,573	13,573	0	−2,288
Air Force Reserve	8,880	8,848	8,848	0	−32
DOD Total	53,527	51,207	51,207	0	−2,320

Section 414—Maximum Number of Reserve Personnel Authorized To Be on Active Duty for Operational Support

This section would authorize, as required by section 115(b) of title 10, United States Code, the maximum number of Reserve Component personnel who may be on Active Duty or full-time National Guard duty during fiscal year 2020 to provide operational support. The personnel authorized here do not count against the end strengths authorized by section 401 or section 412 of this Act unless the duration on Active Duty exceeds the limitations in section 115(b)(2) of title 10, United States Code.

Service	FY 2019 Authorized	FY 2020		Change from	
		Request	Committee Recommendation	FY 2020 Request	FY 2019 Authorized
Army National Guard	17,000	17,000	17,000	0	0
Army Reserve	13,000	13,000	13,000	0	0
Navy Reserve	6,200	6,200	6,200	0	0
Marine Corps Reserve	3,000	3,000	3,000	0	0
Air National Guard	16,000	16,000	16,000	0	0
Air Force Reserve	14,000	14,000	14,000	0	0
DOD Total	69,200	69,200	69,200	0	0

SUBTITLE C—AUTHORIZATION OF APPROPRIATIONS

Section 421—Military Personnel

This section would authorize appropriations for military personnel at the levels identified in the funding table in section 4401 of division D of this Act.

TITLE V—MILITARY PERSONNEL POLICY

ITEMS OF SPECIAL INTEREST

Appointment of Guardian ad Litem for Minor Victims

The committee is concerned for the welfare of minor, military dependents who are victims of an alleged sex-related offense. The committee acknowledges the Department of Defense's continued ef-

forts to implement services in support of service members who are victims of sexual assault and further, to expand some of these services to dependents who are victims. However, the committee remains concerned that there is not an adequate mechanism within the military court-martial process to represent the best interests of minor victims following an alleged sex-related offense.

Therefore, not later than 180 days after the date of the enactment of this Act, the Defense Advisory Committee on Investigation, Prosecution, and Defense of Sexual Assault in the Armed Forces shall submit to the Committees on the Armed Services of the Senate and the House of Representatives a report that evaluates the need for, and the feasibility of, establishing a process under which a guardian ad litem may be appointed to represent the interests of a victim of an alleged sex-related offense (as that term is defined in section 1044e(g) of title 10, United States Code) who has not attained the age of 18 years.

Army Special Forces Officer Education

The committee notes the that Army Special Forces Officers may have different Professional Military Education (PME) requirements than the conventional force officer, particularly with respect to irregular warfare. The committee is concerned that any reduction in opportunities to attend PME that can tailor the curriculum to irregular warfare could hinder the future development of these officers. Therefore the committee encourages the Secretary of the Army to continue to fund Army Special Forces officer attendance at the Naval Post Graduate School.

Briefing on Bystander Intervention in Cases of Sexual Misconduct

The committee acknowledges that the Department of Defense's annual reports on sexual assault in the military have consistently reported that sexual assaults are more likely to occur in units that have a command climate that tolerates sexual harassment. Further, the committee notes that servicemembers are less likely to intervene in situations where they are a bystander to sexual misconduct than in other situations where servicemembers are bystanders to dangerous behavior, including situations related to suicide and alcohol abuse. A 2018 National Institutes of Health (NIH) study, titled "Prevalence of Bystander Intervention Opportunities and Behaviors Among U.S. Army Soldiers," found that 87.9 percent of soldiers who witnessed an event relating to suicide and 74.4 percent of soldiers who witnessed an event relating to alcohol misuse reported consistently intervening, while 49.2 percent of soldiers who witnessed events relating to sexual harassment or assault reported consistently intervening.

The committee believes that servicemembers should be empowered to intervene when they witness sexual misconduct or retaliation for reporting this conduct. Further, the committee is concerned that the available data indicates that bystander intervention education efforts may not be effective in increasing the likelihood of intervention in incidents of sexual misconduct versus other dangerous scenarios. Accordingly, the committee directs the Secretary of Defense to provide a briefing to the Committees on Armed Services of the Senate and of the House of Representatives not later

than January 1, 2020 on the feasibility of establishing any legal requirements for bystanders that witness sexual misconduct. The briefing should include an analysis on the likelihood of a servicemember to intervene in a situation where they are a bystander to sexual misconduct based on age, gender, rank, command climate, understanding of what constitutes sexual misconduct, understanding of their rights, as well as the victim's rights, and obligations, and correlation metrics based on the indicators listed here.

Briefing on Department of Defense Student Loan Repayment Program

The committee directs the Secretary of Defense to provide a briefing to the House Committee on Armed Services not later than 180 days after the date of the enactment of this Act, on the use of the DoD College Loan Repayment Program (10 USC 2171). The briefing shall include the following elements:

(1) The number of Service members who are eligible to receive this benefit, by Service;

(2) The number of Service members who have received or are currently receiving this benefit, by Service, over the past 5 years;

(3) The average length of service required in order to receive the benefit;

(4) The cost to the Department of Defense, by service, of providing this benefit for the past 5 years;

(5) The overall impact the benefit has on recruitment and retention of highly qualified individuals.

Cell Phone Use in Correction Facilities

The committee is aware of the potential use of contraband cellular phones and devices in corrections facilities, including in military corrections institutions. The committee directs the Secretary of Defense to provide a briefing to the House Committee on Armed Services no later than January 1, 2020 on the use of contraband cellular devices in military prisons, an evaluation of the use of managed access technology to detect and prevent such use, and the military facilities which would benefit from the deployment of such technology.

Comptroller General Report on Domestic Violence

The committee is concerned about the Department of Defense and military services' domestic violence response and prevention programs. The committee notes that Department of Defense Instruction 6400.06 "Domestic Abuse Involving DoD Military and Certain Affiliated Personnel" clearly establishes detailed procedures for responding to domestic violence and directs the military departments to establish policies and programs to implement the instruction. The committee understands there are variances in response and prevention programs based on military service guidance and local jurisdictions, but is concerned by the April 19, 2019, Department of Defense Inspector General Report "Evaluation of Military Services Law Enforcement Responses to Domestic Violence" findings that military service law enforcement organizations did not consistently comply with Department of Defense policies.

Therefore, the committee directs the Comptroller General of the United States to provide preliminary observations to the Committees on Armed Services of the Senate and the House of Representatives by February 1, 2020, with a report to follow by an agreed upon time, on the military services' efforts to prevent and respond to domestic violence. The report should address the following elements:

(1) the extent to which each military service policy conforms to the Department of Defense Instruction;

(2) the actions service secretaries took to address the Department of Defense Inspector General recommendations;

(3) the extent to which the military services are meeting training requirements listed in Department of Defense Instruction 6400.06, the objectives of those training requirements, and whether the training is effective to meet those objectives;

(4) the extent to which each military service has established memorandums of understanding with local law enforcement and jurisdictions to enhance the coordinated community response to domestic violence;

(5) the extent to which commanders have played a role in the coordinated community response to domestic abuse consistent with Department of Defense Instruction 6400.06;

(6) an assessment of how the military services respond to domestic violence from initial reports to military law enforcement through final adjudication, to include victim assistance and early intervention; and

(7) any recommendations the Comptroller General may have with respect to implementation of the military services' domestic violence prevention and response programs.

Comptroller General Report on Hazing

The committee is concerned about the results of the Department of Defense 2018 Annual Summary Report on Hazing Prevention and Response in the Armed Forces. The committee notes the disparity in the number of incidents and reports between the services. Of the 291 reported complaints of hazing, 256 complaints were from the Marine Corps. This disparity in the number of complaints was similar to the results of the 2017 report with a total of 415 complaints, 314 of those from the Marine Corps. The committee is aware the Department issued Department of Defense Instruction 1020.03, Harassment Prevention and Response in the Armed Forces, on February 8, 2018, and the military services are updating their policies to align with the Department's changes. However, the committee is concerned there is not a consistent emphasis across the services with respect to hazing. Further, the committee notes that in the Government Accountability Office (GAO) report "DOD and Coast Guard: Actions Needed to Increase Oversight and Management Information on Hazing Incidents Involving Service members" (GAO–16–226), GAO found that the Department had not conducted oversight through regular monitoring of policy implementation and recommended that the Department of Defense do so.

Therefore, the committee directs the Comptroller General of the United States to provide preliminary observations to the Committees on Armed Services of the Senate and the House of Representatives by February 1, 2020, on the status of the military services'

efforts to prevent and respond to hazing with a report to follow on an agreed upon date. The report should address the following elements:

(1) the extent to which each military service's policy and definition of hazing conforms to the Department of Defense Instruction;

(2) the extent to which each military service provides harassment prevention and response training using best practices with a targeted approach to the demographics the report indicates are involved with hazing;

(3) the extent to which the military services are meeting the standardized data reporting requirements;

(4) the extent to which each military service's specific implementation meets the requirements of Department of Defense Instruction 1020.03; and

(5) any recommendations the Comptroller General may have with respect to implementation of the military services' hazing prevention and response programs.

Comptroller General Study on Military Adoptive and Foster Families

The committee directs the Comptroller General of the United States to conduct a study on the challenges faced by military adoptive and foster families and the support services available to help address these challenges and promote permanency. The Comptroller General shall submit a report on the study not later than 18 months from the date of enactment to the Congressional defense committees. The study shall include the following elements:

(1) Describe what is known about the number of military foster and adoptive families and permanency of placements;

(2) Describe challenges faced by military families related to fostering and adopting, including any effects these challenges have on the youth and families;

(3) Describe mental health and other support services available to military foster and adoptive families, including services provided by Military and Family Support Centers and Military and Family Life Counselors, and whether such services and providers are foster- and adoption-competent; and

(4) Identify any actions federal agencies can take to better prepare and support military foster and adoptive families, promote the permanency of placements, and reduce barriers, such as improving pre- and post-foster and adoption mental health and other support services for youth and families.

Cultural Sensitivity Training

The committee recognizes the Department of Defense and the military services have multiple cultural sensitivity training programs for military personnel. The committee also believes in the importance of protecting servicemembers' rights regarding religious exercise and ethnic heritage. As such, the committee supports efforts to identify resource and personnel gaps that may exist in the Office of Diversity Management and Equal Opportunity of the Department of Defense as well as efforts to identify existing gaps in protections for new and prospective servicemembers.

Implementation of the Women, Peace and Security Act of 2017

The committee directs the Secretary of Defense, through implementation of the Women, Peace, and Security Act of 2017 (Public Law 115–68), to ensure gender advisor support, building partner capacity activities, and research on gender considerations across the conflict spectrum is addressed in professional military education.

Inspector General Whistleblower Improvement Plan

The committee remains concerned about the ability of the Department of Defense and the military service Inspectors General (IG) to meet timeliness goals for handling whistleblower complaints. Responding promptly and thoroughly is essential to instilling trust and confidence in the system. The Government Accountability Office (GAO) report "Whistleblower Protection, Analysis of DOD's Actions to Improve Case Timeliness and Safeguard Confidentiality" (GAO–19–198) found that Department of Defense and military service Inspectors General met some, but not all, of the timelines and quality goals. The GAO made 12 recommendations to the Department of Defense Inspector General and the military service IGs with concurrence by all organizations for all recommendations. Therefore, the committee directs the Secretary of Defense to provide a report to the Committees on Armed Services of the Senate and the House of Representatives by December 2, 2019, detailing the implementation of the 12 GAO recommendations. The Secretary's report shall also include actions taken by the Secretary to improve the timeliness of completing whistleblower complaints, as well as efforts to protect the confidentiality of the complainant.

Marine Corps Integration of Recruit Basic Training

The committee notes the United States Marine Corps graduated its first-ever mixed-gender company from recruit training at Parris Island, South Carolina, in March 2019. Although the Marine Corps has combined over 90 percent of training, they have not fully integrated basic recruit training. The report required by the committee report accompanying the National Defense Authorization Act for Fiscal Year 2018 (H. Rept. 115–200) clearly identified the steps needed to fully integrate basic training, including identifying military construction costs associated with additional barracks. The report also emphasized the platoon as the building block for transforming recruits into the United States Marine Corps. Therefore, the committee encourages the Commandant of the Marine Corps to develop a plan to achieve fully integrated basic recruit training at the platoon level within 5 years.

Measure Officer Accountability

The committee acknowledges the Department of Defense's efforts to address low and stagnant reporting rates for sexual assault and sexual harassment in the U.S. military. The committee also acknowledges commanders' responsibilities to cultivate positive and safe command climates and maintain trust from junior and mid-level service members. The committee is aware that fear of retalia-

tion is consistently cited as a contributing factor to the underreporting of sexual assault and sexual harassment crimes across military installations. The committee is also aware that measures are currently in place to enable victims of sexual assault and sexual harassment to formally report perceived instances of retaliation to their respective commanders, law enforcement, special victims' counsel, and Sexual Assault Response Coordinators. The committee is concerned that, despite the aforementioned safeguards, perceived instances of retaliation remain high.

Therefore, the committee directs the Department of Defense Inspector General to submit a report to the Committees on Armed Services of the Senate and the House of Representatives not later than March 1, 2020, containing data from fiscal year 2018 on the following:

(1) the total number of substantiated cases of ostracism;

(2) the total number of substantiated cases of maltreatment;

(3) the total number of substantiated cases of retaliation that would meet the elements of Article 132 of the Uniform Code of Military Justice;

(4) the total number of commanders, across military services, who have been formally accused of mishandling reports of sexual harassment and sexual assault;

(5) the total number of commanders, across military services, who have been formally reprimanded for mishandling reports of sexual harassment and sexual assault and what, if any, related disciplinary action was taken;

(6) the total number of commanders, across military services, who have been formally accused of mishandling reports of victim retaliation related to sexual harassment and sexual assault;

(7) the total number of commanders, across military services, who have been formally reprimanded for mishandling reports of victim retaliation related to sexual harassment and sexual assault and what, if any, related disciplinary action was taken; and

(8) the total number of commanders, across military services, who have received negative command climate reports related to sexual harassment, sexual assault, and gender discrimination.

Prioritization of Sexual Assault and Sexual Harassment Prevention and Response Resources

The committee acknowledges the Department of Defense's continued efforts to adequately respond to and prevent instances of sexual assault and sexual harassment in the United States military. However, the committee remains concerned about the growing rates and underreporting of sexual assault and sexual harassment across all military services. The committee is aware that in 2014, the Sexual Assault Prevention and Response Office, in the Office of the Secretary of Defense, selected the RAND Corporation to conduct an independent study evaluating sexual assault, sexual harassment, and gender discrimination across the United States military. The committee is also aware that the study focused on the prevalence of sexual assault and sexual harassment at specific U.S. military installations and commands, for the purpose of identifying additional resources, educating leaders on command climate issues, and gaining a better understanding of environmental and organizational risk factors. Based on the results of the study, military in-

stallations were labeled "high-risk" and "low-risk" according to the number of individuals who were sexually assaulted or sexually harassed at the respective facilities.

Therefore, the committee encourages the Secretary of Defense and the military service secretaries to prioritize funding for sexual assault and sexual harassment response and prevention programs and training to military installations that have been identified as "high-risk," based on the results of the 2014 RAND Corporation study. The committee recommends the Secretary of Defense and the service secretaries conduct further analysis to identify the environmental and organizational features of "high-risk" installations in order to effectively tailor response and prevention efforts.

Report on Access to Court Filings and Materials for Victims

The committee remains concerned that, under the current military justice procedure, prosecutors and military courts apply different and inconsistent approaches with respect to military sexual assault victims' access to court filings and nonprivileged information derived directly from and pertaining directly to the victim. The committee is also concerned that recent changes in military law addressing access to court filings and investigation information have not resulted in timely, consistent and widespread access to relevant information for victims. The committee recognizes that victims benefit from access to pre-trial investigation materials that directly relate to them because it allows them and their counsel to prepare for trial. Therefore, the committee directs the Secretary of Defense to submit a report to the Committee on Armed Services of the House of Representatives by March 1, 2020, addressing the following questions with regards to establishing a clear standard through law for victims and victims' counsel to have access to all nonprivileged court filings and related materials derived directly from and pertaining directly to the victim:

(1) Does such a standard impact victims' privacy and make it harder to gain a conviction? If so, how, and what mitigating measures can be put into place?

(2) Does such a standard impact the ability to execute and conclude a fair trial? If so, how, and what mitigating measures can be put into place?

(3) What types of filings and materials would be covered under such a standard?

(4) How does access to all nonprivileged court filings and related materials derived directly from and pertaining directly to the victim impact the case for the prosecution and defense?

(5) Can the victim receive adequate legal representation and protection of his or her rights without access to all nonprivileged court filings and related materials derived directly from and pertaining directly to the victim?

Report on Air National Guard Control Grades

The committee recognizes the challenges the Air National Guard (ANG) faces in recruiting and retaining qualified airmen for full-time positions due to the statutory control grade cap. To alleviate this limitation, the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232) increased the con-

trol grade cap for O–4 through O–6, E–8s, and E–9s. While units across the country felt the positive impact of this cap increase, they continue to face personnel challenges. With the current numbers and distribution, there are fewer control grades than the unit manning document positions. Therefore, organizations are unable to place service members of the correct rank into the corresponding positions. The committee directs the Director of the Air National Guard to perform a by-unit audit to determine the true number of control grade deficiencies and necessary increases and provide a report to the House Committee on Armed Services not later than June 1, 2020, with audit results.

Report on Army Active Component Support of the Reserve Component

The Committee notes that efforts to achieve Army active and reserve component integration have made significant progress. However, both Congressionally mandated and Department of Defense-led efforts to provide active component support for Army reserve components have failed. Uniformed full-time personnel assigned to Army reserve component units should bring relevant, operational experience from the active component and return to the active force with a greater understanding of the reserve component. The current Army Active Guard and Reserve (AGR) program does not integrate components at the unit level and does not capitalize on the potential benefits of personnel exchange. Therefore, the Committee directs the Secretary of the Army to report to the House Armed Services Committee no later than January 1, 2020 on the current force structure of AGR personnel, the impact of increased active component support to the reserve component, ways to incentivize active service in the reserve components, and any recommended changes to the Active Guard and Reserve (AGR) program.

Report on Cyber Education Integration in Professional Military Education

The committee remains concerned about the Department of Defense's ongoing efforts to integrate cyber domain education into officer, warrant officer, and non-commissioned officer professional military education. Therefore, the committee directs the Secretary of Defense to provide a briefing to the Committee on Armed Services of the House of Representatives, not later than March 1, 2020, on the Department's efforts to integrate cyber domain education in professional military education courses to further the understanding of the cyber domain among senior leaders. The briefing will also include an assessment of efforts to recruit and develop career tracks with promotion potential for cyber professionals.

Report on Implementation of Transition Assistance Program Content

The committee remains interested in the effective and efficient transition of service members to civilian life and the programs in place to assist in this transition. Section 552 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232) required a comprehensive reform of the Department of Defense Transition Assistance Program. The committee therefore

directs the Secretary of Defense to submit a report to the Committee on Armed Services of the House of Representatives, not later than April 1, 2020, containing the plan for implementation of reforms to the Transition Assistance Program directed by section 552 of Public Law 115–232. The report shall also include:

(1) an analysis of how many service members each year, since the beginning of fiscal year 2015, have met the Career Readiness Standards (CRS) at least 90 days before separation.

(2) how many required additional assistance because the service member did not meet the CRS standards and/or does not have a viable transition plan, and how many service members affirmatively received this assistance.

(3) what steps the Department will take to increase the number of service members that will meet CRS standards at least 90 days before separation.

(4) what organizations are receiving the service members in a "warm handover" and how many are handed over to each.

(5) a status update on the establishment of the pathways for individualized counseling, including a description of each of the pathways and their objective.

Report on Integration of Women into Previously Closed Special Operations Forces Career Fields and the 75th Ranger Regiment

On January 13, 2016, U.S. Special Operations Command (SOCOM) Commander Joseph Votel issued a memo entitled "US Special Operations Command Implementation Plan for the Integration of Women." This memo detailed SOCOM's plan for the integration of women into the 75th Ranger Regiment and the eight special operations career fields previously closed to women, in accordance with former Secretary of Defense Ash Carter's decision to fully integrate women in the Armed Forces. The committee understands that the four lines of effort outlined in the SOCOM implementation plan, including Accession, Talent Management, Communication, and the Longitudinal Implementation Plan Assessment, remain in effect. However, the committee has yet to receive substantive information regarding the efforts relating to and progress towards integration of women into previously closed special operations career fields and the 75th Ranger Regiment.

Therefore, the committee directs the Commander of SOCOM to submit a report to the congressional defense committees not later than January 31, 2020, detailing efforts relating to and progress towards integration of women into the eight previously closed special operations career fields and the 75th Ranger Regiment since the issuance of the memorandum. The report shall include, but not be limited to, a description of efforts by SOCOM and its service component commands to recruit qualified female candidates; the number of qualified female candidates, by component command, that were selected to participate in initial selection, assessment, and qualification programs since 2016; the number of female candidates, by component command, that qualified for subsequent phases of training; the number of females in operational units; a description of the status of the four lines of effort; and any other matters the Commander of SOCOM deems relevant.

Report on Junior Reserve Officers' Training Corps Community Service

The committee notes that the purpose of the Junior Reserve Officers' Training Corps (JROTC) program is to instill in students in U.S. secondary educational institutions the values of citizenship, service to the United States, personal responsibility, and a sense of accomplishment. The committee believes that community service of all types supports and enhances this purpose. Therefore, the committee directs the Secretary of Defense to submit a report to the Committee on Armed Services of the House of Representatives by March 1, 2020, on the feasibility and advisability of a community service requirement as part of the JROTC program in order for a unit to earn an "Honor Unit with Distinction" designation.

Report on Passport Guidance for Emergency Contacts

The committee notes that families of service members deployed outside the continental United States often may not have a valid passport for overseas travel in the event the service member has a medical emergency and a family member's presence is needed. While the services have policies in place for obtaining short-notice passports, the committee is concerned that information on these procedures is not being adequately disseminated to unit commanders and service casualty offices. Therefore, the committee directs the Secretary of Defense to provide a report not later than April 1, 2020, addressing the following questions:

(1) what information is provided to service members' families prior to deployment regarding family travel policies?

(2) how are the instructions for obtaining a short-notice passport relayed to unit commanders and the service casualty office?

(3) what improvements can be made to the passport process?

(4) how can the Department of Defense and the services improve their dissemination of information related to emergency travel procedures for families of overseas service members?

Report on Program on Enhancement of Preparation of Dependents of Members of Armed Forces for Careers in Science, Technology, Engineering, and Mathematics

The committee recognizes that military base communities are often underserved by STEM education outreach efforts and that Congress created the National Defense Education Program to improve the effectiveness of education in STEM fields and maintain the United States' role as the world leader in technological development. As such, the committee also directs the Secretary of Defense to provide a report no later than 180 days from the enactment of this act to the House Committee on Armed Services on how the Department may carry out a program under which the Secretary makes grants, on a competitive basis, to eligible entities to carry out STEM educational events for military communities across the United States.

Report on Senior Officer Outside Employment

The committee is interested in senior officer outside employment while still on Active Duty. Therefore, the committee directs the

Secretary of Defense to submit a report to the Committee on Armed Services of the House of Representatives not later than May 1, 2020, on requests from senior officers for approval of outside employment. The report period will be inclusive of the fiscal years from 2017 through 2019 and cover Active Duty officers in the grade of O–6 or above. The elements of the report shall include:

(1) the number of such requests made in each fiscal year;

(2) the number of such requests approved in each fiscal year;

(3) the types of positions for which senior personnel made such requests;

(4) the range and average of the time commitment for such positions; and

(5) any ethical lapses or abuses by senior personnel in the course of employment pursuant to approved requests.

Report on the Armed Services Vocational Aptitude Battery

The committee notes that according to the Department of Defense 71 percent of Americans ages 17 to 24 are not eligible for military service. Approximately 24 percent of this same population who take the Armed Services Vocational Aptitude Battery (ASVAB) do not receive a score that qualifies them for enlistment in the Armed Forces without a waiver. The committee believes the Department of Defense's data on the ASVAB could be useful in identifying the kinds of test takers who struggle to meet the minimum educational standards for enlistment and identifying the educational needs of local education agencies. Therefore, the committee directs the Secretary of Defense to provide the Committees on Armed Services of the Senate and the House of Representatives, not later than March 1, 2020, a report on those deemed ineligible for service due to inadequate test scores on the ASVAB and the impact this population has on recruitment and military readiness. The report shall include:

(1) Detailed information on the most recent 10 years of data available for all candidates who took the ASVAB by mean and median Armed Forces Qualification Test (AFQT) score, including a breakdown by section of the test and category the test takers' overall scores falls into, for: (a) ethnicity; (b) race; (c) gender; (d) age at time of test; (e) state of residency at time of test; (f) county of residency at time of test; (g) zip code at time of test; (h) highest level of education attained at time of test; and (i) if available: (a) type of secondary educational institution attended; (b) school and/or school district enrolled in at time of test; (c) percentage of students in school district attended qualifying for free and reduced-priced lunch at time of test, (d) National Center for Education Statistics school identification number for secondary educational institution; (e) free and reduced-price lunch status at time of test; (f) Individual Education Plan or 504 Plan status; and (g) English Language Learner status;

(2) Correlation metrics between ASVAB scores and demographic indicators;

(3) A list of the counties and school districts scoring in the bottom five percent on the ASVAB nationally over the past 10 years;

(4) Number of test takers deemed ineligible for service based on their Category V ASVAB score each year over the past 10 years;

(5) Number of test takers who were granted a waiver for enlistment who received a Category IV score each year over the past 10 years; and

(6) The feasibility of sharing the information required in the report with the Secretary of Education to assist in improving the education of young American.

Report to the Defense Committees on the National Guard's Role in Current and Future Space Strategy

The committee recognizes that National Guardsmen and women across the country provide a unique skillset that accommodates the role of space in modern defense, and the needs of the overall force in the years ahead. While the National Guard has served and will continue to serve a role in space operations, the Department has yet to adequately define the role of the National Guard in future DoD space strategy. Therefore, the committee directs the Chief of the National Guard Bureau, in consultation with the Secretary of Defense to provide a detailed report to the Defense Congressional Committees on the Guard's role in space, and the departments intentions for the guard in future space planning.

Reserve Component Duty Status Reform

The committee notes that the Office of the Secretary of Defense continues to refine and coordinate legislative language to fulfill the requirement of section 513 of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115–91) to reduce the number of statutory authorities by which members of the Reserve Component of the Armed Forces may be ordered to Active Duty. The committee continues to support the completion of the required legislative provision and encourages the Secretary of Defense to continue the necessary coordination with all stakeholders, to include the States' Adjutants General, to complete this legislative proposal for inclusion in the National Defense Authorization Act for Fiscal Year 2021.

Special Education Services for Military Families

The Committee notes the purpose of the Exceptional Family Member Program (EFMP) is to provide comprehensive and coordinated community support, housing, educational, medical, and personnel services worldwide to U.S. military families with children with special needs. The Committee is concerned that many families participating in the EFMP program are not provided with consistent educational opportunities throughout each Permanent Change of Station (PCS) move. The Committee is concerned that each PCS is disruptive to the educational plans for the child, as the services provided to special needs children can vastly differ between states and school systems, and that each PCS is disproportionately more difficult for EFMP families, who may need more time to make better educational choices. The Committee is also concerned the Department of Defense and Services lack the common performance measures and metrics to assess assignment coordination and family support.

Therefore, the committee directs the Secretary of Defense to submit a report to the Committee on Armed Services of the House of

Representatives not later than February 1, 2020 describing the needs of military families with children with special education needs and evaluating options to enhance the benefits available to such families and children under the Individuals with Disabilities Education Act (20 U.S.C. 1400 et seq.) in meeting such needs. The report should include assessing the feasibility of establishing an expedited process for resolution of complaints by military parents with a child with special education needs about a lack of access to education and related services otherwise specified in the individualized education program of the child; as well as assess the feasibility of allowing the Department of Defense to contact the State to which a military family with a child with special education needs will relocate pursuant to a permanent change of station with the orders for such change of station are issued, but before the family takes residence in such State, for the purpose of commencing preparation for education and related services specified in the individualized education program of the child.

Standardizing Training for Sexual Assault Prevention and Response Practitioners

The committee acknowledges the Department of Defense's continued efforts to ensure that sexual assault prevention and response training remains effective, adequate, and up-to-date. In response to the committee report accompanying the National Defense Authorization Act for Fiscal Year 2019 (H. Rept. 115–676), the Department submitted a report to the House Committee on Armed Services on the feasibility of developing and incorporating standardized best practices for sexual assault prevention and response training across services. The report suggests that standardized implementation is essential to achieving decreases in rates of sexual assault.

Therefore, the committee directs the Secretary of Defense, in consultation with the Secretaries of the Army, Navy, and Air Force, to provide a briefing to the House Committee on Armed Services not later than November 1, 2019, on the Department's efforts to standardize sexual assault prevention training, across services, and to ensure that such training incorporates innovative training methodologies based on identified competencies for prevention and response practitioners.

LEGISLATIVE PROVISIONS

SUBTITLE A—OFFICER PERSONNEL POLICY

Section 501—Management Policies for Joint Qualified Officers

This section would amend section 661 of title 10, United States Code, to allow the Chairman of the Joint Chiefs of Staff to delegate the approval authority for non-Joint Qualified Officers to fill critical joint duty assignments, thus allowing the Chairman's designee to approve or disapprove waivers.

Section 502—Grade of Chief of the Veterinary Corps of the Army

This section would require that the grade of the Chief of the Veterinary Corps of the Army be a brigadier general.

Section 503—Authority of Promotion Boards to Recommend that Officers of Particular Merit Be Placed Higher on Promotion List

This section would amend sections 14108, 14109, and 14308 of title 10, United States Code, to allow for Reserve Component promotion selection boards to recommend placing an officer on the reserve active-status list higher on a promotion list based on particular merit, if at least a majority of the promotion selection board members so recommend.

Section 504—Availability on the Internet of Certain Information about Officers Serving in General or Flag Officer Grades

This section would require the Secretary of each military department to publish general and flag officer biographies and assignment information on a publicly available website on the internet.

SUBTITLE B—RESERVE COMPONENT MANAGEMENT

Section 511—Grade of Certain Chiefs of Reserve Components

This section would ensure grade parity among the Chiefs of the Reserve Components.

Section 512—Authority to Defer Mandatory Separation at Age 68 of Officers in Medical Specialties in the Reserve Components

This section would amend section 14703 of title 10, United States Code, to authorize the Secretary concerned to retain Reserve Component medical specialty officers beyond the age of 68.

Section 513—Repeal of Requirement for Review of Certain Army Reserve Officer Unit Vacancy Promotions by Commanders of Associated Active Duty Units

This section would repeal section 1113 of the Army National Guard Combat Readiness Reform Act of 1992 (10 U.S.C. 10105 note) to repeal the requirement for the commander of an Active Duty unit associated with an Army Selected Reserve unit to review promotion recommendations for unit vacancy promotions.

Section 514—Guidance for Use of Unmanned Aircraft Systems by the National Guard

This section would require the Secretary of Defense to issue new guidance, within 90 days after the date of the enactment of this Act, regarding the use of unmanned aircraft systems that is comparable to other aircraft for certain activities.

Section 515—Junior Reserve Officers' Training Corps

This section would amend section 2031 of title 10, United States Code, to add science, technology, engineering, and mathematics to Junior Reserve Officers' Training Corps curriculum.

Section 516—JROTC Computer Science and Cybersecurity Program

This section would direct the Secretary of Defense to carry out a program to enhance the preparation of students in Junior Re-

serve Officers' Training Corps for careers in computer science and cybersecurity.

Section 517—Programs of Scholarships for Members of Junior Reserve Officers' Training Corps Units toward Obtaining Private Pilot's Certificates

This section would authorize the Department of Defense to create a program to award scholarships to qualified members of Junior Reserve Officers' Training Corps units to pursue a private pilot's certification.

Section 518—Sense of Congress regarding Junior Reserve Officers' Training Corps

This section would express the sense of Congress regarding support for 3,700 Junior Reserve Officers' Training Corps units nationwide.

Section 519—Sense of Congress regarding the National Guard Youth Challenge Program

This section would express the sense of Congress that the National Guard Youth Challenge Program provides a vital service to at-risk youth and would encourage the Secretary of Defense to use the authority provided in section 519 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232) to use equipment and facilities of the Department of Defense in this program.

SUBTITLE C—GENERAL SERVICE AUTHORITIES AND CORRECTION OF MILITARY RECORDS

Section 521—Establishment of Board of Appeals regarding Denied Requests for Upgraded Discharges and Dismissals

This section would require the Secretary of Defense to establish a board of discharge appeals to hear appeals of request for upgraded discharges and dismissals that are denied by the service review agencies. This section would also require the Secretary to submit a report not later than April 1, 2021, on data based on the appeals heard by the board, and to publish the information online annually beginning on October 1, 2022.

Section 522—Prohibition on Reduction in the Number of Personnel Assigned to Duty with a Service Review Agency

This section would amend section 1559(a) of title 10, United States Code, by extending the date on prohibition on reducing the number of personnel assigned to duty with a service review agency from December 31, 2019, to December 31, 2025. This section would also require a report by each Secretary of each military department that details a plan to reduce the backlog of applications and maintain resources required to meet timelines under section 1557 of title 10, United States Code.

Section 523—Advisory Committee on Record and Service Review Boards

This section would establish a Defense Advisory Committee on Record and Upgrade Review Boards to advise the Secretary of Defense on the best structure, practice, and procedures to ensure consistency of the boards for correction of military records and service review boards.

Section 524—Time Requirements for Certification of Honorable Service

This section would require the Secretary of a military department or a designated commissioned officer serving in the pay grade of O–6 or higher to, upon submission of a completed United States Citizenship and Immigration Services Form N–426 in the case of a member of the Armed Forces who has served honorably on active duty, provide certification not later than 5 days, and in the case of a member of the Armed Forces who has served honorably in the Reserve Component provide certification not later than 3 weeks.

Section 525—Prohibition on Implementation of Military Service Suitability Determinations for Foreign Nationals Who Are Lawful Permanent Residents

This section would prohibit the Secretary of Defense from taking any action to implement the memorandum titled "Military Service Suitability Determinations for Foreign Nationals Who Are Lawful Permanent Residents" until the Secretary submits a report on the justification for the policy changes.

Section 526—Strategic Plan for Diversity and Inclusion

This section would require the Secretary of Defense to update and implement the Department of Defense Diversity and Inclusion Strategic Plan. The plan will cover a 5-year period beginning January 1, 2020.

Section 527—Independent Study on Barriers to Entry into the Armed Forces for English Learners

This section would require the Secretary of Defense to seek to enter into a contract with a federally funded research and development center to study barriers to entry into the Armed Forces for English learners.

Section 528—Reenlistment Waivers for Persons Separated from the Armed Forces Who Commit One Misdemeanor Cannabis Offense

This section would require the Secretary of Defense to prescribe regulations that permit any Secretary of a military department to grant a reenlistment waiver to a covered person who has separated from the Armed Forces and has admitted to or been convicted by a court of competent jurisdiction of a single violation relating to the use or possession of cannabis.

Section 529—Sense of Congress regarding Accession Physicals

This section would express the sense of Congress that the Secretary of Defense should explore alternatives to centralized accession physicals at United States Military Entrance Processing Command stations, including conducting physicals in the local community, in order to reduce transportation costs and improve efficiency in processing times and free up recruiters to allow them to focus on their core recruiting mission.

SUBTITLE D—MILITARY JUSTICE

Section 531—Command Influence

This section would amend section 837 of title 10, United States Code (article 37 of the Uniform Code of Military Justice), to prohibit convening authorities and commanding officers from interfering with access and influencing witnesses, and would expressly allow convening authorities and commanding officers to engage in communications with subordinates that do not jeopardize the fairness of military judicial proceedings.

Section 532—Statute of Limitations for Certain Offenses

This section would amend section 843 of title 10, United States Code (article 43 of the Uniform Code of Military Justice), to eliminate the statute of limitations for the offenses of maiming and kidnapping of a child.

Section 533—Guidelines on Sentences for Offenses Committed under the Uniform Code of Military Justice

This section would require the Secretary of Defense to establish non-binding sentencing guidelines for offenses under the Uniform Code of Military Justice, taking into account sentencing data collected by the Military Justice Review Panel.

Section 534—Expansion of Responsibilities of Commanders for Victims of Sexual Assault Committed by Another Member of the Armed Forces

This section would require commanders to notify an alleged victim of sexual assault of significant events in the military justice process in connection with the investigation, prosecution, and confinement of the accused, when the accused is a member of the Armed Forces, and to document such notification. This section would also require commanders to create and maintain documentation of an alleged sexual assault victim's expressed preference for prosecution jurisdiction.

Section 535—Increase in Investigative Personnel and Victim Witness Assistance Program Liaisons

This section would require military service secretaries to ensure personnel authorizations for criminal investigators allow for the completion of investigations of sex-related offenses in no more than 6 months, to the extent practicable. This section would require service secretaries to issue guidance requiring criminal investigators to submit a status report to their direct supervisor in the event

an investigation exceeds 90 days. This section would also require military service secretaries to increase the number of personnel serving as Victim Witness Assistance Program liaisons to address personnel shortages.

Section 536—Increase in Number of Digital Forensic Examiners for the Military Criminal Investigation Organizations

This section would increase the number of digital forensic examiners in each military criminal investigation organization by not fewer than 10 from the authorized number as of September 30, 2019, and would require that funding for additional digital forensic examiners be derived from amounts authorized to be appropriated for fiscal year 2020 for the Armed Force concerned for operation and maintenance.

Section 537—Pilot Programs on Defense Investigators in the Military Justice System

This section would require the Secretary of Defense to implement a pilot program on defense investigators within the military justice system.

Section 538—Pilot Program on Prosecution of Special Victim Offenses Committed by Attendees of Military Service Academies

This section would require the Secretary of Defense to create and carry out a pilot program establishing an independent authority to review certain special victim offenses and determine whether such offenses shall be referred to trial by court-martial convening authority. This section would also require the Secretary of Defense to establish an Office of the Chief Prosecutor within the Office of the Secretary of Defense, as part of the pilot program.

Section 539—Timely Disposition of Nonprosecutable Sex-Related Offenses

This section would require the Secretary of Defense to develop and implement a policy to ensure the timely disposition of nonprosecutable sex-related offenses.

Section 540—Training for Sexual Assault Initial Disposition Authorities on Exercise of Disposition Authority for Sexual Assault and Collateral Offenses

This section would require specified training for sexual assault initial disposition authorities on the exercise of disposition authority for sexual assault and collateral offenses.

SUBTITLE E—OTHER LEGAL MATTERS

Section 541—Standard of Evidence Applicable to Investigations and Reviews Related to Protected Communications of Members of the Armed Forces and Prohibited Retaliatory Actions

This section would amend section 1034 of title 10, United States Code, to allow a finding or other determination made under subsections (c), (d), (g), or (h) to be based on the standards of evidence specified in section 1221(e) of title 5.

Section 542—Expansion of Special Victims' Counsel for Victims of Sex-Related or Domestic Violence Offenses

This section would expand the Special Victims' Counsel program to cover eligible domestic violence victims and designate Special Victims' Counsel Paralegals. This section would also require expansion of the Special Victims' Counsel program not later than 2 years post-enactment and would require a report, due not later than December 1, 2022, on how the military services are meeting Special Victims' Counsel program requirements.

Section 543—Notification of Issuance of Military Protective Order to Civilian Law Enforcement

This section would amend section 1567a of title 10, United States Code, to require unit commanders to notify civilian authorities of the issuance of a military protective order against a member of the Armed Forces, and would require unit commanders to notify a receiving unit of the issuance of a military protective order in the event a member is transferred to another unit. This section would also require the Secretary of Defense, not later than March 1, 2020, and each year thereafter through 2024, to submit a report to the congressional defense committees identifying the number of military protective orders issued and the number of military protective orders reported to the appropriate civilian authorities in the preceding calendar year in which the report was submitted.

Section 544—Clarifications regarding Scope of Employment and Reemployment Rights of Members of the Uniformed Services

This section would amend section 4303 of title 38, United States Code, to protect service members from forced arbitration in Uniformed Services Employment and Reemployment Rights Act cases.

Section 545—Military Orders Required for Termination of Leases Pursuant to the Servicemembers Civil Relief Act

This section would amend section 3955 of title 50, United States Code, to clarify that, in the context of terminating residential or motor vehicle leases, military orders for a permanent change of station include separation or retirement orders.

Section 546—Consultation regarding Victim's Preference in Prosecution Jurisdiction

This section would require the Secretary of Defense, acting through the Under Secretary of Defense for Personnel and Readiness, to issue guidance to ensure that sexual assault victims' preference for prosecution jurisdiction is recorded.

Section 547—Extension and Expansion of Defense Advisory Committee on Investigation, Prosecution, and Defense of Sexual Assault in the Armed Forces

This section would extend the Defense Advisory Committee on Investigation, Prosecution, and Defense of Sexual Assault (DAC–IPAD) for an additional 5 years past its original expiration date. This section would also expand DAC–IPAD's scope of review to

cover restorative justice models and interpretation of the Rules for Courts-Martial 1001(c).

Section 548—Defense Advisory Committee for the Prevention of Sexual Misconduct

This section would require the Secretary of Defense to establish an advisory committee, known as the Defense Advisory Committee for the Prevention of Sexual Misconduct, which shall advise the Secretary on the prevention of sexual assault and on the policies, programs, and practices of each military department, Armed Force, and military service academy for the prevention of sexual assault.

Section 549—Safe to Report Policy Applicable across the Armed Forces

This section would require the Secretary of Defense, in consultation with the service secretaries and the Secretary of Homeland Security, to prescribe regulations for a safe to report policy that would allow alleged victims of sexual assault, who may have committed minor collateral misconduct, to report sexual assault without fear or receipt of discipline for such collateral misconduct.

Section 550—Availability of Special Victims' Counsel and Special Victim Prosecutors at Military Installations

This section would ensure Special Victims' Counsel or Special Victim Prosecutors are available to requesting individuals not later than 48 hours after a request is made. This section would also require a report to the Committees on Armed Services of the Senate and the House of Representatives which sets forth the feasibility and advisability of maintaining civilian positions that would provide support to Special Victims' Counsel and ensure continuity and preservation of knowledge during transition between service of Special Victims' Counsels.

Section 550a—Notice to Victims of Alleged Sexual Assault of Pendency of Further Administrative Action Following a Determination Not to Refer to Trial by Court-Martial

This section would require the Secretary of Defense to establish regulations requiring a commander who decides not to refer a case of alleged sexual assault to court-martial to periodically notify the victim of further action on such case.

Section 550b—Training for Special Victims' Counsel on Civilian Criminal Justice Matters in the States of the Military Installations to Which Assigned

This section would require Special Victims' Counsel and Victim Legal Counsel to receive training on the law and policies, for certain criminal justice matters, of the State or States in which the military installation is located in order to provide victims of alleged sex-related offenses with information to make informed decisions regarding preference for prosecution jurisdiction.

SUBTITLE F—MEMBER EDUCATION

Section 551—Authority for Detail of Certain Enlisted Members of the Armed Forces as Students at Law Schools

This section would require service secretaries to detail enlisted members of the Armed Forces as students at accredited law schools leading to the degree of bachelor of law or juris doctor.

Section 552—Education of Members of the Armed Forces on Career Readiness and Professional Development

This section would require the Secretary of Defense to carry out a program to provide education on career readiness and professional development to members of the Armed Forces.

Section 553—Defense Language Institute Foreign Language Center

This section would amend section 2168 of title 10, United States Code, to permit the Defense Language Institute to confer Bachelor degrees, in addition to Associate degrees, to graduates that meet the appropriate requirements for that degree.

Section 554—Expansion of Department of Defense Starbase Program

This section would amend section 2193b of title 10, United States Code, by inserting science, technology, engineering, art and design, and mathematics.

Section 555—Degree Granting Authority for United States Army Armament Graduate School

This section would amend chapter 751 of title 10, United States Code, to authorize the United States Army Armament Graduate School to confer appropriate degrees upon graduates who meet the degree requirements.

Section 556—Congressional Nominations for Senior Reserve Officers' Training Corps Scholarships

This section would allow the Secretary of the Army to consider any candidate nominated but not selected for appointment to the United States Military Academy by Members of Congress or officials from U.S. Territories to be considered for appointment as a Senior Reserve Officers' Training Corps cadet under section 2107 of title 10, United States Code.

Section 557—Consideration of Application for Transfer for a Student of a Military Service Academy Who Is the Victim of a Sexual Assault or Related Offense

This section would amend sections 7461, 8480, and 9461 of title 10 United States Code, and would direct the military service secretaries to establish regulations, based on guidelines provided by the Secretary of Defense, for the timely consideration of an application for transfer of a military service academy student who is the victim of a sexual assault or related offense.

Section 558—Redesignation of the Commandant of the United States Air Force Institute of Technology as the Director and Chancellor of Such Institute

This section would amend section 9414b of title 10, United States Code, to redesignate the Commandant of the United States Air Force Institute of Technology (AFIT) as the Director and Chancellor of AFIT.

Section 559—Eligibility of Additional Enlisted Members for Associate Degree Programs of the Community College of the Air Force

This section would amend section 9415 of title 10, United States Code, to authorize the Community College of the Air Force (CCAF) to award associate degrees to enlisted members of services other than the Air Force who are participating in CCAF affiliated joint-service training and education courses.

Section 560—Safe-to-Report Policy Applicable to Military Service Academies

This section would require the Secretary of Defense to prescribe regulations for the implementation of a safe-to-report policy which would allow alleged sexual assault victims at the United States Military Academy, United States Naval Academy, United States Air Force Academy, and the United States Coast Guard Academy, who may have committed minor collateral misconduct, an opportunity to report an occurrence of sexual assault without fear of discipline.

Section 560a—Recoupment of Funds from Cadets and Midshipmen Separated for Criminal Misconduct

This section would direct each Secretary of a military department to develop regulations that would require monetary recoupment from a service academy cadet or midshipman convicted of criminal misconduct, regardless of academic year.

SUBTITLE G—MEMBER TRAINING AND TRANSITION

Section 561—Prohibition on Gender-Segregated Training at Marine Corps Recruit Depots

This section would prohibit the Commandant of the Marine Corps from segregating training at the Marine Corps Recruit Depot, Parris Island, South Carolina, not later than 5 years after the date of the enactment of this Act and at Marine Corps Recruit Depot, San Diego, California, not later than 8 years after the date of the enactment of this Act.

Section 562—Medical Personnel at Marine Corps Recruit Depots

This section would require the Secretary of the Navy to assign the appropriate medical personnel to Marine Corps Recruit Depots.

Section 563—Assessment of Deaths of Recruits under the Jurisdiction of the Secretary of the Navy

This section would require the Department of Defense Inspector General to conduct an assessment of the deaths of recruits and medical protocols at recruit training facilities under the jurisdiction of the Secretary of the Navy.

Section 564—Inclusion of Specific Email Address Block on Certificate of Release or Discharge from Active Duty (DD Form 214)

This section would modify the certificate of release or discharge from Active Duty (DD Form 214) by adding an email address block.

Section 565—Machine Readability and Electronic Transferability of Certificate of Release or Discharge from Active Duty (DD Form 214)

This section would require the Secretary of Defense to modify the DD Form 214 to make it machine readable and electronically transferable.

Section 566—Records of Service for Reserves

This section would require the Secretary of Defense to establish and implement a standard record of service for members of the Reserve Component that summarizes the record of service of the service member including dates of Active Duty service.

SUBTITLE H—MILITARY FAMILY READINESS AND DEPENDENTS' EDUCATION

Section 571—Authorizing Members to Take Leave for a Birth or Adoption in More Than One Increment

This section would amend section 701 of title 10, United States Code, removing the statutory requirement that parental leave be taken in one increment.

Section 572—Deferred Deployment for Members Who Give Birth

This section would amend section 701 of title 10, United States Code, to standardize new mother deployment deferral policy across the military services, to include the Coast Guard.

Section 573—Authority of the Secretary Concerned to Transport Remains of a Covered Decedent to No More Than Two Places Selected by the Person Designated to Direct Disposition of the Remains

This section would amend section 1482 of title 10, United States Code, to authorize the Department of Defense to reimburse surviving family members of service members killed in action for costs associated with transporting their remains to a national cemetery.

Section 574—Clarification regarding Eligibility to Transfer Entitlement under Post-9/11 Educational Assistance Program

This section would amend section 3319 of title 38, United States Code, to prevent the Secretary of Defense from imposing a limit on

transferability of Post-9/11 GI Bill benefits based on maximum number of years of service.

Section 575—Absentee Ballot Tracking Program

This section would amend section 20302 of title 52, United States Code, to require State election officials to establish and operate an absentee ballot tracking program for absentee uniformed voters and overseas citizen voters.

Section 576—Annual State Report Card

This section would amend section 1111 of the Elementary and Secondary Education Act of 1965 to include children with a parent(s) in the National Guard or Reserve Component in the Military Student Identifier definition of the Every Student Succeeds Act.

Section 577—Transportation of Remains of Casualties; Travel Expenses for Next of Kin

This section would authorize transportation expenses to Dover Air Force Base, Delaware, for next of kin of service members killed overseas.

Section 578—Meetings of Officials of the Department of Defense with Survivors of Deceased Members of the Armed Forces

This section would direct the Secretary of Defense to establish procedures to ensure that each of the military departments identify surviving family members of fallen service members to meet periodically with their respective military service chiefs to provide feedback on surviving family member issues and concerns. In addition, the Under Secretary of Defense for Personnel and Readiness shall meet periodically with surviving family members to help inform Department of Defense casualty and Gold Star Family policy. This section would also require the Under Secretary of Defense for Personnel and Readiness to provide a briefing to the Committee on Armed Services of the House of Representatives not later than April 1, 2020, on procedures established and the results of the meetings with the family members.

Section 579—Direct Employment Pilot Program for Members of the National Guard and Reserve, Veterans, Their Spouses and Dependents, and Members of Gold Star Families

This section would enable the Secretary of Defense to create a pilot program that would allow States to establish or expand job placement programs, and related employment services, for unemployed guardsmen, reservists, military spouses, and veterans.

Section 580—Continued Assistance to Schools with Significant Numbers of Military Dependent Students

This section would authorize $40.0 million for the purpose of providing assistance to local educational agencies with military dependent students, and $10.0 million for local educational agencies eligible to receive a payment for children with severe disabilities.

SUBTITLE I—DECORATIONS AND AWARDS

Section 581—Expansion of Gold Star Lapel Button Eligibility to Stepsiblings; Free Replacement

This section would amend section 1126 of title 10, United States Code, to extend the authority for the Secretary of Defense to provide a gold star lapel button to stepsiblings of deceased military service members. Additionally, it would allow the Department of Defense to replace the lapel button upon application and without cost to an eligible family member.

Section 582—Establishment of the Atomic Veterans Service Medal

This section would authorize the creation of the Atomic Veterans Service Medal, to be awarded to radiation-exposed veterans.

Section 583—Review of World War I Valor Medals

This section would direct the Department of Defense to review the service records of certain African American, Asian American, Hispanic American, Jewish American, and Native American war veterans to ensure that minority service members are appropriately recognized for their valorous service.

SUBTITLE J—MISCELLANEOUS REPORTS AND OTHER MATTERS

Section 591—Repeal of Quarterly Report on End Strengths

This section would repeal paragraph (3) of section 115(e) of title 10, United States Code, to remove the requirement for the Secretary of Defense to notify the Committee on Armed Services of the Senate and the Committee on Armed Services of the House of Representatives whenever the Secretary establishes an end-of-quarter strength level pursuant to section 115(e)(2)(A) or modifies a strength level pursuant to section 115(e)(2)(B).

Section 592—Revision of Workplace and Gender Relations Surveys

This section would amend section 481 of title 10, United States Code, to update the Armed Forces Workplace and Gender Relations Surveys and the Department of Defense Civilian Employee Workplace and Gender Relations Survey to require solicitation of information of the types and frequency of unwanted sexual contact that have occurred during the preceding year.

Section 593—Modification of Elements of Reports on the Improved Transition Assistance Program

This section would modify the required reports to Congress concerning the improved Transition Assistance Program.

Section 594—Questions in Workplace Surveys regarding Supremacist, Extremist, and Racist Activity

This section would require the Secretary of Defense to include in the workplace and equal opportunity, command climate, and workplace and gender relations surveys whether respondents have ever experienced supremacist activity, extremist activity, or racism.

Section 595—Command Matters in Connection with Transition Assistance Programs

This section would require the inclusion of commander support for transition assistance programs as a criteria in command climate assessments.

Section 596—Expressing Support for the Designation of a "Gold Star Families Remembrance Day"

This section would express the Congress's support for "Gold Star Families Remembrance Day."

TITLE VI—COMPENSATION AND OTHER PERSONNEL BENEFITS

ITEMS OF SPECIAL INTEREST

Commissaries during Shutdowns

The committee notes that service members rely on the commissary for their daily need for groceries, and service member surveys consistently rate commissaries as one of their most valued benefits. If commissaries are closed during government shutdown, there will be an immediate pressure on in-store inventory and the working capital funds as products begin to spoil and reach their expiration dates. It is important that the commissary remain open during government shutdowns to meet the needs of service members. The committee therefore urges the Department of Defense and the Defense Commissary Agency to keep the commissaries open during any government shutdown because of the vital need of military men and women for groceries on a daily basis.

Department of Defense SkillBridge Program Applicability to Service Member Spouses

The committee commends the Department of Defense for its development of the Department of Defense SkillBridge program, which offers training programs in the form of internships and apprenticeships through participating private companies for service members transitioning to civilian life. The committee remains concerned by the persistent issue of unemployment and underemployment of military spouses. Therefore, the committee directs the Secretary of Defense to provide a report to the Committee on Armed Services of the House of Representatives not later than April 1, 2020, on the feasibility and advisability of providing a similar program for service member spouses that would apply at any time during a spouse's career. The report shall include:

(1) the extent to which private companies currently participating in SkillBridge are interested in extending internships and apprenticeships to service member spouses;

(2) the extent to which the potential expansion of the program would affect the ability to effectively administer the current SkillBridge program;

(3) the costs to the Department of Defense of administering such a program;

(4) any other issues the Secretary of Defense deems relevant.

Educational Opportunities for Service Member Dependents

The committee recognizes that the quality and availability of educational resources at and around military installations can vary greatly, causing challenges for service members with school-aged children. Children of service members are often subject to local educational conditions and frequent moves can pose additional stresses on the continuity of learning standards. These challenges may impact recruitment and retention. The committee recognizes providing quality educational options is necessary for ensuring our national security. Therefore, the committee encourages the Department of Defense to fully consider the quality of education available on and off military installations and whether additional educational options should be made available at certain geographically isolated installations.

Maternity Leave Parity for National Guard and Reserve Components

The committee notes that the Department of Defense established policies for maternity leave in 2016, authorizing 12 weeks fully paid maternity leave after normal pregnancy and childbirth. The committee further notes that such paid leave is not given to female services members in inactive duty status within the National Guard and reserve components, and that these service members are still required to attend unit training assemblies to receive military service pay and retirement points. Therefore, the committee directs the Secretary of Defense to provide a report to the House Committee on Armed Services by May 1, 2020, on the barriers, benefits, and feasibility of providing compensation and credit for retired pay to members of the National Guard and reserve components in inactive duty status.

Report Assessing the Advisability of Permitting Military Personnel to use Education Benefits for Nontraditional Cyber-Related Education Programs

The committee understands that new and innovative educational opportunities exist for service members through non-traditional forms of schooling such as technology boot camps or massive online open courses (MOOC's). Such courses are particularly useful for service members in geographically remote areas who are hoping to continue their education. While the committee understands and appreciates the need for verification and certification of educational programs prior to approving government funds, such as tuition assistance, to pay for such programs, the committee believes that such standards should be mindful of the rapidly evolving nature of modern educational services.

Therefore, the Secretary of Defense shall provide a briefing to the Committee on Armed Services of the House of Representatives no later than February 1, 2020, outlining the Department of Defense's procedures for determining the educational institutions and resources eligible for tuition assistance. The report should include:

(1) Standards the educational resource or institution must meet for military personnel to receive assistance from DoD.

(2) A description of the steps taken to ensure a broad variety of STEM-focused programs are eligible for tuition assistance, including non-traditional cyber-related learning alternatives.

(3) Steps that have been taken to account for the changes in modern learning platforms.

(4) Recommendations for expanding the educational opportunities available to military personnel.

Report on Feasibility of Loan or Grant Program to Offset the Cost of Child Care Center Accreditation in Areas with Long Waitlists to Access On-Base Child Development Centers

The committee notes that there is a shortage of available and affordable child care on military installations and that many military families utilize private child care options due to this shortage. Further, the committee notes that in order to use the child care stipend made available to servicemembers whose children have been on a wait list for on-base child care for an extended period of time, the private child care center must be accredited. Data suggests that approximately half of the United States has too few licensed child care options. The committee directs the Secretary of Defense to submit a report to the Committees on Armed Services of the Senate and the House of Representatives not later than June 1, 2020 regarding the feasibility of the creation of a grant or loan program to defray the initial cost of meeting state licensure requirements for child care facilities in areas where there is a shortage of licensed child care options for military families. The report shall include:

(1) An assessment of areas with the longest waitlists for on-base Child Development Centers;

(2) An assessment of the availability of licensed, off-base child care facilities in those areas;

(3) The feasibility of creating a grant or loan program to defray up to half the cost of meeting state licensure requirements;

(4) Recommendations for legislative or administrative action as the Secretary considers appropriate in light of the report, including recommendations for a pilot grant or loan program.

Report on TSP Default Contribution Rate

The committee is concerned that the Department of Defense's default contribution rate of 3% to the Thrift Savings Plan (TSP) will have long term negative impacts on service members'—specifically junior enlisted service members"—financial readiness and wellbeing. Civilian studies show that the average default automatic enrollment for civilian employer matching has increased in recent years to 4.6%, and that a contribution of at least 4% is required to achieve the same undiscounted lifetime income under the BRS as under the current system.

The committee directs the Secretary of Defense to submit a report to the Committee on Armed Services of the House of Representatives not later than March 1, 2020, on the potential effects of automatically enrolling new service members into the Thrift Savings Plan (TSP) at the maximum government matching rate of 5% of the service member's base pay compared to the existing auto-

matic enrollment of 3% of the servicemember's base pay. The elements of the report shall include:

(1) The analysis and rationale for the current 3% default enrollment contribution.

(2) A comparison of the estimated undiscounted lifetime income of an enlisted service member under the Blended Retirement System with a 3% matching contribution, a 5% matching contribution and the legacy retirement system. The comparison shall include analysis of different amounts of time in service as well as differentials between the active and reserve component.

(3) A comparison of the estimated undiscounted lifetime income of an officer under the Blended Retirement System with a 3% matching contribution, a 5% matching contribution and the legacy retirement system. The comparison shall include analysis of different amounts of time in service as well as differentials between the active and reserve component.

(4) Analysis on enrollees who changed their contribution allocation from the default percentage and their rationale to do so.

(5) The average TSP contribution percentage among servicemembers who elect to change from their default contribution once enrolled in the blended retirement system.

(6) What programs or initiatives have been shown to be effective in increasing the percentage of servicemembers opting for the full 5% contribution?

(7) Recommendations to enhance the future earnings and retirement savings of servicemembers.

Review and Assessment of Transitional Compensation Program

The committee notes the importance of all members of the Armed Forces and their families to feel safe and secure. The committee acknowledges the Department of Defense's continuous efforts to provide resources and programs, such as the Family Advocacy Program, to benefit the safety and quality of life for members of the Armed Forces and their families. In instances of domestic violence or abuse, victims should feel empowered and resourced to seek assistance. The committee is concerned that reports of domestic violence, intimate partner violence and sexual assault, or child abuse may go unreported by family members out of fear for losing access to military pay and allowances and benefits. The committee directs the Under Secretary of Defense for Personnel and Readiness to provide a briefing to the House Armed Services Committee not later than March 1, 2020, on a comprehensive review and assessment of the Transitional Compensation program. The report shall include the following:

(1) a review of requests for Transitional Compensation;

(2) a review of approved requests for Transitional Compensation;

(3) an analysis of the discrepancies between (1) and (2);

(4) an assessment of current Transitional Compensation as written in statute in Section 1059, title 10, United States Code, and its alignment with other legal definitions of domestic violence, intimate partner violence or sexual assault, or child abuse; and

(5) any recommendations for modifying Transitional Compensation to improve supportive outcomes for victims.

Service Member Separation Survey Methodology

The committee is concerned that valuable military personnel data currently collected by the Department of Defense is not being effectively organized, analyzed, and applied to better understand service members' motivations for staying in or leaving the military. Data on service members' reasons for separation from service, that could be used to adjust recruiting and retention policies of the armed services and the Department of Defense, is not being collected in an effective or timely manner. The committee notes that the requirement for individual exit surveys and interviews with separating or retiring service members has not been uniformly established across the Department of Defense. In addition, the committee is concerned that the exit surveys may not be valid survey instruments.

Therefore, the committee directs the Secretary of Defense, in coordination with the Department of Defense Office of People Analytics, to determine the best methodology and timing to conduct and require exit interviews or surveys with individuals leaving Active Duty to establish, at a minimum:

(1) what personal or professional factors are causing the service member to leave the military service.

(2) what specific opportunities, programs, or benefits could have influenced their retention decisions.

(3) service member satisfaction with benefits, compensation, and service leadership.

(4) service member suggestions for improving benefits, career management, or work-life balance.

Furthermore, the Secretary, in coordination with the Office of People Analytics, shall review currently existing military personnel databases that may be used to assist the services in further establishing service member behaviors regarding accession and retention in the military.

The committee directs the Secretary to provide a briefing to the Committee on Armed Services of the House of Representatives not later than April 1, 2020, on the efforts to establish enhanced military personnel data analytics and an effective exit survey program as described above.

Servicemember Statement of Benefits

Section 522 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232) amended chapter 58 of title 10, United States Code, by adding a new "Statement of Benefits", that would provide servicemembers, with a current and individualized statement of benefits that provides a comprehensive and complete listing of all benefits to the servicemember is entitled. To date, the Department of Defense has not yet complied with section 522. The committee reaffirms that Active Duty servicemembers and members of a Reserve Component shall be provided with an individualized, comprehensive, and complete statement of benefits listing all benefits to which they are entitled. It is imperative that those who have served in our Nation's Armed Forces be afforded with clear guidance as to the benefits to which they are entitled after serving their country to assist them with a successful transition to civilian life. Provision of such a statement

of benefits individualized to each servicemember, including an authoritative estimate of benefits provided by other departments, will assist in that member's awareness of and ability to access services to which that member is entitled.

Spouse Employment Programs

The committee is aware of the extensive network of resources that the Department of Defense has established to assist spouses of members of the Armed Forces in seeking employment. The committee understands the need to provide both online and in-person career counseling and employment information to ensure the unique needs of military spouses are met. However, the committee remains concerned that some of the resources available may not adequately target the professions most sought-after by spouses. Therefore, the committee directs the Comptroller General of the United States to provide a briefing to the Committee on Armed Services of the House of Representatives not later than April 1, 2020, with a report to follow at a later date, containing the following components:

(1) an analysis of whether military spouses with certain professional certifications or licenses have higher rates of unemployment and underemployment than other military spouses;

(2) an analysis of whether military spouses with certain professional certifications or licenses have higher rates of unemployment and underemployment when compared to their civilian counterparts;

(3) an analysis of whether military spouses married to service members of certain ranks have higher rates of unemployment and underemployment than other military spouses;

(4) an analysis of whether the Department of Defense has a system of measurement for evaluating the effectiveness of States' laws in easing licensing burdens on military spouses and whether occupational licensing requirements are considered when evaluating service member assignment decisions; and

(5) marketing efforts by the Department of Defense to ensure military spouses are aware of the available resources.

LEGISLATIVE PROVISIONS

SUBTITLE A—PAY AND ALLOWANCES

Section 601—Clarification of Continuation of Pays During Hospitalization and Rehabilitation Resulting From Wounds, Injury, or Illness Incurred while on Duty in a Hostile Fire Area or Exposed to an Event of Hostile Fire or Other Hostile Action

This section would amend section 372 of title 37, United States Code, to authorize, in the case of a member under the jurisdiction of a Secretary of a military department, the continuation of special pays until the date on which the member is determined fit for duty.

Section 602—Basic Needs Allowance for Low-Income Regular Members

This section would amend section 402 of title 37, United States Code, to authorize the Secretary of Defense to pay a basic needs allowance to a qualified service member.

Section 603—Temporary Increase of Rates of Basic Allowance for Housing Following Determination That Local Civilian Housing Costs Significantly Exceed Such Rates

This section would amend section 403(b) of title 37, United States Code, to authorize the Secretary of Defense to prescribe a temporary adjustment of the basic allowance for housing rates for a housing area where the actual costs of adequate housing differ from the calculated rates of housing for that area as determined by the Secretary.

Section 604—Basic Allowance for Housing for a Member Without Dependents When Relocation Would Financially Disadvantage the Member

This section would allow the Secretaries of the military departments discretionary authority to authorize a housing allowance based on the old homeport or permanent duty station for single members disadvantaged as a result of a unit's change of homeport or permanent duty station, as long as the member had orders returning to the previous homeport or duty station.

Section 605—Partial Dislocation Allowance

This section would amend sections 452 and 477 of title 37, United States Code, to allow service members to receive a partial dislocation allowance if they are ordered to vacate dormitories.

SUBTITLE B—BONUSES AND SPECIAL INCENTIVE PAYS

Section 611—One-Year Extension of Certain Expiring Bonus and Special Pay Authorities

This section would extend, through December 31, 2020, income replacement payments for Reserve Component members experiencing extended and frequent mobilization for Active Duty service; would extend two critical recruitment and retention incentive programs for Reserve Component health care professionals; would extend accession and retention incentives for nuclear-qualified officers; and would extend the consolidated special and incentive pay authorities.

SUBTITLE C—FAMILY AND SURVIVOR BENEFITS

Section 621—Payment of Transitional Compensation for Certain Dependents

This section would amend section 1059 of title 10, United States Code, to close an inequitable gap that delays commencement of transitional compensation to a small subset of dependents or former dependents who request the Secretary concerned to authorize exceptional eligibility for transitional compensation.

Section 622—Death Gratuity for ROTC Graduates

This section would amend section 1475 of title 10, United States Code, to authorize a death gratuity to the family of a graduate of the Reserve Officers' Training Corps who dies before receiving a first duty assignment.

Section 623—Continued Eligibility for Education and Training Opportunities for Spouses of Promoted Members

This section would extend the eligibility for any spouse who is eligible for the My Career Advancement Account program and begins a course of study leading toward a qualifying degree, license, or certification, and would ensure they will not be subsequently made ineligible to complete their studies solely because the sponsoring service member has been promoted to a higher grade.

Section 624—Occupational Improvements for Relocated Spouses of Members of the Uniformed Services

This section would amend section 1784 of title 10, United States Code, to provide occupational support to military spouses by improving the portability of occupational licenses through interstate compacts and amending residency laws pertaining to registering a business.

Section 625—Expansion of Authority To Provide Financial Assistance to Civilian Providers of Child Care Services or Youth Program Services Who Provide Such Services to Survivors of Members of the Armed Forces Who Die in Line of Duty

This section would amend section 1798 of title 10, United States Code, to authorize financial assistance to civilian providers of child care services or youth program services to survivors of members of the Armed Forces who die in the line of duty.

Section 626—Space-Available Travel on Military Aircraft for Children and Surviving Spouses of Members Who Die of Hostile Action or Training Duty

This section would amend section 2641 of title 10, United States Code, to allow children meeting certain requirements and surviving spouses of members of the Armed Forces who die as a result of hostile action or training duty to use Space-Available (Space-A) travel.

Section 627—Consideration of Service on Active Duty To Reduce Age of Eligibility for Retired Pay for Non-Regular Service

This section would amend section 12731(f)(2)(B)(i) of title 10, United States Code, to authorize credit for a service member who as a member of the Ready Reserve serves on Active Duty or performs Active service under section 12304(b) of title 10, United States Code. The eligibility age will be reduced below 60 years of age by 3 months for each aggregate of 90 days on which such person serves on such Active Duty or performs such Active service in any fiscal year after January 28, 2008, or in any two consecutive fiscal years after September 30, 2014.

Section 628—Modification to Authority To Reimburse for State Licensure and Certification Costs of a Spouse of a Member Arising From Relocation

This section would require the Secretary concerned to increase the maximum reimbursement amount to $1,000 and to do an analysis to determine if the maximum reimbursement amount for State licensure and certifications of a spouse is sufficient to cover the average costs of relicensing.

Section 629—Improvements to Child Care for Members of the Armed Forces

This section would amend section 1798(a) of title 10, United States Code, to authorize financial assistance to civilian child care providers who care for the children of survivors of members who die in the line of duty and to expand direct hiring authority for child care providers. Additionally, this section would direct the Secretary of Defense to assess and report on:

(1) the financial assistance provided service members for child care,

(2) the child care capacity on military installations to ensure access of service members, and

(3) the accessibility of Department of Defense websites related to child care and spousal employment.

The Secretary of Defense shall also ensure the portability to another Department of Defense facility of background investigations and training certifications for childcare providers.

Section 630—Casualty Assistance for Survivors of Deceased ROTC Graduates

This section would provide a casualty assistance officer to the family of Reserve Officers' Training Corps cadets who have taken the oath but have not yet reported to their first duty station, in the event of their death.

SUBTITLE D—DEFENSE RESALE MATTERS

Section 631—GAO Review of Defense Resale Optimization Study

This section would require the Comptroller General of the United States to conduct a review and submit a report to the Committees on Armed Services of the Senate and the House of Representatives regarding the business case analysis performed as part of the defense resale optimization report titled "Study to Determine the Feasibility of Consolidation of the Defense Resale Entities," dated December 4, 2018. The consolidation of defense resale entities would be delayed until the report is received and accepted.

TITLE VII—HEALTH CARE PROVISIONS

ITEMS OF SPECIAL INTEREST

Chronic Traumatic Encephalopathy

The committee commends the research and work being conducted by the Department of Defense on traumatic brain injury (TBI).

However, the committee is seeking to understand the proportion of TBI research being dedicated to chronic traumatic encephalopathy (CTE). Therefore, the committee directs the Secretary of Defense to provide a report to the Committee on Armed Services of the House of Representatives not later than March 1, 2020, on the following:

(1) the proportion and amount of the Department of Defense medical research budget being dedicated to CTE;

(2) the projected number of service members potentially afflicted with CTE;

(3) the plan and methodologies used for the detection of CTE in service members and covered beneficiaries;

(4) the number of Department of Defense Graduate Medical Education programs that incorporate CTE into curricula;

(5) the therapeutics being developed for covered beneficiaries afflicted with CTE; and

(6) potential gaps in CTE research and detection methodologies.

Civilian Astronaut TRICARE

The committee is aware of the sacrifices and risks associated with serving as an astronaut or payload specialist with the National Aeronautics and Space Administration. This select population is exposed to hazardous environments that can result in injury and death. Currently, two-thirds of the currently living former astronauts were members of the military who are covered by TRICARE. The remaining one-third, however, are not eligible for this valuable benefit after years of dangerous and important service to their Nation. Therefore, the Secretary of Defense shall provide a briefing to the Committee on Armed Services of the House of Representatives no later than July 1, 2020, on the advisability and feasibility of providing TRICARE coverage to former astronauts and payload specialists.

Co-Location of Department of Defense and Department of Veterans Affairs Medical Facilities

The committee is concerned that the Department of Defense and Department of Veterans Affairs have not fully considered the potential benefits of co-locating military treatment facilities in geographic locations in close proximity to Department of Veterans Affairs medical facilities in areas like William Beaumont Army Medical Center, Naval Medical Center San Diego, Travis Air Force Base, and other similar locations. Therefore, the committee directs the Secretary of Defense to submit a report to the Committee on Armed Services of the House of Representatives by February 1, 2020, on the following:

(1) a list of facilities where co-location may be possible;

(2) a cost-benefit analysis that highlights efficiencies that could be gained by shared services, personal services contracts, equipment, and other resources; and

(3) a list of facilities that could benefit from a joint planning, design, and construction process for Department of Defense and Department of Veterans Affairs medical facilities.

Defense Health Command Organizational Structure

The committee recognizes the Department of Defense is undertaking the most significant reform in the history of the Military Health System (MHS). Congressional action over the last 3 years has sought to ensure the MHS standardizes business process, reduces unnecessary duplication of organizational structures while enhancing the readiness of service members, and ensures a robust TRICARE health benefit. However, it remains unclear whether the Defense Health Agency is the transformational organizational structure needed to move the MHS into the future. Section 711 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232) required the Department of Defense to study potential Defense Health Command organizational structures, but that report has not yet been completed. The committee encourages the Department of Defense to consider the most efficient structure that meets the congressional requirements to transform the Military Health System as it determines the feasibility of developing a Defense Health Command organization structure.

Food Allergies in the Peer Reviewed Medical Research Program

The committee recognizes the critical contribution that the Department of Defense research and development portfolio makes in protecting service members and their families from chronic, life-threatening conditions. The committee recognizes the need to sustain and support these efforts by fully funding research and development programs that carry out this work within the Department of Defense Health Program and the Peer Reviewed Medical Research Program. A recent study in the Journal of the American Medical Association indicated that more than 10 percent of the civilian population of the United States suffers from food allergies. If these figures were adjusted to the TRICARE population, it may translate into at least 400,000 beneficiaries that could be affected. Also important is that more than two-thirds of young adults do not qualify for military service due to poor physical fitness or other issues where the diagnosis of food allergy may adversely affect military recruiting and retention. The committee recognizes that the rapidly increasing rate of food allergy prevalence over the past two decades can have detrimental effects on readiness and can increase defense-related health care costs. The committee encourages investment in research on the causes, treatments, and cures for food allergies.

Government Accountability Office Review on Health Care Quality in the Military Health System

The committee understands the Military Health System strives to offer quality health care to service members and covered beneficiaries. However, the committee is concerned there may be some gaps in different quality metrics that assess the provision of health care services. Therefore, the committee directs the Comptroller General of the United States to conduct a review and submit a report to the Committee on Armed Services of the House of Representatives not later than February 1, 2020, that includes the following:

(1) the timeliness of urgent health care referrals to be appropriately referred in both the direct care system and purchased care system;

(2) an assessment of whether patients in the Military Health System are receiving the right amount of care when needed;

(3) an assessment of whether the Department of Defense is utilizing work conducted by the Agency for Healthcare Research and Quality and the Institute of Medicine in developing standardized health care quality metrics;

(4) an assessment on how many medical providers in the direct care system and purchased care system lost eligibility for malpractice insurance prior to working for the Department of Defense or would not be eligible for insurance were they not working for the Department of Defense; and

(5) any changes in patient safety metrics related to the implementation of the Genesis electronic health record.

Implementation Plan To Address the Impacts of Obesity on the Defense Enterprise

The committee remains concerned that persistent high rates of excessive weight and body fat pose long-term risks for national security to the extent they prevent the Department of Defense from its mission to recruit, retain and sustain an effective joint force. The committee recognizes the efforts of the Department of Defense in acknowledging these mission readiness challenges and observes the findings of numerous studies on excessive weight and body fat in the military population. The committee notes that the Department of the Defense is the largest public healthcare provider in the United States and is aware of estimates that the Department spends more than $1 billion annually in treating obesity-related illnesses for servicemembers and dependents. The committee also observes that despite multiple studies acknowledging the costs and systemic readiness challenges of obesity-induced illnesses in the military community, actions taken to date have been fragmented, uncoordinated, and generally ineffective in reversing the detrimental impacts this condition has on readiness and rising health care costs. The committee believes the Department must urgently address the challenges that obesity poses to mission readiness and the military healthcare system's capacity to provide care to servicemembers, dependents and retirees.

The committee therefore directs that the Undersecretary for Personnel and Readiness provide a briefing to the congressional defense committees by January 15, 2020 on the Department's implementation plan to address weight and obesity impacts on military servicemembers and dependents in the active and reserve component. This plan will include a

(1) a description of the Department's goals, and how it will measure progress toward these goals;

(2) how it will incorporate cross-functional strategies to align efforts across the services, commands, agencies, and the broader defense health enterprise;

(3) how it will expand access to healthy food and fitness facilities in military communities;

(4) how it will implement nutritional standards for food offered in military dining facilities, defense resale entities, and contract vendors; and

(5) how it will use existing acquisition authorities to catalyze innovative partnerships to rapidly prototype scalable technology-enabled solutions that improve health and wellness for servicemembers and dependents across their daily lives.

Innovative Traumatic Brain Injuries Preventative Device Research

The committee commends the Department for its ongoing efforts to combat Traumatic Brain Injuries (TEI). With over 380,000 TBIs documented within the services since 2000, the committee remains concerned about service members sustaining TBIs in training and in combat, particularly within the US Army.

The committee understands that to date there has been limited focus and funding aimed at research for preventative solutions (other than helmets and training) to mitigate the severity of, or prevent entirely, TBI events despite the fact that such solutions are currently being developed in the commercial sector. For example, the committee is aware of collar-based technology that when worn around the neck has been shown to reduce the frequency and severity of TBIs. The committee believes it would be prudent for the Army to prioritize and initiate active research on protective devices such as these to determine their benefit and applicability to the force.

Therefore, the committee directs the Secretary of the Army to provide a briefing to the Committees on Armed Services of the Senate and House of Representatives, not later than January 1, 2020, on the Army's efforts in the area of TBI mitigation. The briefing shall include a description of the Army's current and past research on TBI preventative devices, the Army's plan to incorporate new innovate TEI preventative devices into their research efforts, and possible paths for the rapid fielding of such devices.

Malaria and Malaria Vaccine Development

The committee recognizes the critical contribution that the Department of Defense research and development portfolio makes in protecting service members from infectious diseases they may encounter on missions around the world. The committee recognizes the need to sustain and support this work by fully funding research and development programs that carry out these activities within the Department of Defense Health Program and Department of the Army and Department of the Navy Research, Development, Test and Evaluation budgets, including the Military Infectious Diseases Research Program, the Walter Reed Army Institute of Research, and the Navy Medical Research and Development Center. The committee in particular commends the research on malaria and malaria vaccines conducted by the Walter Reed Army Institute of Research and the Navy Medical Research and Development Center and encourages sustained investment in these areas.

Military Wellness Information Synthesis

The committee is concerned that gaps between disparate health databases may pose a risk to the readiness of service members in

the Armed Forces. The committee also understands the need to harness the power of data and transform it into meaningful information, requires tools like algorithms, artificial intelligence and agile information system architecture. Therefore, the committee encourages the Department of Defense to continue seeking ways to partner with industry and develop internal processes that can leverage big data for strategic decision making that also has the power to make important contributions to individual service member readiness.

Naval Medical Research Unit Dayton Disorientation Research Device

The committee notes the importance of the work being conducted on spatial disorientation at the Naval Aerospace Medical Research Lab at Naval Medical Research Unit-Dayton on Wright-Patterson Air Force Base, Ohio. Spatial disorientation represents one of the most significant non-combat causes of aviation mishaps. A new Navy research tool, the Disorientation Research Device, known as the "Kraken," has the ability to provide unprecedented research capability to address the persistent threat of spatial disorientation. The committee encourages the Secretary of Defense to make effective use of this valuable research capability to reduce the risk of spatial disorientation and to evaluate human factors like operational effectiveness, performance, and safety in range of moving vehicles.

Post-Traumatic Stress Disorder Drug Therapy

The committee is encouraged by recent medical advancements in the treatment of post-traumatic stress disorder (PTSD). This emphasis on treatment is essential given that the Veterans Administration estimates that between 11 and 20 percent of Operation Iraqi Freedom and Operation Enduring Freedom veterans have PTSD in a given year. As a part of these advances, both the Department of Defense and private companies have worked to develop new drug therapy, some of which are in the Phase 3 clinical trial stage. The committee encourages the Department to continue partnerships with private drug developers and to fund Phase 3 clinical trials for PTSD drugs when appropriate. However, there are concerns that additional emphasis should be placed on the advanced development of pharmaceuticals that show increasing effectiveness throughout clinical trials. Therefore, the committee directs the Secretary of Defense to provide a briefing to the House Committee on Armed Services by January 1, 2020, on the current efforts underway to develop effective PTSD drug therapy, along with a description of existing partnerships with private drug developers, and the amount of Federal funding they receive.

Report on Access to Health Care Services for Reserve and National Guard Who Disclose Sexual Assault

The Committee is concerned that if a Reserve Component (RC) service member is sexually assaulted while not in an active status, they are ineligible for DoD medical care (to include psychological health care) to treat symptoms from the trauma. Sexual assault, regardless when it occurs, is likely to impact duty performance and

degrade mission effectiveness, and RC service members often execute military missions alongside their active duty counterparts. Medical treatment, to include psychological health treatment, can assist in recovery and enhance mission effectiveness and should be available regardless of service member's duty status. The Committee directs the Secretary of Defense to report to the House Committee on Armed Services by January 1, 2020 on the feasibility of providing medical care, to include psychological care, to members of the RC who are sexually assaulted while not in an active status.

Report on Expanding TRICARE Benefits To Include Coverage To Allow for Medical Treatment for Sexual Dysfunction Related to Sexual Assault or Harassment

The Committee is concerned that service members who have been sexually assaulted or harassed do not have access to treatment for sexual dysfunction related to sexual assault or harassment through TRICARE. Service members who experience sexual assault or sexual harassment often struggle with subsequent sexual dysfunction, and may benefit from mental health treatment by an expert provider who treats sexual dysfunction, either as a stand-alone treatment, or in combination with medication. The Committee directs the Secretary of Defense to brief the House Committee on Armed Services no later than January 1, 2020 on the feasibility of providing treatment for sexual dysfunction related to sexual assault or harassment.

Report on Pre-Hospital Tactical Combat Trauma Training

The committee is interested in the continued development of tactical combat casualty care and notes the pivotal role it has played in saving the lives of wounded service members. However, the committee is concerned about the wide variation and lack of a standardized teaching methodology for pre-hospital tactical combat casualty care that could result in adverse casualty outcomes in the operational environment. Therefore, the committee directs the Secretary of Defense to submit a report to the Committee on Armed Services of the House of Representatives not later than May 1, 2020, on the development of a comprehensive strategy that addresses the standardization of pre-hospital tactical combat casualty care, as well as hospital and pre-hospital partnerships that include the American College of Surgeons, the National Association of Emergency Medical Technicians, and other organizations that may provide vital training, standards, and best practices that help improve the continuum of battlefield care. The report shall also include analysis of preventative medicine partnership programs, such as orthopedic surgery, that contribute to the medical readiness of military medical providers as they relate to tactical combat casualty care.

Report on Service Member Discharges Related to Human Immunodeficiency Virus or Hepatitis B

The committee remains concerned about the implementation of the Department of Defense Retention Policy for Non-Deployable Service Members as it relates to service members with Human Immunodeficiency Virus (HIV) or Hepatitis B. Therefore, the com-

mittee directs the Secretary of Defense to submit a report to the Committee on Armed Services of the House of Representatives not later than February 1, 2020, that includes:

(1) the number of service members discharged over the previous year as part of the Department of Defense Retention Policy for Non-Deployable Service Members;

(2) the number of service members discharged because of non-deployability associated with HIV;

(3) the number of service members discharged because of non-deployability associated with Hepatitis B; and

(4) an explanation of any updates to personnel policies made by the Department of Defense for individuals living with HIV or Hepatitis B, or other diseases who are, as a result of their disease, impacted by this policy.

Research to Reduce Deaths Due to Hemorrhaging

The committee remains concerned that a platelet shortage for hemorrhage control continues to impact battlefield casualties. With challenges in logistics and limitations on current platelet products, the committee believes further research of freeze-dried blood products would reduce the loss of life. The committee encourages the Department of Defense to rapidly advance the research and development of freeze-dried hemostatic products, especially platelet-derived products, beyond their current stage. Therefore, the committee recommends that freeze-dried platelet derived hemostatic agents be included in the Army's top medical priorities and directs the Assistant Secretary of Defense for Health Affairs to instruct the Defense Health Agency to further investigate the value of a freeze-dried, platelet-derived hemostatic agent. The committee further directs that the Secretary of the Army shall investigate the potential long-term use as a component in support of any incident that occurs under the Emergency Use Authorization Act.

Service Member Diet and Nutrition

The committee notes that between 2001 and 2011, almost a million service members or former service members were diagnosed with at least one psychological disorder either during or after deployment. A 2009 Department of Defense and National Institutes of Health conference ("Nutritional Armor for the Warfighter") identified that excessive Omega-6 and inadequate Omega-3 in the food military personnel eat has a negative effect on physical and mental health. In October 2013, the Defense Science Board reported that "restoring Omega-3 fatty acids, magnesium, vitamin-D or other nutrients to optimal levels may not only improve performance, but may restore impaired personnel to healthy and fit status . . . These and similar strategies are designed to provide the warfighter with a range of benefits to maintain peak physical and cognitive abilities both during the mission and over the long term." The Department's Combat Feeding Program is designed to optimize rations for performance fueling of the warfighter, conducting multiple studies on ration enhancements, including rebalancing Omega-6/Omega-3 fatty acids ratio. Moreover, service member diet and nutrition is a critical preventive component of military readiness. The committee encourages the Secretary of Defense to complete efforts

to develop a holistic program integrating effective dietary strategies to sustain health and performance by fiscal year 2020 and move rapidly to implement a long-term enterprise-wide nutrition policy that considers a science-based approach to service member diets geared toward enhancing service member performance and maximizing combat effectiveness.

Translational Application of Mental Health Evidence Base

The committee is concerned by the pace of translating research on post-traumatic stress disorder (PTSD), pain management, major depressive disorders (MDDs), and substance abuse into practical application that can be disseminated into clinical practice guidelines across the Department of Defense. Building on the committee report accompanying the National Defense Authorization Act for Fiscal Year 2019 (H. Rept. 115–676), the committee directs the Secretary of Defense to provide a briefing to the Committee on Armed Services of the House of Representatives not later than February 1, 2020, on the following:

(1) the tracking of patients who receive their care in primary care clinics (which frequently occurs, particularly for depression), those seen by embedded providers on operational platforms, and those who use purchased care for some or all of their care;

(2) the process that ensures a formalized methodology for translating and tracking evidence-based research and treatments for PTSD, MDD, pain management, and substance abuse across the Department of Defense; and

(3) the mechanism for the Defense Health Agency to track and assess substance abuse programs that may reside in the military departments.

TRICARE Reserve Select Study

The committee remains concerned about Reserve Component service members using limited training time to address required health evaluations. The consumption of training time for purposes like medical preparedness that is not directly related to military readiness training may inhibit unit lethality. The lack of a TRICARE Reserve Select option for dual-status technicians impacts Reserve Component recruiting and retention efforts. The committee therefore directs the Secretary of Defense to submit a report to the Committee on Armed Services of the House of Representatives not later than April 1, 2020, that includes the following:

(1) administrative, policy, statutory, and technical changes that could reduce the administrative burden on the military;

(2) the program cost associated with providing TRICARE Reserve Select for medical, dental, and vision care to dual-status technicians;

(3) the out-of-pocket costs involved with providing TRICARE Reserve Select for medical, dental, and vision care to dual-status technicians compared to the Federal Employees Health Benefits Program;

(4) the amount of funding currently budgeted for Reserve Component health care;

(5) the readiness and quality of life impacts associated with providing Reserve Component service members with TRICARE Reserve Select; and

(6) an economic analysis of whether the cost of providing TRICARE Reserve Select for dual-status technicians is feasible when considering the readiness and time constraints of Reserve Component service members.

TRICARE Specialty Drug Network Accessibility

The Committee is concerned that the Pharmacy Benefits Manager (PBM) acting on behalf of TRICARE under the Office of Defense Health Affairs is restricting access for additional accredited pharmacies to the TRICARE specialty drug network without consideration or evaluation. The Committee is concerned that these actions by the PBM limits the maximum pricing competition possible, as well as reduces the widest degree of beneficiary access to drug therapies within TRICARE's specialty drug network.

The Committee directs the Secretary of Defense to submit a report to the defense authorization committees by February 1, 2020 that: evaluates TRICARE's pharmacy benefits management responsibilities and requirements; outlines the clear process for consideration, evaluation, and admission of additional and new accredited pharmacies to the TRICARE specialty drug network; and provides a cost analysis for adding new entrants into the specialty drug network.

Unhealthy Alcohol Use Report

The committee is concerned that harmful alcohol use persists among Active Duty personnel and that trends have remained unchanged for years based on the 2015 Department of Defense Health Related Behaviors Survey results published in 2018. In the report, one-third of service members reported binge drinking in the past 30 days and 35 percent engaged in hazardous or disordered drinking. High levels of alcohol misuse have translated into significant increases in mental health and health care utilization within the military. Finally, alcohol abuse is also associated with increased rates of suicide, alcohol-related misconduct, family problems, and increased medical costs. Taken together, these factors can significantly impair and diminish force readiness among Active Duty personnel.

Therefore, the committee directs the Secretary of Defense to submit a report to the Committee on Armed Services of the House of Representatives by January 1, 2020, that contains the following:

(1) the current Department-wide and service efforts to decrease the deleterious effects of alcohol on Active Duty personnel;

(2) the implementation of current, effective, evidence- and population-based interventions to curb harmful alcohol use;

(3) the incidence rate of sexual assaults and domestic violence involving alcohol-related events;

(4) the feasibility of efforts taken to streamline the effective evidence-based alcohol abuse prevention programs employed by the services so that common elements are more standardized and jointly managed; and

(5) the feasibility of adapting a National Institute of Alcohol and Alcohol Abuse-endorsed, effective web-based intervention developed by academia for the collegiate population to prevent and reduce harmful alcohol consumption, for a similarly aged military cohort pilot study.

University Affiliated Research Center

The committee notes the important relationship between the Department of Defense and the Department-sponsored University Affiliated Research Center (UARC) laboratories in providing critical science, technology, and engineering research that support the warfighter. The committee encourages the Assistant Secretary of Defense for Health Affairs to establish a UARC to focus on the unique challenges wounded servicemembers experience. Emphasis should be placed on research that reduces dependency on opioids, develops novel pain management and mental health strategies, and leverages partnerships with industry and medical device manufacturers to advance promising technologies for wounded servicemembers.

Wounded Warrior Service Dog Program

The committee is aware that Congress has appropriated funds for a competitive grants program to qualified non-profit organizations to provide assistance dogs to service members and/or veterans with disabilities across diverse geographic regions and population demographics. The program has received appropriations under the authority of the Defense Health Program, Operation and Maintenance, "therapeutic service dog training program." The Uniformed Services University of the Health Sciences has solicited grant applications from non-profit institutions committed to connecting trained service dogs with service members and veterans. The committee encourages the Secretary of Defense to fund this program and continue efforts to research the effectiveness of these treatments in support of service members recovering from post-traumatic stress disorder and other post-deployment mental health conditions.

LEGISLATIVE PROVISIONS

SUBTITLE A—TRICARE AND OTHER HEALTH CARE BENEFITS

Section 701—Contraception Coverage Parity under the TRICARE Program

This section would amend section 1074d of title 10, United States Code, to allow members and former members of the uniformed services access to care related to the prevention of pregnancy with no cost sharing.

Section 702—Pregnancy Prevention Assistance at Military Medical Treatment Facilities for Sexual Assault Survivors

This section would amend section 1074 of title 10, United States Code, to provide information and assistance to sexual assault survivors at military medical treatment facilities.

Section 703—Modification of Eligibility for TRICARE Reserve Select for Certain Members of the Selected Reserve

This section would amend section 1076 of title 10, United States Code, by removing the restriction of Federal employees who are National Guard or Reserve Component service members from purchasing TRICARE Reserve Select beginning in the year 2030.

Section 704—Lead Level Screenings and Testings for Children

This section would amend section 1077 of title 10, United States Code, by including lead level testing in the TRICARE program for children meeting specific criteria, and would require the Secretary of Defense to submit a report to the congressional defense committees not later than January 1, 2021, detailing de-identified information regarding lead level screening in children. This section would also require the Comptroller General of the United States to submit a report to the congressional defense committees by January 1, 2022, on the effectiveness of the Department of Defense lead screening program for children.

Section 705—Exposure to Open Burn Pits and Toxic Airborne Chemicals or Other Airborne Contaminants as Part of Periodic Health Assessments and Other Physical Examinations

This section would ensure periodic health assessments and physical examinations provided by the Department of Defense include specific information related to exposure to burn pits, toxic airborne chemicals, and other airborne contaminants. This information would also be shared between the Department of Defense and the Department of Veteran Affairs.

Section 706—Enhancement of Recordkeeping and Postdeployment Medical Assessment Requirements Related to Occupational and Environmental Hazard Exposure during Deployment

This section would amend section 1074 of title 10, United States Code, by requiring the Secretary of Defense to record occupational and environmental health risks for service members and ensure the electronic health record is updated with information from the Department of Veterans Affairs Airborne Hazards and Open Burn Pit Registry.

Section 707—Modifications to Post-Deployment Mental Health Assessments for Members of the Armed Forces Deployed in Support of a Contingency Operation

This section would amend section 1074 of title 10, United States Code, by requiring a mental health assessment for members of the Armed Forces within 14 days after redeployment from a contingency operation.

Section 708—Provision of Blood Testing for Firefighters of Department of Defense to Determine Exposure to Perfluoroalkyl and Polyfluoroalkyl Substances

This section would require the Secretary of Defense to provide blood testing for each Department of Defense firefighter during the

annual physical exam to determine and document potential exposure to perfluoroalkyl and polyfluoroalkyl substances.

SUBTITLE B—HEALTH CARE ADMINISTRATION

Section 711—Requirements for Certain Prescription Drug Labels

This section would amend section 1074g of title 10, United States Code, to clarify that drugs made available through military treatment facilities include labels that are printed with specific directions for the purposes for which the drug is intended.

Section 712—Officers Authorized to Command Army Dental Units

This section would amend section 7081(d) of title 10, United States Code, to remove the requirement of having a Dental Corps Officer command dental units.

Section 713—Improvements to Leadership of Interagency Program Office of the Department of Defense and the Department of Veterans Affairs

This section would amend section 1071 of title 10, United States Code, by revising the personnel qualifications and appointment requirements for the Director and Deputy Director of the Joint Department of Defense and Department of Veterans Affairs Interagency Program Office.

Section 714—Inclusion of Blast Exposure History in Medical Records of Members of the Armed Forces

This section would require the Secretary of Defense, in coordination with the Secretaries of the military departments, to ensure blast pressure exposure history is included in the military medical records of members of the Armed Forces, and submit to the Committees on Armed Services of the Senate and House of Representatives a report on the data requirements regarding blast pressure exposure information included in the military medical records of members of the Armed Forces.

Section 715—Comprehensive Policy for Provision of Mental Health Care to Members of the Armed Forces

This section would require the Secretary of Defense, acting through the Under Secretary of Defense for Personnel and Readiness, to develop and implement a comprehensive policy for the provision of mental health care to members of the Armed Forces. This section would also require the Secretary of Defense to submit a report to the Committees on Armed Services of the Senate and the House of Representatives not later than 18 months after the date of the enactment of this Act on implementation of the policy.

Section 716—Limitation on the Realignment or Reduction of Military Medical Manning End Strength

This section would prohibit the Secretary of Defense and the Secretaries of the military departments from realigning or reducing military medical end strength until the Secretary of Defense submits a report to the Committees on Armed Services of the Senate

and the House of Representatives on whether specific conditions and analyses related to the provision of health care services have been completed.

Section 717—Strategy to Recruit and Retain Mental Health Providers

This section would require the Secretary of Defense to submit a report on the shortage of mental health providers in the Department of Defense and develop a strategy to recruit mental health professionals.

Section 718—Monitoring Medication Prescribing Practices for the Treatment of Post-Traumatic Stress Disorder

This section would require the Secretary of Defense to submit a report to the Committees on Armed Services of the Senate and the House of Representatives on post-traumatic stress disorder medication prescribing practices and establish a monitoring program for the Armed Forces.

SUBTITLE C—REPORTS AND OTHER MATTERS

Section 721—Establishment of Military Dental Research Program

This section would amend section 2116 of title 10, United States Code, by authorizing the creation of a TriService Dental Research Program at the Uniformed Services University of the Health Sciences.

Section 722—Pilot Program on Cryopreservation and Storage

This section would require the Secretary of Defense to establish a pilot program on cryopreservation and storage for not more than 1000 members of the Armed Forces serving on Active Duty and deploying to a combat zone.

Section 723—Encouragement of Participation in Women's Health Transition Training Pilot Program

This section would require the Secretaries of the military departments to encourage participation in the Women's Health Transition Training pilot program administered by the Department of Veterans Affairs, and would require the Secretary of Defense to submit a report to the Committees on Armed Services of the Senate and the House of Representatives by September 30, 2020, assessing the pilot program.

Section 724—National Guard Suicide Prevention Pilot Program

This section would authorize the Chief of the National Guard Bureau to carry out a pilot program to expand suicide prevention and intervention efforts at the community level through the utilization of smartphone and other handheld applications to provide in-the-moment support to service members.

Section 725—Reports on Suicide among Members of the Armed Forces

This section would require the Secretary of Defense to conduct a review and submit a report to the Committees on Armed Services of the Senate and the House of Representatives on suicide among members of the Armed Forces and provide specific metrics related to the effectiveness of suicide prevention initiatives.

Section 726—Study on Military-Civilian Integrated Health Delivery Systems

This section would require the Secretary of Defense to conduct a study on the use of local military-civilian integrated health delivery systems in specific geographic areas where military medical treatment facilities have existing contractual relationships with local civilian health care networks.

Section 727—Study on Case Management at Military Medical Treatment Facilities

This section would require the Secretary of Defense to conduct a study on the effectiveness of case management practices at military medical treatment facilities and to provide a report to the Committees on Armed Services of the Senate and the House of Representatives.

Section 728—Study on Infertility among Members of the Armed Forces

This section would require the Secretary of Defense to conduct a study on infertility among service members of the Armed Forces and provide a report on the study to the Committees on Armed Services of the Senate and the House of Representatives.

TITLE VIII—ACQUISITION POLICY, ACQUISITION MANAGEMENT, AND RELATED MATTERS

ITEMS OF SPECIAL INTEREST

Assessment of Defense Sustainment Enterprise

The committee directs the Under Secretary of Defense for Acquisition and Sustainment to provide a comprehensive report to the House Committee on Armed Services not later than December 31, 2019, assessing the defense sustainment enterprise in order to identify the capability of that enterprise to support the National Defense Strategy and alternatives to improve the effectiveness, efficiency, and affordability of the overall defense sustainment enterprise. The report shall include:

(1) the appropriate balance of leadership attention to acquisition and sustainment;

(2) organizational structures;

(3) the national industrial base (including both organizations organic to the Department of Defense and commercial organizations), including the right size and composition of the industrial base regarding organic and commercial technology to take best advantage

of all capabilities in view of the National Defense Strategy, and depot determinations within the industrial base (organic and commercial), focused on warfighting requirements;

(4) accountability of the Defense Materiel Enterprise for outcomes tied to readiness requirements;

(5) such other matters as are needed to provide a full and accurate assessment of the defense sustainment enterprise; and

(6) the Secretary's plan for any steps to be taken to address the cases identified above within the Department of Defense and such recommendations for legislative action as the Secretary considers appropriate as a result of the review.

The committee notes that sustainment currently lacks equal footing with development and procurement during the acquisition phase of a program. The committee further notes that while the Department of Defense must be able to immediately counter multipronged, prolonged threats, the current logistics and sustainment system lacks the agility needed to do so. The committee agrees with the acquisition advisory panel established under section 809 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92), which highlighted in its final report, dated January 15, 2019, a number of concerns related to lack of product support and sustainment management which has led to degraded weapon system readiness, rising sustainment costs, and insufficient supply support.

Assessment of Program Management Structure and Improvements

The committee directs the Secretary of Defense to provide a report to the House Committee on Armed Services not later than December 31, 2019, assessing the acquisition training of program managers. The report shall include a comprehensive plan to improve program management capacity and workforce competency, to include:

(1) appropriate subject matter experience, education, years of experience, certifications, and other qualifications set forth separately for current Department of Defense employees and personnel in program management positions;

(2) a plan for career training, including training in leadership, program management, engineering, finance and budgeting, market research, business management, contracting, supplier management, requirement setting and tradeoffs, intellectual property matters, and software;

(3) a description of benefits using existing human capital flexibility to retain qualified employees, such as student loan repayments, bonuses, or pay banding;

(4) a description of use of the Defense Acquisition Workforce Development Fund (DAWDF) established under section 1705 of title 10, United States Code, to train personnel in program management positions; and

(5) a description of how the program will be administered and overseen by the Secretaries of each military department, acting through the service acquisition executive for the department concerned and integrated with existing program manager development efforts.

The committee notes that this review and plan should facilitate implementation of the portfolio management structure the Depart-

ment has already undertaken. As the Department works to streamline and improve the defense acquisition system, American National Standards Institute (ANSI)-accredited standards should be a main source for policy updates and guidance around program management. The committee encourages working toward closing any gaps between current Department policy and the ANSI-accredited standards to streamline disparate delivery methods into a common delivery platform that drives consistent performance across the Department and its industrial base while ensuring compliance with Office of Management and Budget Circulars A–11 and A–119 and Public Law 114–264. The committee also notes that DAWDF is a primary funding source for program and project manager training and development, but inconsistent access across the Department that prevents many professionals from accessing this support should be addressed.

Assessment of the Use of Tantalum

The committee directs the Under Secretary of Defense for Acquisition and Sustainment to provide a report to the House Committee on Armed Services not later than December 31, 2019, assessing the current use of the critical material tantalum in Department of Defense acquisition programs. The report shall include an assessment of the current levels of tantalum in the National Defense Stockpile and the source countries involved in the purchase of the raw material. The report shall also include information on domestic and foreign sources for both procuring and processing tantalum that the Department has identified. The report submitted shall be classified at levels appropriate to and sufficient for access to data necessary for a comprehensive review of the subject and related information but must include an unclassified summary of findings and recommendations. The Under Secretary may submit comments, if any, to accompany the report's classified or unclassified findings and recommendations.

Assessment of Training Needs for Non-Acquisition Workforce Personnel

The committee recognizes the importance of non-acquisition workforce personnel who work on acquisitions at the Department of Defense, especially personnel who play a significant role in defining requirements, conducting market research, participating in source selection and contract negotiation efforts, and overseeing contract performance. However, the committee is concerned that the Department has limited visibility into the non-acquisition workforce, including personnel who may not be receiving acquisition training that would enhance their contributions.

The committee directs the Secretary of Defense to provide a report to the House Committee on Armed Services by February 1, 2020, that assesses the unmet demand for courses and modules offered by the Defense Acquisition University. The report shall include an assessment of the fiscal year 2019 courses and modules offered by Defense Acquisition University, the extent that non-acquisition workforce are taking acquisition training, and the courses and modules that have wait lists by the start of the course or module. The report shall also address the number of courses and mod-

ules with wait lists as well as the number and type of non-acquisition personnel on the wait lists, including staff who support foreign military sales processes.

Further, the report should include plans for how the Department will meet the training needs for non-acquisition workforce personnel. The report should address how the Department will identify and track non-acquisition workforce personnel who play a significant role in the acquisition process. Lastly, the report should also address the extent to which additional acquisition training is needed for non-acquisition workforce personnel, including the types of training needed, the positions that need the training, and any challenges to delivering necessary additional training.

Briefing on Sustainment Plan for Maintaining Access to MIL–PRF–19500 Parts

The committee recognizes the important role that military specification semiconductor devices perform in a broad array of space, satellite, and strategic defense applications. These components form the backbone of critical defense and space designs by providing power and control to satellite, aircraft, and missiles and must be able to withstand environmental stress such as extreme temperature, radiation, shock, and vibration. The committee is aware of possible disruptions to the supply of over three thousand critical components that meet MIL–PRF–19500 specifications as production ceases or domestic fabrication is relocated outside of the United States. Therefore, the committee directs the Under Secretary of Defense for Acquisition and Sustainment to provide a briefing to the House Committee on Armed Services by January 15, 2020, on the status of the domestic supply chain for MIL–PRF–19500 qualified discrete parts and the sustainment plan for maintaining access to these qualified parts.

Communication with the Marketplace

The committee notes that despite attempts to increase industry interaction by government-wide and Department of Defense acquisition leaders since Congress enacted the Federal Acquisition Streamlining Act of 1994 (Public Law 103–355), Department of Defense acquisition personnel and individuals in the marketplace have expressed concern about communicating with each other openly and frequently, believing it is either prohibited or fraught with risk, fearing possible legal violations or being challenged by oversight functions in government and through the protest processes. The committee further notes, however, that this fear is not rooted in law; there are very few restrictions that apply to communications with the marketplace.

The committee recognizes that communications with the marketplace on an ongoing basis are essential to acquiring intelligence in terms of what the marketplace has to offer and acquiring and maintaining technological superiority that might be employed by Department of Defense to counter threats. More importantly, such communications would allow the Department to get inside the turn of near-peer competitors and non-state actors in terms of delivering lethality to our warfighter in a timely and cost-efficient manner.

The committee wants to make it clear that, with very limited exceptions, communication is not only encouraged and authorized, but essential when engaged in an acquisition function.

Comptroller General Report on Procurement Technical Assistance Centers

The committee notes that little is known about the effectiveness of the Procurement Technical Assistance Program and its centers, known as Procurement Technical Assistance Centers (PTAC), in helping businesses pursue and perform under contracts with the Department of Defense, other Federal agencies, State and local governments, and government prime contractors. The committee is concerned that these centers have not been utilized to their fullest capacity to expand the number of businesses capable of participating in government contracts and whether they duplicate services available elsewhere.

Therefore, the committee directs the Comptroller General of the United States to assess the services that PTACs provide to businesses seeking participation in Federal procurement. The review shall address:

(1) the number of PTACs and their geographic distribution;

(2) what is known about the number of businesses that are assisted annually by PTACs;

(3) how businesses obtain access to PTAC services, including through procurement events sponsored by other agencies (for example, matchmaking events), classroom instruction, and counseling;

(4) training requirements and their implementation for PTAC staff members providing services to businesses;

(5) the mechanism used to determine PTAC funding;

(6) what statistics are collected to measure the performance and effectiveness of PTACs; and

(7) any other matters deemed important by the Comptroller General.

The committee further directs the Comptroller General to provide a briefing to the House Committee on Armed Services not later than March 2, 2020, on the Comptroller General's preliminary findings, and to submit a final report to the congressional defense committees on a date agreed to at the time of the briefing.

Comptroller General Report on the Joint Capabilities Integration and Development System Timelines

The committee notes that there have been longstanding concerns about the effectiveness and efficiency of the Joint Capabilities Integration and Development System (JCIDS) process. In 2008, the Government Accountability Office (GAO) found that most of the capability proposals that had gone through the process were approved, and that the process was not effective in identifying and prioritizing warfighting needs from a joint, department-wide perspective at the Department of Defense (DOD). Since that time, GAO has made numerous recommendations to improve DOD's ability to prioritize joint capability needs.

The National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) modified the responsibilities of the Joint Requirements Oversight Council (JROC), which oversees the JCIDS

process, to focus on critical joint military capabilities. The Act also generally designated non-joint performance requirements as the responsibility of the Chief of Staff of the military service concerned and stated that these performance requirements were not required to be validated by the JROC. The committee is aware that the Joint Staff began implementing revised procedures for the JCIDS process effective in November 2018 to address these modifications.

Therefore, the committee directs the Comptroller General of the United States to assess the effects of the recent revisions to the JCIDS process. At a minimum, the review shall address:

(1) how the JCIDS process has been revised to address the modifications to the requirements process subsequent to the National Defense Authorization Act for Fiscal Year 2017;

(2) the extent to which joint performance requirements have been established and validated by the JROC since revised procedures were implemented and the timeframes associated with validating those requirements;

(3) the extent to which the recent revisions to the process met anticipated goals and created challenges; and

(4) the extent to which the military services have assessed whether they have effective processes and sufficient qualified workforces to perform their requirements development and validation responsibilities.

The committee further directs the Comptroller General to provide a briefing to the House Committee on Armed Services not later than December 1, 2020, on the Comptroller General's preliminary findings, and to submit a final report to the congressional defense committees on a date agreed to at the time of the briefing.

Comptroller General Report on the Use of Fixed-Price Incentive Contracts

The committee notes that the Department of Defense has increasingly favored the use of fixed-price incentive (FPI) type contracts, particularly for the development and initial production of major defense acquisition programs (MDAPs). In response to guidance issued by the Department, the military services have generally incorporated FPI type contracts into requests for proposals for both the development and early production of their major weapons systems.

The committee is concerned by the lack of information on the relative benefits and costs associated with the Department's increased reliance on FPI contracts, including for Foreign Military Sales (FMS). Therefore, the committee directs the Comptroller General of the United States to submit a report to the congressional defense committees not later than July 31, 2020, on the use of FPI type contracts for major systems within the Department since 2010. The report shall address, but not be limited to, the following elements:

(1) the number of FPI and firm-fixed-price (FFP) contracts awarded by the Department since 2010;

(2) a comparison of the average length of time for the Department to negotiate FPI and FFP contracts;

(3) a comparison of the average length of time for the Department to close out FPI and FFP contracts;

(4) a comparison of the average costs to the Department and contractor to close out FPI and FFP contracts; and

(5) the number of times the Department has transitioned to FFP contracts when actual costs on prior related contracts were within 3–4 percent of negotiated costs.

The report shall also address certain elements unique to contracting in support of FMS cases, including:

(1) the number of times the Department used a waiver or exception to use a contract type other than FFP to award an FMS contract;

(2) the number of FMS contracts or contracts with FMS-specific contract line item numbers (CLINs) issued by the Department on an FPI versus FFP basis;

(3) the number of the above FMS FPI contracts and CLINs that have been closed out;

(4) the procedure for closing out the above FMS FPI contracts and CLINs; and

(5) how the Department addresses cost underruns or overruns on FMS FPI and FFP contracts and CLINs.

The committee further directs the Comptroller General to provide a briefing to the House Committee on Armed Services not later than February 3, 2020, on the Comptroller General's preliminary findings.

Defense Production Act Title III Funding

The committee directs the Under Secretary of Defense for Acquisition and Sustainment to submit a report to the House Committee on Armed Services not later than December 31, 2019, on any legal or resource barriers to the expeditious investment of appropriated Defense Production Act (DPA) Title III funds, including the requirement for a non-delegable Presidential determination. The report shall identify methods to invest in new technologies consistent with Department of Defense modernization priorities. The committee recognizes the value of the DPA Title III program in investing in domestic production capabilities critical to our national defense and urges the DPA Title III office to explore investment in innovative technologies consistent with the military services' modernization priorities, including for operating in contested environments.

Expansion of the GSA Pilot Authorized under FY18 NDAA Section 846

The committee notes the value of the online procurement models being piloted by the GSA's Online Marketplace, and appreciates the benefits of the Defense Department's ability to utilize e-commerce acquisitions processes for certain commercial items.

However, numerous constituents have brought to light significant concerns with respect to data protections under the current pilot system. The committee notes that participating small businesses are particularly vulnerable to harms resulting from the revelation of pricing or other sensitive business information if a sufficient data protection regime is not in place. The committee is concerned that entities with both online marketplace portal administrator access and seller access may reap an unfair advantage over entities who are only sellers.

Therefore the committee directs the Administrator of the General Services Administration to conduct a pilot on all three models to include the e-commerce model, the e-marketplace model, and the e-procurement model. The Administrator of the General Services Administration is directed to provide the appropriate congressional committees a report on the plan and schedule of the pilot programs by December 15, 2019.

Innovative Construction Materials and Design Process for Military Engineering in Cold Regions

The committee is aware that the Arctic region presents significant economic, defense, homeland security, and diplomatic challenges and opportunities for the United States. In order to meet the nation's strategic goals, the Department of Defense is well positioned to develop a combination of infrastructure and remote sensing strategies to monitor changing conditions and increasing international activities in the Arctic, maintain the region's general atmosphere of peace and stability, execute search and rescue missions, preserve unique ecosystems, and ensure economic and homeland sovereignty.

Related to these strategic goals, the committee is concerned that the Department of Defense may face challenges when operating in the Arctic, sub-Arctic, and other extreme cold environments. The committee is aware that the Department of Defense has developed an implementation plan for the National Strategy for the Arctic Region. The committee notes that implementation of the plan entails engineering challenges such as the ability to construct, maintain, and retrofit horizontal and vertical infrastructure in cold regions.

The committee directs the Secretary of Defense to require an assessment based on both laboratory and full-scale accelerated testing of advanced construction techniques and materials needed to address the challenges of changing physical environments, that will enable the Department of Defense to rapidly project force and maintain position in austere cold regions. The committee directs the Secretary of Defense to provide a briefing to the House Committee on Armed Services by March 1, 2020, on its plans for performing lab and full-scale tests of advanced construction techniques and materials for extreme cold environments. The committee further directs the Secretary of Defense to provide a report to the House Committee on Armed Services by March 1, 2021, on the results of this assessment and the requirements for adaptive construction techniques and innovative materials for extreme cold environments.

Insight regarding Use of Lowest Price Technically Acceptable Source Selection Criteria

The committee recognizes that there is a continued need for insight and transparency regarding the extent to which lowest price technically acceptable (LPTA) source selection criteria are used by executive agencies. The committee also notes that the Department of Defense has not revised the Defense Federal Acquisition Regulations Supplement (DFARS) nor has the Office of Federal Procurement Policy (OFPP) revised the Federal Acquisition Regulation (FAR) to reflect the revised LPTA source selection criteria specified

in the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) and John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232), respectively. The committee remains interested in the Department's and the OFPP's efforts to verify that the use of LPTA source selection criteria is appropriate.

Therefore, the committee directs the Secretary of Defense to provide a briefing to the congressional defense committees by March 1, 2020, on the status of Department efforts to revise the DFARS, issue related guidance to implement the statutory criteria, and ensure that its contracting officers are considering these criteria.

The committee also directs the Administrator of the U.S. General Services Administration (GSA) to provide a briefing to the congressional defense committees, the House Committee on Oversight Reform, and the Senate Committee on Homeland Security and Governmental Affairs by March 1, 2020, on the status of efforts to update the Federal Procurement Data System, or any successor systems, to collect data on source selection procedures used in awarding contracts. In addition, the committee directs the Administrator of GSA to provide a briefing to these committees by June 30, 2020, on the status of its efforts to revise the FAR and ensure that contracting officers in civilian agencies are considering the statutory criteria applicable to them.

Maintain Commercial Supply Stores

The committee expects the Department of Defense to compete through fair and open competition all requirements for the operation of civil engineering and industrial supply stores and not sole- or direct-source any such requirements unless allowed under the Small Business Act (Public Law 85–536).

The committee notes that several private companies have operated supply stores on military installations with the purpose of providing commercial off-the-shelf (COTS) parts and supplies, much like commercial hardware stores, to military customers. In fact, because these storefronts serve a function that is not inherently governmental, Congress recognized the private sector's preferred role in managing and operating them, in the committee report accompanying the National Defense Authorization Act for Fiscal Year 1998 (H. Rept. 105–132).

The committee expects the Department to reverse a trend which has seen the Department enter into agreements with the General Services Administration (GSA) to replace existing competitively awarded supply stores on military bases with stores administered through GSA's fourth-party logistics program. This trend runs counter to the Competition in Contracting Act of 1984 (41 U.S.C. 253) as it has been conducted without the competition that underpins Federal procurement policy, and results in less small business participation in government contracting. Therefore, the committee urges the Department to restore competitive acquisition practices and afford small business prime contractor opportunities through the award of contracts to administer these important stores at the nation's military facilities.

Modernizing Department of Defense Forms

The committee notes the changing ways in which organizations, members of the Armed Forces and their families, and federal agencies communicate using digital technology. The committee is concerned that current websites and key Department of Defense forms are not accessible on all digital and mobile devices. The committee commends the Department on its efforts to modernize forms and workflow processes to an extent of compliance with the 21st Century IDEA Act (PL 115–336).

The committee supports the Defense Logistics Agency's effort to modernize its internal and external digital services consistent with the Department policies. The committee believes the modernization effort with regard to forms and workflow will enable the Defense Logistics Agency to improve service delivery military personnel and internal workflows. Therefore, the committee directs the Department of Defense Chief Information Officer, in consultation with military departments and agencies, to provide a briefing to the House Armed Services Committee not later than September 30, 2020, on the feasibility and requirements for modernizing Department forms and workflows. The briefing shall include two parts, at minimum:

(1) analysis of feasibility, associated costs, and timeline required to modernize critical personnel forms, such as the Department of Defense Form 214 Certificate of Release or Discharge from Active Duty; and

(2) analysis of feasibility, associated costs, and timeline required to modernize service processes and forms used by the Defense Logistics Agency.

Pacific Telecommunications Security

The committee notes the strong interest in securing U.S. telecommunications from foreign interference, especially in Asia and the Pacific. Therefore, the committee directs the Secretary of Defense to submit a report to the committee not later than December 31, 2019 on the Department's effort to—(1) Identify any joint ventures, technology-sharing agreements, interconnection agreements, and other agreements with Huawei and Subsidiaries, ZTE and subsidiaries, and other Chinese-owned companies and subsidiaries operating on U.S. territories in the Pacific; and (2) ensure that telecommunications services and telecommunications infrastructure contacts do not compromise operational security of U.S. military operations or telecommunications security on military installations.

Procurement Technical Assistance Centers Training Standards

The committee supports the efforts of the Department of Defense to provide individualized, tailored training to meet the needs of Procurement Technical Assistance Centers nationwide. The committee is aware of and encourages the Defense Logistics Agency's work in consultation with the Association of Procurement Technical Assistance Centers and its members to support and enable effective training for the Procurement Technical Assistance Centers, but believes that formal, regularly updated standards would further advance these efforts.

Procurement Technical Assistance Centers Training Standards

The committee directs the Director of the Defense Logistics Agency to provide a briefing to the House Committee on Armed Services by December 1, 2019, on training standards required for staff who work at Procurement Technical Assistance Centers, including training offered by the Defense Acquisition University. The briefing should identify the training curriculum to meet those standards, training curriculum that needs to be developed, and the plan to deliver the training. Finally, the briefing should include the Defense Logistics Agency method to track training completion for the Procurement Technical Assistance Center staff.

Report on Domestic Nonavailability Waiver Process

The committee directs the Assistant Secretary of Defense for Sustainment to provide a briefing to the House Committee on Armed Services not later than December 31, 2019, on the domestic nonavailability waiver process currently used by the Department of Defense. Such a briefing shall include:

(1) the Department's process to inform existing suppliers about the waiver process and guide applicants through the process;

(2) the Department's process to find domestic suppliers after a waiver has been requested;

(3) the Department's process to review previously granted waivers to determine if domestic options not previously available for supply are now available;

(4) the Department's efforts to get feedback from private industry on the waiver process, both from suppliers submitting an application for a waiver and from domestic suppliers who believe that they can provide an item deemed domestically nonavailable; and

(5) a list of all domestic nonavailability determinations and national security waivers granted under sections 2533a and 2533b of title 10, United States Code, since January 1, 2014.

Report on Ownership or Trading of Stocks in Certain Companies by Department of Defense Officers and Employees

The committee directs the Secretary of Defense to submit a report to the House Committee on Armed Services no later than June 1, 2020 detailing how many senior officials own or trade publicly-traded stock of a company that during the preceding calendar year received more than $1.0 billion in revenue from the Department of Defense, including through one or more contracts with the Department. The report shall include what publicly-traded companies qualify for the $1.0 billion threshold and the number of Department senior officials who have reported owning such stock through financial disclosure. The report shall not consider widely-held investment funds as described in section 102(f)(8) of the Ethics in Government Act of 1978 (5 U.S.C. App.) as qualifying publicly-traded stock.

Report on Plan to Expand and Strengthen the Military Radar Industrial Base

The Committee recognizes the critical defense need for competitive radar development and production in an open and modular ar-

chitecture to meet current and future military requirements and to increase the capability of the defense industrial base to support a low cost and modular radar components and prototype. This is best accomplished by expansion of traditional and nontraditional U.S. based suppliers via open competition at the module level. With this in mind, the committee directs the Under Secretary of Defense for Acquisition and Sustainment to provide a report to the Committees on Armed Services of the Senate and the House of Representatives within 120 days on a plan to strengthen the defense radar industrial base leveraging authorities already granted in the Industrial Base Analysis and Sustainment program and the Manufacturing Technology Program.

Report on the Department's Market Research Practices for IT Acquisition

The committee is concerned that the Department of Defense continues to struggle with implementation of effective market research practices as part of the acquisition cycle for information technology goods and services. Effective implementation of information technology is particularly dependent on high quality market research. Unless the Department improves capabilities in this area, it will continue to lag the private sector in deploying innovative technologies. The committee is also concerned that the Department has yet to issue regulations clarifying that market research may be acquired from commercial companies as well as conducted by government personnel in accordance with section 882 of the National Defense Authorization Act for Fiscal Year 2019 (Public Law No: 115–232).

Therefore, the committee directs the Chief Management Officer of the Department of Defense to deliver a briefing to the Committees on Armed Services of the House and Senate on the Department's efforts to improve its market research practices, and compliance with 10 U.S.C. 2377, with respect to information technology goods and services by December 15, 2019. At a minimum, the briefing shall include the following elements:

(1) a discussion of current Department of Defense market research guidelines compared to private sector best practices

(2) any challenges faced by the Department in accessing independent, third-party market research, particularly in the source selection process, due to incorrect perceptions that such research is an Inherently Governmental Function

(3) any concerns of the Department related to potential conflict of interest or bias found in vendor-provided data, particularly as it relates to Requests for Information or Sources Sought Notices; and

(4) an update on the status of regulations related to the use of independent, third-party market research and its status as a non-inherently government function.

Report on the Procurement of Military Free Fall Parachutes

The committee is concerned that the Army and Marine Corps have converted firm fixed price contracts for procurement of military free fall parachutes into technology development contracts. The committee notes that the advantages of procuring a parachute system, such as the Army's Advanced Ram-Air Parachute System

(RA–1) and the Marine Corps' Enhanced Multi-Mission Parachute System (E–MMPS) as a commercial item or at a firm fixed price may be undermined if the selected parachutes undergo significant redesign and technological changes, possibly incurring additional cost, post contract award.

The committee directs the Comptroller General of the United States to provide a report, no later than February 1, 2020, examining the Army and Marine Corps' parachute research, development, and acquisition strategies. The report shall include observations and assessments on:

(1) The development and execution of current parachute acquisition strategies including, but not limited to: (a) performance and adequacy related to production and fielding schedules; (b) cost growth on a per unit or contract basis and explanation for such growth; (c) costs associated with the design and testing of parachute systems; (d) funding obligated or budgeted for development or product improvements to the systems, as well as the source of the funds used for such development or improvements; and (e) a review of the plans and results of tests and evaluations associated with such systems.

(2) Whether contracts are being executed consistent with the report provided by the Secretary of the Navy pursuant to Section 128 of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115–91; 131 Stat. 1313);

(3) Whether the Army and Marine Corps parachute acquisition strategies support a competitive parachute manufacturer industrial base;

(4) Whether the Army and Marine Corps have considered interoperability with joint, allied, and coalition forces in the parachute requirements development process to include addressing the glide ratios of the various fielded systems;

(5) Whether there are any intellectual property or technology risks associated with such parachute procurements;

(6) An assessment of the service life of such parachute systems; and

(7) Any other items or issues the Comptroller General determines are relevant or useful to this report.

Review of Conflicts of Interest in Organizational Analysis of the Department of Defense

The committee recognizes the importance of assessing the effectiveness of organizations across the Department of Defense to validate their missions and functions, identify metrics to measure performance, and determine areas for improvement. The committee notes that any assessments should examine the risks and legal and ethical considerations associated with combining functions or using commercial providers to carry out certain functions. The committee is also aware that the Secretary of Defense is required to conduct joint reviews and submit reports regarding the Defense Contract Audit Agency, Defense Contract Management Agency, and Defense Finance and Accounting Service pursuant sections 925 and 926 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232).

Therefore, the committee directs the Secretary of Defense, acting through the Chief Management Officer of the Department of De-

fense, to submit risk assessments to the congressional defense committees not later than March 1, 2020, to supplement the reports required by sections 925 and 926 of Public Law 115–232. The risk assessments should reflect the Department's analysis of potential combination of functions with each other or the use of commercial providers, as applicable. The risk assessments should include analysis of the legal and ethical implications of:

(1) conflict of interest considerations;

(2) the risks posed to governmental interests and the public when "closely associated with inherently governmental" functions as defined in section 2383 of title 10, United States Code, are performed by commercial providers;

(3) the risks to mission failure when "critical" functions as defined in section 2461 of title 10, United States Code, are performed by commercial providers;

(4) the risks of creating an "employer-employee relationship" through the use of "personal services contracts," whether authorized by statutory exception (e.g., section 129b of title 10, United States Code) or otherwise prohibited; and

(5) the application of each of the general ethical principles in 5 Code of Federal Regulation section 2635.101(b).

Security of Department of Defense Telecommunication Services

In awarding contracts for telecommunication services or installation of telecommunication infrastructure on military installations located in the United States or its territories, the committee urges the Secretary of Defense to give preference to American-owned and -operated companies.

Small Business Procurement Specialists at Military Installations

The committee recognizes the vital service that small business procurement specialists provide to small businesses seeking to do business with the Department of Defense. Further, the committee notes that small business procurement specialists located on installations are best equipped to understand the products and services that local communities can provide to the U.S. Government. However, the committee is concerned that the Department of the Army is considering the realignment and potential consolidation of small business procurement resources without assessing and articulating the tradeoffs, such as the impact on minority-owned small businesses.

Therefore, the committee directs the Secretary of the Army to submit a report to the House Committee on Armed Services by February 1, 2020, on the Army's strategy for managing and allocating its small business procurement specialists. The report shall:

(1) reflect alternate staffing models that the Army is considering or implementing, such as regional or national plans to centralize resources at a single site instead of maintaining the on-installation specialist model;

(2) explain, where applicable, how the Army serves or plans to serve communities where there is no local small business procurement specialist; and

(3) specify the metrics used to measure the Army's effectiveness in reaching small businesses, including in areas where there is no local small business procurement specialist.

Sourcing of Domestic Components for U.S. Navy Ships

The committee is concerned with the sourcing of non-domestic components on U.S. Navy ships. The committee directs the Secretary of the Navy to provide a report to the congressional defense committees by December 1, 2019, on the feasibility of sourcing domestic components such as: auxiliary equipment, including pumps; propulsion system components, including engines, reduction gears, and propellers; shipboard cranes and spreaders for shipboard cranes; and other components on all Navy ships.

LEGISLATIVE PROVISIONS

SUBTITLE A—ACQUISITION POLICY AND MANAGEMENT

Section 801—Establishment of Acquisition Pathways for Software Applications and Software Upgrades

This section would direct the Secretary of Defense to establish a new software acquisition pathway to procure, develop, deploy, and continuously improve software for applications in the Department of Defense. It would utilize innovation ecosystems already in existence inside the Department. This section would require a report on the implementation not later than 180 days after the date of the enactment of this Act.

The committee notes that the security of the United States increasingly relies on software to execute missions, integrate and collaborate with allies, and manage the defense enterprise. The ability to develop, procure, assure, deploy, and continuously improve software is thus central to national defense. Software should enable a more effective joint force, strengthen our ability to work with allies, and improve the business processes of the Department enterprise.

Section 802—Software Development and Software Acquisition Training and Management Programs

This section would direct the Secretary of Defense to implement software development and acquisition training and management programs for all software acquisition professionals, developers, and associated functions to provide software practitioners access to modern engagement and collaboration platforms to connect, share their skills and knowledge, and develop solutions leveraging the full defense enterprise.

The committee recognizes that the Department of Defense requires a workforce capable of acquiring, building, and delivering software and technology in real time. As threats and demands emerge, providing a strong training and management program ensures the Department has talented and skilled leaders at the helm. The committee is aware there is no comprehensive training or development program that prepares the software acquisition and technical workforce managers to adequately support and lead teams to deploy modern development tools and methodologies for continuous capability development and deployment within the De-

partment's dynamic environments. The committee encourages the Secretary of Defense to partner with institutions of higher education or private sector organizations, to the extent practicable, to incorporate existing training and management programs that are helpful in the software realm.

Section 803—Modifications to Cost or Pricing Data for Certain Procurements

This section would modify section 2306a(b)(4) of title 10, United States Code, and allow the head of contracting activity to obtain cost or pricing data for commercial items that may be procured under sole source authority based on market research.

Section 804—Modifications to Cost or Pricing Data on Below-Threshold Contracts

This section would modify section 2306a(c) of title 10, United States Code, and section 3504 of title 41, United States Code, to allow contracting officers to request certified cost or pricing data when necessary to determine price reasonableness and removes the commercial item exception.

Section 805—Comptroller General Report on Price Reasonableness

This section would require the Comptroller General of the United States to submit a report by March 31, 2021, to the congressional defense committees, the House Committee on Oversight and Reform, and the Committee on Homeland Security and Governmental Affairs regarding the efforts of the Department of Defense to obtain cost and pricing data for sole source contracts for spare parts.

Section 806—Requirement That Certain Ship Components Be Manufactured in the National Technology and Industrial Base

This section would amend section 2534 of title 10, United States Code, and would require certain auxiliary ship components to be procured from a manufacturer in the national technology and industrial base.

Section 807—Acquisition and Disposal of Certain Rare Earth Materials

This section would require the Department of Defense to promulgate guidance on streamlined acquisition of items with rare earth materials and allows exceptions to the Joint Capabilities Integration and Development System Manual and Department of Defense Directive 5000.01. This section would require a report on such guidance and the efforts of the Secretary of Defense to create and maintain secure supply chains for these materials within the United States and covered foreign sources 180 days after the date of the enactment of this Act. This section also would provide authority for the disposal of tungsten ores and concentrates contained in the National Defense Stockpile and acquisition of other critical materials. This section would amend section 2533b of title 10, United States Code, by prohibiting acquisition of tantalum from non-allied foreign nations. This section would amend section

2533c(a)(2) of title 10, United States Code, by striking "covered" before "material".

Section 808—Prohibition on Acquisition of Tantalum from Non-Allied Foreign Nations

This section would amend section 2533c of title 10, United States Code, by prohibiting acquisition of tantalum from non-allied foreign nations.

Section 809—Application of Miscellaneous Technology Base Policies and Programs to the Columbia-Class Submarine Program

This section would amend the application of miscellaneous technology base policies and programs to the Columbia-class submarine program.

Section 810—Application of Limitation on Procurement of Goods other than United States Goods to the FFG-Frigate Program

This section would allow funds authorized for the FFG-Frigate program to be used to award a contract that does not domestically source propulsion or certain auxiliary equipment.

Section 811—Consideration of Price in Procurement of the FFG(X) Frigate

This section would require the Secretary of the Navy to ensure cost is a critical factor in the procurement of the FFG(X) Frigate.

Section 812—Repeal of Continuation of Data Rights during Challenges

This section would repeal section 866 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232). Section 866 provided authority, in addition to existing authority, for the government to use non-commercial technical data during a period of challenge in an agency Board of Contract Appeals or the U.S. Court of Federal Claims under certain circumstances.

Section 813—Repeal of Authority to Waive Acquisition Laws to Acquire Vital National Security Capabilities

This section would repeal section 806 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92), which allowed the Secretary of Defense to waive any provision of acquisition law or regulation in certain circumstances.

Section 814—Repeal of Transfer of Funds Related to Cost Overruns and Cost Underruns

This section would repeal an annual requirement for the Secretary of each military department to pay a penalty for cost overruns on covered major defense acquisition programs of the military department. Under the requirement, the Secretary of each military department was required to reduce research, development, test and evaluation, or procurement accounts up to $50.0 million at each military department every fiscal year. The funds were then cred-

ited to the Rapid Prototyping Fund established pursuant to section 804 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92).

SUBTITLE B—AMENDMENTS TO GENERAL CONTRACTING AUTHORITIES, PROCEDURES, AND LIMITATIONS

Section 821—Modifications to the Middle Tier of Acquisition Programs

This section would amend section 804 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92) by directing the Secretary of Defense to develop a process to provide the Director of Operational Test and Evaluation, the Director of Cost Assessment and Program Evaluation, and the Under Secretary of Defense for Research and Engineering access to all technical data, records, and information necessary to evaluate the technical maturity of acquisitions carried out under the rapid prototyping and rapid fielding authority. This section would also clarify that no program under this authority shall be the same size or exceed the dollar value of a major defense acquisition program, unless a waiver is granted from the Secretary of Defense.

Section 822—Briefing Relating to the "Middle Tier" of Acquisition Programs

This section would modify section 804 of the National Defense Authorization Act for Fiscal Year 2016 (10 U.S.C. 2302 note) to direct the Secretary of Defense to provide a briefing to the committee on the lessons learned and best practices identified through the use of the "middle tier" of acquisition programs.

Section 823—Rates for Progress Payments or Performance-Based Payments

This section would require the Secretary of Defense to provide congressional defense committees with a notice of determination and to notify the public through the Federal Register before initiating changes to contract finance rates for progress payments or performance-based payments. This section would also require that the Secretary of Defense not use rates that are lower than the rates provided by the Secretaries of the Federal agencies listed in section 2302 of title 10, United States Code.

Section 824—Additional Requirements for Negotiations for Noncommercial Computer Software

This section would amend section 2322a of title 10, United States Code, and codify existing Defense Federal Acquisition Regulations on noncommercial software rights as well as mandate, to the maximum extent practicable, that specially negotiated licenses be used for weapon systems noncommercial software.

Section 825—Responsibility for Data Analysis and Requirements Validation for Services Contracts

This section would amend section 2329 of title 10, United States Code, to specify that the Secretary of Defense act through the

Under Secretary of Defense (Comptroller) and Director of Cost Assessment and Program Evaluation to collect data and information annually on the amount contracted for services procured by the Department of Defense, which would be included in the Future Years Defense Program submitted to Congress.

Section 826—Annual Reports on Authority to Carry Out Certain Prototype Projects

This section would amend section 2371b of title 10, United States Code, by adding a new section requiring the Secretary of Defense to annually submit a report to the congressional defense committees on the activity carried out under the authority to use other transaction authorities for prototype projects and any deviations from implementing guidance.

Section 827—Competition Requirements for Purchases from Federal Prison Industries

This section would amend section 2410n of title 10, United States Code, by removing "for which Federal Prison Industries does not have a significant market share".

This section would create a requirement for conducting market research before purchasing a product listed in the Federal Prison Industries (FPI) catalog. This section would require the Department of Defense to:

(1) conduct market research to determine if the product is comparable to products in the private sector and meets the Department's needs (price, quality, or time of delivery) prior to purchasing a product from FPI.

(2) use competitive procedures or purchase under a multiple award contract if the product is not comparable and does not meet the Department's needs.

Section 828—Enhanced Post-Award Debriefing Rights

This section would amend section 818 of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115–91), which required post-award debriefings of the Department of Defense rating for each evaluation criteria and overall award decision, by reducing the award threshold for comprehensive debriefings from $100.0 million to $50.0 million.

Section 829—Standardizing Data Collection and Reporting on Use of Source Selection Procedures by Federal Agencies

This section would repeal portions of section 2305 note of title 10, United States Code, and section 3701 note of title 41, United States Code, which required the Government Accountability Office (GAO) to provide an annual report on the use of lowest price technically acceptable (LPTA) source selection procedures by the Department of Defense and civilian agencies, respectively. These provisions presumed that the Department and the Office of Federal Procurement Policy (OFPP) would revise the Defense Federal Acquisition Regulations Supplement or the Federal Acquisition Regulation within the timeframes established in the enabling legislation. GAO has twice reported that the Department has not yet implemented the

source selection criteria provided by Congress. The committee also understands that the OFPP is just beginning the process to draft implementing regulations for civilian agencies despite the mandate to do so within 120 days of the enactment of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232). The committee notes that until the Department and OFPP issue implementing regulations, GAO will not have new information regarding agencies' use of LPTA and whether contracting officers are using LPTA appropriately.

This section would also require revisions to the Federal Procurement Data System (FPDS), or any successor systems, to facilitate the collection of data on source selection procedures used in awarding contracts and other relevant contract actions, such as task and delivery orders issued under indefinite delivery-indefinite quantity contracts. Under this section, the Administrator of General Services, in coordination with the OFPP would determine appropriate revisions to the FPDS within the 180 days provided for under this section. The committee notes that this revision should be feasible, as the FPDS already collects information on whether contracts were awarded using the sealed bidding process, which accounts for a relatively small percentage of the total contracts awarded each year. The committee expects that the new information to be collected would include, at a minimum, whether the contract awarded or order issued was made using LPTA or best value contracting methods, or some other procedure.

Section 830—Modification of Justification and Approval Requirement for Certain Department of Defense Contracts

This section would modify the justification and approval threshold to $100.0 million for Department of Defense sole source contracts awarded to certain Native communities. The threshold was established in section 811 of the National Defense Authorization Act of Fiscal Year 2010.

SUBTITLE C—PROVISIONS RELATING TO ACQUISITION WORKFORCE

Section 841—Defense Acquisition Workforce Certification and Education Requirements

This section would amend section 1701a of title 10, United States Code. The committee notes that the Department of Defense could better prepare its acquisition workforce by modernizing its certification process to emphasize professional skills that are transferable across the workforce and industry. The Secretary of Defense is authorized to implement the program based on third-party accredited, nationally or internationally recognized standards, where they exist, or through entities outside the Department, if the Secretary determines that to be the best approach.

This section also would amend section 1724 of title 10, United States Code, and strike the requirement for contracting officers to have completed at least 24 semester credit hours (or the equivalent) of study from an accredited institution of higher education, and make conforming amendments to section 1732 of title 10, United States Code. The committee notes that the Department has raised the professionalism of its acquisition workforce since enact-

ment of the Defense Acquisition Workforce Improvement Act in 1990 and the amendments would allow the Department the flexibility to establish the specific educational requirements that should be applied to a particular workforce career field.

This section would also amend title 10, United States Code, by modifying several sections of chapter 87 to institutionalize career paths for all acquisition workforce career fields, and by inserting a new section 1765 to develop competencies for every acquisition career field. The committee is aware that while chapter 87 had general career path requirements, none specifically applied to all acquisition career fields or mandated recommended attributes, such as key work experience. Section 1721, as amended would be a key factor in the success of this implementation and would require the Department to identify which specific career fields represent the acquisition workforce in order to better institutionalize career paths throughout all acquisition career fields. The committee recognizes the scope of the new section 1765 is designed to establish proficiency standards throughout the acquisition workforce in an effort to qualify and assess the technical and nontechnical competencies for all acquisition career fields.

Lastly, this section would amend section 1721 of title 10, United States Code, to include foreign military sales personnel as part of the acquisition workforce.

Section 842—Public-Private Exchange Program for the Acquisition Workforce

This section would create a two-way exchange program between the Department of Defense acquisition workforce and private sector companies. The committee recognizes that exchange programs between the public sector and the private sector could benefit the Federal Government and private sector companies alike, as evinced by the creation of a public-private talent exchange in the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328). The committee recognizes that the Department's willingness to support those employees who participate in the exchange program and promote the further development of their careers would be essential to the success of the program.

The committee is aware that the Department's previous efforts to implement such exchange programs were undermined by structural disincentives for key stakeholders. The committee notes that the new statute would eliminate these disincentives, thereby paving the way for greater participation among the acquisition workforce. In particular, the committee notes that the new statute would preclude the use of a private sector employee's participation in the exchange program, in and of itself, as the basis of an organizational conflict-of-interest complaint.

This section would make conforming amendments to section 1705 of title 10, United States Code, to permit the use of the Defense Acquisition Workforce Development Fund for the exchange program, and to section 1599g of title 10, United States Code, to exclude members of the acquisition workforce from the Department-wide talent exchange.

Section 843—Incentives and Consideration for Qualified Training Programs

This section would amend chapter 141 of title 10, United States Code, by adding a new section to incentivize contractors to invest in workforce development programs to address the workforce needs of the Department of Defense, as determined by the Secretary. This section would also require the Secretary of Defense to include an evaluation of contractor workforce development programs in the contract past performance system.

Section 844—Certification by Prospective Military Construction Contractors of Good Faith Effort to Utilize Qualified Apprentices

This section would require the Secretary of Defense to revise the Defense Supplement to the Federal Acquisition Regulation to require a system be used to monitor or record contractor past performance of the contractor making a good faith effort to meet or exceed the apprenticeship employment goal of 20 percent. This section would also require the Secretary of Defense to develop an apprenticeship workforce incentive program to encourage contractors to meet the 20 percent goal of employing certified and skilled workers who have completed State-mandated, federally funded programs in the relative career fields and certify to good faith effort to achieve the goal. This section would also require the Secretary of Defense to include an evaluation of whether the contractor meets this goal in the contractor past performance rating system.

SUBTITLE D—PROVISIONS RELATING TO ACQUISITION SECURITY

Section 851—Supply Chain Security of Certain Telecommunications and Video Surveillance Services or Equipment

This section would require the Secretary of Defense to conduct a comprehensive assessment of Department of Defense policies relating to telecommunications and video surveillance services and equipment from foreign contractors and subcontractors, and identify means to mitigate threats through the debarment and suspension process. This section would also require the Secretary of Defense to write regulations and internal Department policies and expectations for contractor cooperation based on findings of the assessment, not later than 180 days after the date of the enactment of this Act. This section would strengthen the detection, avoidance, notification, and remediation of suspect covered equipment and services in the Department's supply chain.

Section 852—Assured Security against Intrusion on United States Military Networks

This section would prohibit the Secretary of Defense from awarding contracts for the procurement of telecommunications services or installations of telecommunications infrastructure on national security installations located on territories of the United States in the Pacific Ocean unless the contractor is American-owned or American-operated. This section includes an exception for contracts for telecommunications services or telecommunications infrastructure that do not process or carry information concerning the national se-

curity of the United States. The Secretary of Defense may waive this prohibition upon written determination that such a waiver is in the national security interest of the United States.

Section 853—Revised Authorities to Defeat Adversary Efforts to Compromise United States Defense Capabilities

This section would strengthen defense supply chains by including security as a primary purpose for Department of Defense acquisition.

Section 854—Prohibition on Operation or Procurement of Foreign-Made Unmanned Aircraft Systems

This section would prohibit the Secretary of Defense from operating or entering into a contract for the procurement of certain unmanned aircraft systems.

Section 855—Supply Chain Risk Mitigation Policies to Be Implemented through Requirements Generation Process

This section would amend section 807 of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115–91) to require the Secretary of Defense to develop tools for supply chain risk mitigation policies during the requirements generation process.

The committee notes that supply chain risk issues have grown in importance as the U.S. defense acquisition supply base has become increasingly global. The committee further recognizes that supply chain risk mitigation is requirements-specific and should be addressed early in the acquisition process to allow for tailoring where appropriate.

SUBTITLE E—PROVISIONS RELATING TO THE ACQUISITION SYSTEM

Section 861—Modifications to the Defense Acquisition System

This section would enforce acquisition reforms already enacted by Congress, enact new policy on the recommendations of congressionally chartered panels, and lay the foundation for a continued culture of reform in acquisition.

SUBTITLE F—INDUSTRIAL BASE MATTERS

Section 871—Consideration of Subcontracting to Minority Institutions

This section would require the Department of Defense to ensure that the system used by the Federal Government to monitor or record contractor past performance for a grant or contract awarded to an institution of higher education includes incentives for the award of a sub-grant or subcontract to minority institutions.

Section 872—Size Standard Calculations for Certain Small Business Concerns

This section would clarify that section 3(a)(2)(C) of the Small Business Act undoubtedly applies to the Small Business Administration (SBA). The section would align the size standards based on data to the Small Business Runway Extension Act of 2018 (Public

Law 115–324) by changing the calculation from 3 years to 5 years. This section also would require the SBA to develop a transition plan for small businesses and Federal agencies to help them successfully navigate the transition from the previous 3-year calculation to the new 5-year calculation as mandated and would require that the System for Award Management be updated accordingly.

Section 873—Modifications to Small Business Subcontracting

This section would ensure greater accountability for prime contractors electing to receive subcontracting credit for subcontracting with small businesses at lower tiers, and would provide small businesses with an alternative avenue for nonpayment issues with the prime contractor. This section would clarify that large prime contractors have the ability to receive subcontracting credit for small businesses at lower tiers; would strengthen the agency's ability to collect and review data regarding prime contractors' achievement of their subcontracting plans; would require the prime contractor to keep and maintain records to demonstrate subcontracting credit claimed; and would implement a new dispute process allowing small subcontractors to bring nonpayment issues to the agency small business advocate.

Section 874—Inclusion of Best in Class Designations in Annual Report on Small Business Goals

This section would allow Congress to obtain critical information regarding the participation of small businesses in specially designated multiple award contracts known as "best in class" contracts. It would require the Small Business Administration (SBA) to report Federal spending made through designated "best in class" vehicles, and to report on the dollars awarded through these vehicles to small businesses. Additionally, this section would require the SBA to report the dollar amount of contracts awarded to HUBZone, women-owned, service-disabled veteran-owned, and socially and economically disadvantaged (also known as 8(a)) small businesses. This section would become effective on the date on which this information becomes available on the appropriate government-run procurement tracking system.

Section 875—Small Business Administration Cybersecurity Reports

This section would require the Small Business Administration to issue reports that assess its cybersecurity infrastructure, including determining the country of origin of its information technology components, and report cyber threats, breaches, and cyber attacks.

Section 876—Cyber Counseling Certification Program for Lead Small Business Development Centers

This section would amend section 21(a) of the Small Business Act by adding Cyber Strategy Training for Small Business Development Centers (SBDCs) and require the Small Business Administrator to establish, or certify, an existing cyber counseling certification program to certify employees at small business development centers (that have directly received a grant from the Administration) to provide assistance to small businesses for planning cyberse-

curity practices and strategies to respond to cyber attacks. The Small Business Administration would be authorized to reimburse SBDCs for employee certification costs up to $350,000 per fiscal year.

Section 877—Exemption of Certain Contracts from the Periodic Inflation Adjustments to the Acquisition-Related Dollar Threshold

This section would amend subparagraph (B) of section 1908(b)(2) of title 41, United States Code, to exempt certain contracts from the periodic inflation adjustments to the acquisition-related dollar threshold.

Section 878—Improvements to Certain Defense Innovation Programs

This section would create a pilot program within the Department of Defense to encourage engagement with commercial technology companies through the Small Business Innovation Research Program and the Small Business Technology Transfer Program, and would modify other elements of the innovation architecture within the Department.

Section 879—Pilot Program for Development of Technology-Enhanced Capabilities with Partnership Intermediaries

This section would authorize the Commander of U.S. Special Operations Command to use not more than 5 percent of funds required to be expended by the Department of Defense relating to small businesses for a pilot program to increase participation by small business concerns in the development of technology-enhanced capabilities for special operations forces. The authority would terminate on September 30, 2021.

Section 880—Authorized Official to Carry Out the Procurement Technical Assistance Cooperative Agreement Program

This section would move the management and oversight of the Procurement Technical Assistance Cooperative (PTAC) Agreement Program from the Defense Logistics Agency to the Office of the Under Secretary of Defense for Acquisition and Sustainment. The committee recognizes that PTACs are a critical part of efforts at the Department of Defense to reach new businesses and expand the defense industrial base. As such, the PTAC program should be placed in the Department's Office of Industrial Policy (formerly known as the Office of Manufacturing and Industrial Base Policy), where it would align with their activities.

Section 881—Permanent Authorization and Improvement of Department of Defense Mentor-Protege Program

This section would make the Department of Defense Mentor-Protege pilot program permanent. This section also would add additional reporting requirements to better track the businesses that are benefiting both as mentors and proteges.

SUBTITLE G—OTHER MATTERS

Section 891—Requirement to Use Models of Commercial E-Commerce Portal Program

This section would amend section 846 of the National Defense Authorization Act for Fiscal Year 2018 (41 U.S.C. 1901 note) to require the Administrator of the General Services Administration to establish a 5-year program to pilot three models for commercial e-commerce portals to include an e-commerce model, an e-marketplace model, and an e-procurement model as identified in section 4.1 of "Procurement Through Commercial E–Commerce Portals Phase II Report: Market Research and Consultation" issued by the Administrator in April 2019.

Section 892—Report and Database on Items Manufactured in the United States for Major Defense Acquisition Programs

This section would amend chapter 144 of title 10, United States Code, by inserting a new section requiring the Secretary of Defense to submit a report to the congressional defense committees assessing the domestic source content of procurements carried out in connection with major defense acquisition programs. This section would also require the Secretary of Defense to establish an information repository for the collection of domestic source content information to be used for continuous data analysis and program management activities. The section would express the sense of Congress that any entity of the Department of Defense should purchase only American-made equipment and products where possible.

The committee is interested in ensuring the Department's acquisition processes are in line with, at a minimum, the standards of the Buy American Act of 1933 (Public Law 72–428) and believes the Department should be setting a goal to acquire and procure purely American-made equipment and products to ensure a strong national industrial base to support our warfighters in time of need.

Section 893—Requirements Relating to Selected Acquisition Reports

This section would reestablish the requirement for Selected Acquisition Reports, which summarize key cost and schedule information for major defense acquisition programs (MDAPs) at the Department of Defense.

This section would require the Secretary of Defense to submit a proposal for an alternative reporting methodology for MDAPs with the budget request for fiscal year 2021. The proposal shall also include other programs, such as rapid prototyping or rapid fielding programs, carried out under the authority of section 804 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92) and how the Department plans to report cybersecurity and software development metrics.

Section 894—Contractor Science, Technology, Engineering, and Math Programs

This section would amend section 862 of the National Defense Authorization Act for Fiscal Year 2012 (Public Law 112–81) by re-

quiring that activities conducted under the authority provided in section 862 be considered as allowable community service activities for the purposes of determining allowability of cost on a government contract. The committee is aware that current cost accounting practices provide that the costs associated with certain community service activities be considered as allowable costs on a government contract. The Federal Acquisition Regulation specifically lists blood drives, savings bond drives, and disaster assistance as examples of such allowable community service activities. The committee believes that contractor investments in the science, technology, engineering, and math (STEM) programs covered under section 862 are of service to our communities, increase the health of the defense industrial base, and develop the STEM workforce of the Department of Defense. This section would also make technical corrections and conform the provision to the current organizational structure of the Department of Defense.

Section 895—Extension of Sunset Relating to Federal Data Center Consolidation Initiative

This section would extend the sunset date of the Federal Data Center Consolidation Initiative established in section 834 of the Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act for Fiscal Year 2015 (Public Law 113–291) from October 1, 2020, to October 1, 2022.

Section 896—Requirements Relating to Certain Rail Rolling Stock Procurements and Operations

This section would prevent financial assistance, specifically Federal transit dollars, from being used to award a contract or subcontract for the procurement of passenger railcars to priority foreign state-owned, -controlled, or -subsidized enterprises (as identified by the Trade Act of 1974). This section would create a certification process for transit agencies to ensure their funds are not being used to purchase rolling stock from a covered manufacturer, with a narrow exception for transportation agencies with a preexisting contract or subcontract with a covered rail rolling stock manufacturer executed prior to the date of the enactment of this Act.

This section also would require that any rail transit service operator develop and execute a plan for identifying and reducing cybersecurity risks. Recipients of Federal transit assistance would be required to review best practices and identify any hardware and software components of new rolling stock assets that should undergo third-party testing.

Section 897—Prohibition on Contracting with Persons That Have Business Operations with the Maduro Regime

This section would prohibit the Department of Defense from entering into a contract for the procurement of goods or services with any person that has business operations with an authority of the Government of Venezuela that is not recognized by the United States as the legitimate Government of Venezuela.

TITLE IX—DEPARTMENT OF DEFENSE ORGANIZATION AND MANAGEMENT

LEGISLATIVE PROVISIONS

SUBTITLE A—OFFICE OF THE SECRETARY OF DEFENSE AND RELATED MATTERS

Section 901—Update of Authorities Relating to Nuclear Command, Control, and Communications

This section would realign authorities related to nuclear command and control from the Chief Information Officer to the Under Secretary of Defense for Acquisition and Sustainment.

SUBTITLE B—OTHER DEPARTMENT OF DEFENSE ORGANIZATION AND MANAGEMENT MATTERS

Section 911—Codification of Assistant Secretaries for Environment, Installations, and Energy of the Army, Navy and Air Force

This section would amend sections 7016, 8016, and 9016 of title 10, United States Code, to require an Assistant Secretary with cognizance over environment, installations, and energy for each military department.

Section 912—Limitation on Availability of Funds for Consolidation of Defense Media Activity

This section would prohibit funds authorized or appropriated for the Department of Defense may be used to consolidate the Defense Media Activity until 180 days after the date of the enactment of this Act.

Section 913—Modernization of Certain Forms and Surveys

This section would require the Secretary of Defense to conduct a study to identify each form and survey that contains a term or classification that the Secretary determines may be considered racially or ethnically insensitive and provide a plan to modernize the forms.

SUBTITLE C—SPACE MATTERS

PART I—UNITED STATES SPACE CORPS

Section 921—Establishment of United States Space Corps in the Department of the Air Force

This section would amend title 10, United States Code, to establish the United States Space Corps within the Department of the Air Force.

Section 922—Transfer of Personnel, Functions, and Assets to the Space Corps

This section would provide for the transfer of personnel, functions, assets, and obligations from the space elements of the Air Force to the Space Corps over a specified transition period.

Section 923—Reports on Space Corps

This section would require the Secretary of Defense to submit to the congressional defense committees a series of reports on the organizational structure of the Space Corps, the military personnel requirements of the Space Corps, the civilian personnel requirements of the Space Corps, and the transfer of assets to the Space Corps.

Section 924—Space National Guard

This section would prohibit the Secretary of Defense from transferring any personnel or resources from any reserve components, including the National Guard, to the United States Space Corps until the date on which a Space National Guard of the United States has been established by law.

Section 925—Effects on Military Installations

This section would clarify that nothing in this part shall be construed to authorize or require the relocation of any facility, infrastructure, or military installation in the Air Force.

PART II—OTHER SPACE MATTERS

Section 931—United States Space Command

This section would repeal section 169 of title 10, United States Code, that mandated a sub-unified command for space.

TITLE X—GENERAL PROVISIONS

ITEMS OF SPECIAL INTEREST

OTHER MATTERS

Assessment of Special Operations Force Structure

U.S. Special Operations Command (SOCOM) has seen considerable growth since 2001, doubling its civilian and military manpower, more than tripling its budget, and quadrupling its overseas deployments. Despite increases in funding and growth over time, maintaining the readiness of special operations forces (SOF) continues to be a challenge due to a high operational tempo and global demand for forces.

The committee recognizes the unique capabilities SOF offer to combatant commanders to achieve objectives in their assigned area of operations and acknowledges the value of SOF in carrying out missions which the general purpose forces (GPF) are not trained or equipped to meet. However, the committee notes that SOF are increasingly assigned to missions more appropriate for GPF, such as security cooperation in permissive environments, and that the theater special operations commands continue to self-generate requirements without limitation or validation.

The committee remains concerned that the ever-increasing demand for SOF and continued over-employment may further degrade the readiness of the force for current and future contin-

gencies, result in decreased proficiency in SOF activities, and negatively impact the well-being of the SOF enterprise.

The committee also notes that SOF have been oriented to counterterrorism and counterinsurgency operations and contingencies for almost two decades and that alignment to the National Defense Strategy (NDS) will require SOF proficiency in different languages, cultures, and skill sets. Further, the committee believes that alignment to the NDS requires SOCOM to take advantage of emerging technologies to equip SOF operators and enablers to operate in new and challenging environments and that current organizational constructs may need to be modified to meet the objectives of the National Military Strategy.

Finally, the committee recognizes that all military operational units are pressed to meet current demands and maintain readiness, but believes SOF should be preserved for SOF specific missions as an elite, highly specialized, and small force.

Therefore, elsewhere in this title, the committee includes a provision that would require the Secretary of Defense to enter into an agreement with a federally funded research and development center for the conduct of an independent assessment of the force structure and roles and responsibilities of special operations forces and submit the assessment to the congressional defense committees not later than July 1, 2020.

Audit Leadership and Accountability

The committee believes that clear leadership and accountability across the Department of Defense is a central factor enabling progress on audit readiness and remediation. The committee is encouraged by the steps taken by the Department to ensure that senior leaders are responsible for leading the transformations of business processes and financial systems that are required in order to achieve an unmodified audit opinion. The committee continues to encourage the Department to pursue this policy across the Department, agencies, and services.

Briefing on Improving Ground Combat Vehicle Assured Mobility in Northern Regions

The committee continues to have concerns regarding the cold weather capabilities and readiness of the military services. Specifically, the committee has concerns regarding the training and equipment limitations that may exist that could effectively limit operations and ground combat maneuver against peer competitors in northern and arctic regions. The committee also notes that near-peer and peer competitors such as North Korea, Russia, and China have well-known ground mobility capabilities in northern and arctic regions. The committee encourages the Army to consider the advisability and feasibility of implementing a task force to assess the current status of assured mobility in northern regions utilizing Army and civilian subject matter experts in northern military ground maneuver operations to assist in identifying science and technology gaps, as well as inform any modeling and simulation efforts required for the improvements to legacy and next generation ground combat vehicles.

Therefore, the committee directs the Chairman of the Joint Chiefs of Staff, in consultation with the Chiefs of Staffs of the military services to provide a briefing to the House Committee on Armed Services by March 1, 2020 that includes current plans and potential opportunities to improve ground combat vehicle assured mobility in extreme cold weather conditions and regions.

The briefing should also include:

(1) A description and evaluation of current joint force requirements and capabilities for ground mobility to support military operations in extreme cold climates;

(2) A description and evaluation of requirements for extreme cold weather ground mobility in the Arctic, Northeast Asia, and Northern and Eastern Europe;

(3) A description and evaluation of the current joint force ground mobility readiness and training, and any equipment, infrastructure, personnel, or resource limitations or gaps that may exist;

(4) An analysis of opportunities to expand tactical ground mobility development and testing for extreme cold weather and the resources or infrastructure required for such expansion; and

(5) A description and evaluation of manned and unmanned ground systems for operations in extreme cold weather environments.

Briefing on National Guard Readiness and Ability To Meet Modern Threats From Area Disasters and Weapons of Mass Destruction

The Committee is aware that since the 1998 report on the National Guard's ability to respond to threats from Weapons of Mass Destruction (WMDs) there has been a significant evolution of threats emanating from technological revolutions, asymmetric threats, new chemical and biological threats, cyber threats, electromagnetic pulse (EMP) threats, UAV and drone technology, and security at the border and at ports of entry.

Further, as the Committee observed in response to Hurricanes Maria, Harvey, and Michael, the recent California wildfires, and other wide-area natural disasters, synchronizing the flow of forces and resources in disaster response and recovery operations requires seamless planning and operations on behalf of U.S. Northern Command (NORTHCOM) and the National Guard, including all six phases of shaping, anticipating, responding, operating, stabilizing, and transitioning afflicted areas and populations.

In light of these evolving threats, it is appropriate to re-examine the National Guard Homeland Defense and Security enterprise. The Committee believes it is important that each State and Territory be given the opportunity to develop detailed plans relating to their own special circumstances, under the guidance of the National Guard Bureau.

The Committee directs the Chief of the National Guard Bureau, and the Commander of NORTHCOM, to provide a briefing to the House Committee on Armed Services, no later than April 15, 2020, detailing the following:

(1) a clarification of the roles and missions, structure, capabilities, and training of the National Guard and NORTHCOM and identification of emerging gaps and shortfalls in light of current homeland security threats to our country;

(2) an overview of the resources that each State and Territory National Guard has at its disposal that are available to respond to a homeland defense or security incident;

(3) the readiness and resourcing status of the resources listed in (2);

(4) the current strengths and areas of improvement in working with State and Federal interagency partners;

(5) the current assessments in place that address Guard readiness and resourcing of NORTHCOM Title 10 forces postured to respond to homeland defense and security incidents, and;

(6) a roadmap that addresses readiness across the spectrum of long-range emerging threats facing the United States.

Briefing on Support to Civil Authorities in Support of Natural Disasters and Law Enforcement with Aerial Platforms and Satellites

The committee recognizes that the Department of Defense provides resources at the request of States, territories, and other Federal agencies in support of natural disasters and matters of law enforcement. Some of this support comes in the form of unmanned and manned aerial systems supporting search and rescue operations, natural disasters (to include preemptive measures), and through collaboration between the Department and other Federal agencies. The committee also recognizes that the Department utilizes some of its space-based resources to assist in wildfire support (to include detection) and other natural disasters. The committee is concerned that there is a lack of understanding of the policy, procedures, and overall availability of Department resources.

Therefore, the committee directs the Secretary of Defense, in coordination with the Chief of the National Guard Bureau and the Director of the National Geospatial-Intelligence Agency, to provide an unclassified briefing to the House Committee on Armed Services and, as appropriate, the Committee on Homeland Security, not later than September 30, 2019, on the availability of Department resources, focusing on aerial and satellite platforms in support of natural disasters and law enforcement, the assets that are currently available, and how States, territories, and Federal agencies request or access these resources.

The briefing should provide:

(1) an explanation of Unmanned Aerial Systems (UAS), piloted platforms, and satellite support the Department provides or can provide to States and other Federal agencies, including examples of support provided, length of time to approve requests, whether any requests were disapproved and the reason that such requests were disapproved, during calendar year 2018.

(2) an overview of programs, including satellite systems, that provide wildfire support to States and Federal agencies, including how long such programs have been in operation, the processes by which States access such programs, and whether such programs provide detection and early warning as well as support during wildfires. The overview shall include examples of the support the Department provided in calendar year 2018 to wildfire suppression and wildfire detection.

(3) an overview of current policies regarding the use of such systems and platforms by States and Federal agencies and the procedures a State or Federal agency must follow to obtain Department

support for natural disasters and search and rescue operations, including whether UAS require additional approvals, and the amount of time to obtain additional approvals. Further, a discussion of whether such procedures can be streamlined, and whether different authorities exist when requesting use of unmanned systems versus manned systems.

(4) a description of the different categories of the Department's UAS, how the different categories are managed, and if certain UAS categories affect the Department's ability to provide support to a State or Federal agency.

(5) a description of how the Department shares imagery collected by manned aircraft and UAS with Federal, State, and local disaster responders, including whether such imagery is shared in real time.

(6) an explanation of any restrictions on the use of UAS under the "Guidance for the Domestic Use of Unmanned Aircraft Systems in U.S. National Airspace," August 18, 2018, and Department of Defense Instruction (DODI) 3025.18 "Defense Support to Civil Authorities," or other relevant Department of Defense guidance.

(7) a description of how the Department (Active Duty, National Guard, and the Reserves) supports other Federal agencies with UAS assets, specifically the Department of Homeland Security (DHS) and Custom and Border Protection (CBP), including examples of requests that were supported or not supported and an explanation for such determinations.

(8) a description of policies and laws that facilitate or restrict Department support to DHS or CBP, and a description of any systems in place that enable long-range planning to support DHS and CBP support requests.

(9) an analysis of how the Department of Defense can improve access and knowledge of resources to States, territories, and other Federal agencies and whether there are plans to make more assets available in the future.

(10) any other matters the Secretary determines appropriate.

Chemical, Biological, Radiological, Nuclear Response Enterprise

The committee recognizes that a robust Chemical, Biological, Radiological, and Nuclear (CBRN) Response Enterprise is critical to the Nation's security. U.S. Northern Command plays an integral role in domestic CBRN response, and the committee applauds the role of the National Guard in the planning and response. The committee also notes the importance of coordinated combined training and operations between the Department of Defense and civilian first responders and agencies, including the Department of Homeland Security and the Department of Health and Human Services. To further enhance this collaboration, the committee believes the Department of Defense and other Federal and State agencies that sponsor first responder training should coordinate CBRN training opportunities to maximize the effectiveness of such events. As the Department of Defense continues to execute unit-level and enterprise-wide training events, including exercises in major metropolitan cities, the Department of Defense should consider including State and local first responders on a space-available basis. As noted in the Blue Ribbon Study Panel on Biodefense report released in October 2018, this would better integrate the Department of Defense response to a CBRN event with the overall Federal response.

The committee encourages the Department of Defense, in coordination with Department of Homeland Security and Department of Health and Human Services, to increase engagement with State and local emergency first responders related to training and expert advice on CBRN emergency response activities, technology, and exercises.

Commercial Technology Support to Audit Efforts

The committee notes the rapid progress of commercial digital technologies such as robotic process automation, cognitive computing, and artificial intelligence, and encourages the Department of Defense to leverage such advancements in order to improve the quality and richness of financial data, reduce or eliminate manual processes and complex financial reconciliations, and accelerate the Department's achievement of an unmodified audit opinion. The committee directs the Under Secretary of Defense (Comptroller), in coordination with the Chief Management Officer, to provide a briefing to the House Committee on Armed Services not later than February 1, 2020, on the initiatives the Department has undertaken to incorporate commercial digital technologies into the Department's business processes.

Designation of Gender Advisors

The committee notes the importance of gender perspectives and meaningful participation by women in peace and security processes. The committee directs the Secretary of Defense to designate a gender advisor for each of the geographic and functional combatant commands, the Office of the Secretary of Defense, the Defense Security Cooperation Agency, and the Joint Staff.

DOD Efforts to Improve Friendly Force Identification in Close Air Support

The committee notes that the tragic loss of military personnel to friendly-fire is a historical and unfortunate reality of military operations. While the Department of Defense has applied lesson learned and made marked progress in coordination processes between friendly forces, and has developed technologies to mitigate risk for distinguishing friendly and adversary forces, incidents of friendly-fire have not been eliminated.

The committee recognizes that tactical air controllers employ a variety of friendly force identification systems in close air support operations and that the Department continues to seek improvements in its ability to identify friendly forces during military operations. However, the committee is concerned that ongoing efforts to upgrade critical identification capabilities are no sufficiently coordinated or synchronized within the Department to ensure expeditious integration and interoperability of advanced technologies as systems are developed, tested, and fielded.

Therefore, the committee directs the Comptroller General of the United States to provide a report not later than September 30, 2020, that assesses the following issues:

(1) What actions has the Department taken to ensure a common understanding of requirements and challenges related to friendly

force identification by close air support aircraft, including visibility of ongoing efforts to meet requirements;

(2) What efforts does the Department have underway to enhance friendly force identification capabilities, to include efforts to identity, evaluate, and incorporate new technologies in rapid and effective manner;

(3) To what extent does the Department coordinate and communicate friendly force identification requirements and evaluations across the Department to ensure that military services are developing complimentary requirements and interoperable technologies for ground combat personnel and aircraft platforms;

(4) To what extent the Department has reviewed close air support training curriculum to determine sufficiency and effectiveness for those forces assigned to provide close air support capabilities; and,

(5) Any other issues the Comptroller General determines appropriate with respect to efforts improve the Department's ability to identity friendly forces and minimize friendly fire incidents.

Evaluation of Integration of a Geographic Combatant Command and Theater Special Operations Command

Theater Special Operations Commands (TSOCs) are subunified commands of U.S. Special Operations Command (SOCOM) that are operationally controlled by geographic combatant commanders (GCC). The TSOC plans and conducts campaigns in support of the GCC across the spectrum of military operations.

The committee is concerned that GCC and TSOC organizational structures may not be optimal for managing, integrating, and synchronizing special operations forces (SOF) operations across an area of responsibility (AOR). For example, GCC and TSOC mission, planning, and operational control misalignment was highlighted in the investigation of the October 2017 incident in Niger in which four U.S. service members were killed. Additionally, U.S. Africa Command recently completed an effort directed by the Secretary of Defense to review the SOF footprint in the AOR referred to as "optimization." The committee understands this effort was to decrease the reliance on SOF and more appropriately align SOF activities with GCC objectives. However, the committee believes that synchronization and alignment of SOF activities and operations to clear and concise GCC missions, goals, and objectives should be an ongoing priority for all GCCs, not directed by the Secretary of Defense.

Furthermore, according to recent work conducted by the Government Accountability Office (GAO) regarding SOF readiness, the operational tempo for SOF continues to be high due to an ever-increasing demand for forces by GCCs. A significant percentage of the demand is generated directly by the TSOCs, which set forth requirements for SOF in a relatively unconstrained manner. The committee notes this demand impacts the sustainability of current missions and SOF preparedness for future crises and conflicts.

The committee understands that as the Department of Defense focuses on near-peer competition, SOF will play a key role in such efforts, including in the U.S. European Command (EUCOM) AOR to address Russian malign influence. The committee notes that the percentage of SOF personnel deployed to Europe has grown signifi-

cantly over the last several years and believes that the alignment of the GCC and TSOC is imperative for effective operations as well as to managing geopolitical and force protection risk related to any operations.

Therefore, the committee directs the Comptroller General of the United States to submit a report to the congressional defense committees by March 1, 2020, containing an assessment of the following: the sufficiency of EUCOM and U.S. Special Operations Command-Europe command structures to manage, integrate, and synchronize SOF operations in Europe; EUCOM's defined missions, goals, and objectives for SOF units operating in Europe and what challenges, if any, do units face measuring progress against those goals and objectives; SOCOM's ability to provide SOF required to support EUCOM and what impact, if any, has such resourcing had on the ability of SOF to carry out other ongoing or future operations; and any other issues the Comptroller General determines appropriate with respect to SOF operations in Europe.

Feasibility of Providing Dedicated Security Contingency Support for Non-Governmental Organizations

The committee notes that development is a critical component to address the root causes of violent extremism and non-governmental organizations (NGOs) provide essential support to relevant agencies. The committee seeks to evaluate the challenges and benefits associated with Department of Defense support to U.S. development programs designed to prevent and address the underlying causes of violent extremism in fragile states that require personnel to operate in environments with poor security conditions.

Therefore, not later than March 31, 2020, the committee directs the Secretary of Defense to provide a briefing on the feasibility of providing dedicated security contingency support from the Department of Defense for NGOs meeting specified criteria in the case of a security incident in a fragile state, including medical evacuation, quick reaction force support, and personnel recovery. The report should include:

(1) An assessment of the potential legal implications of providing such support;

(2) An assessment of implications to U.S. policy regarding providing such support, including locations where direct engagement with foreign forces is expected;

(3) Implementation steps required for such support;

(4) Identification of any potential limitations due to geographic location of such security incident;

(5) Identification of any potential limitations due to the security situation at such geographic location;

(6) An assessment of resources required to perform such support functions;

(7) An assessment of prioritization of such support in relation to other military missions;

(8) An assessment of risk to military operations;

(9) An assessment of operational risk to members of the military that may be involved in providing such support;

(10) Authorities, capabilities, and resources currently available, including capacity and assets available to geographic combatant commands;

(11) Whether such ground force commanders currently have the authority to provide such assistance;

(12) Identification of potential criteria that would be necessary for a security incident to necessitate support;

(13) Identification of potential criteria that may be required for NGOs to receive such support; and

(14) Any other matters the Secretary determines appropriate.

Incorporation of Cleared U.S.-Flag Commercial Ship Operators in Wargames and Exercises

Given the critical role that U.S.-flag commercial ship operators play in the combat logistics force and in strategic sealift, as well as the increasing threat environment outlined in the National Defense Strategy, the committee is concerned about vulnerabilities arising from potential capacity shortfalls and attrition. The committee therefore directs the Secretary of the Navy to brief the House Committee on Armed Services no later than October 1, 2019, on any plans to include cleared U.S.-flag commercial ship operators in wargames and exercises, including but not limited to Large Scale Exercise 2020.

Independent Study on Detainee Medical Care at United States Naval Station, Guantanamo Bay, Cuba

The committee notes the important value of an independent assessment of detainee medical care at United States Naval Station, Guantanamo Bay, Cuba. Therefore, the committee directs the Comptroller General of the United States to provide a report to the congressional defense committees not later than September 1, 2020, on the quality of medical care provided to detainees at United States Naval Station, Guantanamo Bay, Cuba. The report shall include the following:

(1) a review of the medical care, including specialty care, provided to detainees at Guantanamo after January 10, 2002;

(2) an assessment of the health care requirements of the detainees at Guantanamo;

(3) an assessment of relevant standards of care for comparison to the quality of medical care provided for detainees at Guantanamo;

(4) whether there are specific professional or training requirements for providers at Guantanamo, and how this may affect the provision of medical care for detainees;

(5) whether there are specific challenges to providing health care, including specialty care, to detainees at Guantanamo, such as policy, practice, and organizational factors; access to detainee medical records; and security clearance policy and the need for security clearances; and

(6) an assessment of policies at Guantanamo related to detainee medical records and their interaction with the Military Commissions process, including any impacts on medical care.

As appropriate, the report shall provide recommendations for policy changes, including any recommendations that would require legislative action. The report shall be unclassified without dissemination control, but may include a classified annex.

Management of the Ammunition Industrial Base

The committee recognizes the critically important responsibility and authority of the Joint Program Executive Office for Armaments and Ammunition (JPEO A&A) for comprehensive life-cycle assessment, planning, and management of our ammunition industrial base ensuring that our warfighters are appropriately equipped and supplied to meet ammunition readiness and mission requirements.

The committee is concerned, however, that potential changes to the existing distribution of responsibility and authority for the life-cycle management of our ammunition enterprise, including the government-owned and contractor-operated industrial base, risks unnecessarily undermining unity of command and effort, complicating command and support relationships, contributing to inefficiency, and increasing cost.

The committee is aware that the recent report, "DoD Ammunition Enterprise Organizational Assessment" dated March 7, 2019, evaluated various options for realignment of responsibility and authority for management of the ammunition industrial base. Included in that report was a recommendation for a "thorough legal review" of statutory and regulatory changes that could impact readiness responsibilities for all agencies considered.

Therefore, the committee directs the Secretary of the Army, prior to deciding on any changes currently under consideration, to conduct an audit of all laws, policies and procedures related to proposed changes and, if needed, identify legislative or regulatory changes required to implement such management changes. The committee further directs the Secretary of the Army to provide to the House Committee on Armed Services a briefing on the results of this audit, as well as plans to mitigate risk to the industrial base, risk to unity of command and effort, complications between command and support relationships, inefficiencies, or increased costs, not less than 60 days prior to implementing any changes to the distribution of authority or responsibility for the management of the ammunition industrial base.

Navy Cost Savings Initiative

The committee is aware of the significant time and effort invested in audit readiness and remediation on the part of individual units and commands, and notes in particular the efforts of Commander, U.S. Pacific Fleet to enhance internal controls over the obligation management process. These efforts have to date resulted in sufficient freed purchasing power to enable the reinvestment of $4.4 million into ship repair costs for the USS *Paul Hamilton* (DDG–60). The committee directs the Secretary of the Navy to brief the committee by December 1, 2019 on lessons learned from this initiative that can be applied across the broader Navy enterprise, as well as what the Navy plans to do to incentivize similar efficiencies, while enabling mission success, in the future.

Office of the Chief Management Officer Human Capital Analysis

The committee notes that the Office of the Chief Management Officer (CMO), which establishes policy and guidance for business system investments, has not demonstrated that it has conducted a human capital analysis, as recommended by the Government Ac-

countability Office (GAO) in May 2013. The committee is concerned that without the insights provided by such an analysis, the Office of the CMO will be limited in its ability to plan strategically to address skill gaps, likewise limiting its ability to lead improvement initiatives across the Department of Defense. Given the importance of defense business system investments to key Department initiatives such as Financial Improvement and Audit Remediation, the committee believes it important that the CMO perform such an analysis at the earliest possible date. Accordingly, the committee directs the Chief Management Officer to provide an interim briefing to the House Committee on Armed Services not later than September 30, 2019, outlining a plan to conduct a human capital analysis pursuant to the GAO recommendation, as well as a report to the congressional defense committees not later than January 15, 2020, detailing the results of the human capital analysis.

Operational Use of Publicly Available Information

Violent extremist organizations and state-actors continue to conduct influence, command and control, and other overt operations in the information environment (IE), including on social media platforms, to achieve objectives that undermine U.S. national security. As such, the demand for the operational use of Publicly Available Information (PAI) for traditional military activities such as military information support operations, battlespace awareness, and force protection continues to increase. In fact, the 2016 Department of Defense Strategy for Operations in the IE correlates information operations and cyberspace operations with the operational use of PAI.

The committee is aware that the collection, exploitation, understanding, and use of PAI may serve operational or intelligence operations or activities of the Department. The committee acknowledges that obtaining, understanding, and utilizing PAI for operational purposes presents significant and unique policy challenges. For example, the committee believes that protection of privacy and civil liberties of U.S. persons must remain a priority when setting forth guidance on accessing, acquiring, requesting, storing, analyzing, or otherwise using PAI for operational means, and that operational use of PAI should not serve as a replacement for Open Source Intelligence or other intelligence sources and tradecraft, or operational methods, for verifying military targets.

The committee notes that the Department has not yet established, but is formulating, a policy and governance structure for PAI. The committee is concerned that the lack of policy and governance structure is hindering the Department from maintaining an edge in and outside of the IE. The committee also notes that cover requirements and resources for administering cover may not be conducive to responsible and expedient operational use of PAI.

Therefore, the committee directs the Under Secretary of Defense for Policy, in coordination with the Under Secretary of Defense for Intelligence, to provide a briefing to the House Committee on Armed Services not later than October 1, 2019, on the operational use of PAI. The briefing shall include a description of the traditional military activities that may be enabled or enhanced using PAI, an update on policy formulation and considerations, frame-

works for oversight and governance, cover requirements and guidance, and protection of U.S. persons privacy and civil liberties.

Report on Egypt's Counterterrorism Campaign in the Sinai

The Committee is concerned with the lack of verifiable access to the Egyptian Sinai to monitor compliance with end-use monitoring requirements. Therefore, the committee directs the Secretary of Defense, in consultation with the Secretary of State, to provide a report to the House Armed Services Committee, the House Foreign Affairs Committee, the Senate Armed Services Committee, and the Senate Foreign Relations Committee not later than November 1, 2019 detailing whether the Government of Egypt is readily providing information to the Government of the United States to facilitate a comprehensive vetting process; a detailed description of the internal protocol, evidentiary standards, and decision making process followed by the Department of Defense and the Department of State in investigating reports of human rights violations committed by Egyptian security forces; and an assessment of whether the Egyptian security forces are adequately complying with obligations under the "Golden Sentry" and "Blue Lantern" programs. The Committee directs the report to be provided in unclassified form, including a classified annex if necessary.

Report on Supporting Requirements for the Air Force's Proposed Increase in Force Structure

The committee is concerned that the current size and structure of the Air Force does not support the National Defense Strategy. The committee acknowledges the Air Force's recent force structure assessment, called "The Air Force We Need", which provides a case and framework that would, if adopted and resourced, grow the Air Force from 312 to 386 operational squadrons. While the committee understands the assessment's analysis and conclusions and the case it makes to grow the size of the Air Force, it also notes the limitations associated with an analysis of operational squadrons only. Further, the committee is concerned that the requirement for 386 operational squadrons as illustrated in the assessment will only be realized through the alignment of resources to these requirements through future Air Force budgets and encourages the Air Force to develop a more comprehensive analysis that would fully integrate planning for 386 operational squadrons into future budgets.

Therefore, the committee directs the Secretary of the Air Force, in consultation with the Secretary of Defense, Chairman of the Joint Chiefs of Staff, and the secretaries of the other military departments to provide a report to the congressional defense committees not later than March 1, 2020, that builds on the analysis completed in the "Air Force We Need" assessment, and details the supporting resources and support personnel requirements necessary to execute a force sized at 386 operational squadrons. This analysis and report should include associated, realigned, or additional infrastructure requirements, maintenance and other supporting personnel requirements, depot production, industrial base support, and additional details the Secretary feels necessary to fully identify, evaluate, and estimate the costs of the changes required with-

in the larger Air Force enterprise to meet the requirements of the National Defense Strategy.

Report on the Process for Repatriation of Individuals Who Have Been Cleared for Transfer out of United States Naval Station, Guantanamo Bay, Cuba

The committee is concerned that the process for transferring individuals detained at U.S. Naval Station, Guantanamo Bay, Cuba, to third countries once they have been cleared for transfer by a periodic review board or the Guantanamo Review Task Force has ceased to make headway. A number of individuals detained at U.S. Naval Station, Guantanamo Bay, have been cleared for transfer to third countries, yet no such cleared individual has been transferred since January 20, 2017.

In addition, an envoy in charge of detainee repatriation has not been appointed, and although periodic review boards (PRBs) continue to operate, the status and the future of the transfer process is unclear.

In light of these concerns, the committee directs the Secretary of Defense to submit a report to the congressional defense committees not later than September 30, 2019, on the state of the repatriation process. The report shall be unclassified without dissemination control, but may include a classified annex. At a minimum, the report should address the following issues:

(1) the status of and current plans for the repatriation process;

(2) an explanation of the reasons why there has not been a transfer of an individual who has been cleared for transfer by a periodic review board or the Guantanamo Review Task Force since January 20, 2017, including any policy reviews or changes that have occurred to the PRB process;

(3) the current state of each individual's case who has been cleared for transfer, but has not been transferred, including any actions taken to facilitate their transfer, any obstacles to their transfer, the current state of any planning for transfer;

(4) an explanation of the reasons why a repatriation envoy for the Department of Defense has not been appointed, the impact that the lack of a repatriation envoy has on the repatriation process, whether there have been any efforts in the absence of a repatriation envoy, and an assessment of those efforts if applicable;

(5) an assessment of who in the administration is currently in charge of arranging transfers for cleared detainees, monitoring former detainees' safety after repatriation or resettlement, and monitoring country compliance with transfer agreements;

(6) the status of and current plans for the periodic review board process; and

(7) an assessment of any collateral impacts to the detention process and proceedings at Guantanamo that have occurred as a result of the lack of transfers.

Special Operations Forces Professionalism and Ethics

In the committee report accompanying the National Defense Authorization Act for Fiscal Year 2018 (H. Rept. 115–200), the committee required the Department of Defense to provide a briefing containing an assessment of the culture and accountability of spe-

cial operations forces (SOF) due to allegations of serious misconduct. Further, section 1066 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232) required the Assistant Secretary of Defense for Special Operations and Low Intensity Conflict to conduct a review of ethics and professionalism programs available to SOF. This report was provided to the congressional defense committees on February 26, 2019, and reiterated the finding of a "disordered value system" that was identified by the Commander of U.S. Special Operations Command (SOCOM) after an internal survey of allegations of serious misconduct across the SOF enterprise in December 2018.

As a result of the survey findings, the former Commander of U.S. Special Operations Command, General Tony Thomas, outlined steps SOCOM would take over 90 days. This included a review of command climate surveys, reviewing programs of instruction, conducting research between trauma and behavioral health, and command level engagement with the force, to address the "disordered value system" focused on the individual and team rather than a commitment to serve.

The committee recognizes the efforts of senior SOF leadership to maintain and strengthen SOF ethos and urges the Commander of U.S. Special Operations Command and the Assistant Secretary of Defense for Special Operations and Low Intensity Conflict to continue such efforts. However, the committee has not been briefed on the results or continuing effort of the 90-day review and expects to be continually updated. Therefore, the committee directs the Commander of U.S. Special Operations Command, in coordination with the Assistant Secretary of Defense for Special Operations and Low Intensity Conflict, to provide a briefing to the House Committee on Armed Services not later than July 9, 2019, on the 90-day review and provide an update on other efforts relating to professionalism and ethics of the force.

Strategy for Operations in the Information Environment

Operations in the information environment (IE) by state and non-state actors, such as Russian cyber intrusions to undermine democratic institutions, ISIS's recruitment through dissemination of propaganda, or exfiltration of controlled unclassified information from the defense industrial base by cyber actors affiliated with the People's Republic of China, pose a dynamic challenge to U.S. national security. The Department of Defense, when appropriate and in concert with the interagency, must be prepared to address, defend, and respond to actions in the IE that undermine national security across the spectrum of warfare and in all types of conflict.

In June 2016 the Department of Defense issued a strategy for operations in the IE to align Departmental actions and ensure effective integration of actions across all information domains. Section 1637 of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115–91) directed the Department to develop an implementation plan to support the 2016 Department of Defense Strategy for Operations in the Information Environment and establish processes and procedures to better integrate strategic information operations and cyber-enabled information operations across the relevant elements of the Department, including those responsible for military deception, public affairs, electronic warfare, and

cyber operations. Section 1637 of Public Law 115–91 also directed the Department of Defense to coordinate regional information strategies and interagency coordination plans of the combatant commands with the appropriate Department of State officials and the Global Engagement Center. Further, this section required periodic status reports to the congressional defense committees every 90 days on the date the implementation plan required was submitted.

The committee recognizes the efforts of the Assistant Secretary of Defense for Special Operations and Low Intensity Conflict as well as the Department's Information Operations Steering Group, charted in August 2016, relating to the requirements of section 1637 of Public Law 115–91 and acknowledges the periodic status updates provided to the congressional defense committees to date. The committee understands the Information Operations Steering Group has recommended the 2016 Strategy for Operations in the IE be updated and that the Department will issue the new strategy sometime this year. The committee expects to be apprised of the new strategy and expects the Department to apply the direction and requirements of section 1637 of the NDAA for FY 2018 to the new strategy. Therefore, the committee directs the Secretary of Defense to brief the House Committee on Armed Services not later than September 1, 2019, on the status of the existing Strategy for Operations in the IE, status of the implementation plan and other elements of section 1637 of Public Law 115–91, plan for continuing to provide the congressional defense committees continuous periodic updates relating to operations in the IE, and provide detailed information on existing authorities, policies, and doctrine relating to operations in the IE.

Trafficking of Wildlife and Wildlife Products

The committee is concerned about the financing of terrorism and empowerment of transnational organized crime organizations through illicit trafficking. One potential source of financing includes trafficking in wildlife and wildlife products. The illegal trade of endangered and threatened wildlife and their parts generates billions of dollars annually. The committee notes that profits from the illegal wildlife trade have been reported to finance groups such as the Lord's Resistance Army, Janjaweed militias, and Boko Haram. The committee, therefore, directs the Secretary of Defense, in consultation with the Secretary of Homeland Security and Secretary of State, to provide a briefing to the House Committee on Armed Services no later than March 1, 2020, on the Department's support to United States' efforts to combat illicit trafficking that includes wildlife and wildlife products.

LEGISLATIVE PROVISIONS

SUBTITLE A—FINANCIAL MATTERS

Section 1001—General Transfer Authority

This section would allow the Secretary of Defense, with certain limitations, to make transfers between amounts authorized for fiscal year 2020 in division A of this Act. This section would limit the total amount transferred under this authority to $1.0 billion. This

section would also require prompt notification to Congress of each transfer made.

Section 1002—Additional Requirements for Annual Report and Briefing on Financial Improvement and Audit Remediation Plan

This section would amend the annual reporting and semiannual briefing requirements contained in section 240b of title 10, United States Code, to include a current accounting of the defense business systems of the Department of Defense that will be introduced, replaced, updated, modified, or retired in connection with the audit of the full financial statements of the Department, including a comprehensive roadmap displaying in-service, retirement, and other pertinent dates for affected defense business systems, as well as current cost-to-complete estimates for each effort.

Section 1003—Financial Improvement and Audit Remediation Plan

This section would amend section 240b of title 10, United States Code, by updating the elements of annual reports, semiannual briefs, and audit remediation services of financial improvements and audit remediation plans.

Section 1004—Reporting Requirements Relating to Department of Defense Audits

This section would require an annual report ranking each of the military departments and Defense Agencies in order of how advanced they are in achieving auditable financial statements as required by law. This report would include, for the bottom quartile of departments and agencies ranked in the report, an additional report describing the material weaknesses of the reporting entity, underlying causes of the material weaknesses, and a plan for remediation. This section would also require a report presenting a plan for achieving an unmodified audit opinion on the Department of Defense-wide consolidated audit within 5 years.

Section 1005—Annual Budget Justification Display for Service-Common and Other Support and Enabling Capabilities for Special Operations Forces

This section would require the Secretary of Defense to provide a consolidated budget display to Congress annually as part of the President's budget request showing service-common and other support and enabling capabilities for special operations forces (SOF) requested by a military service or defense agency.

The committee appreciates the level of fidelity provided in the budget request for Major Force Program (MFP)–11 administered by U.S. Special Operations Command for SOF-peculiar and command-specific programs, activities, and services. The budget request contained $13.8 billion in MFP–11 which accounts for 2 percent of the total budget request for the Department. According to the Department, service-common support and enabling capabilities requested by the military departments for SOF contained in the budget request is approximately $8.0 billion, bringing the total amount requested for SOF to more than $21.0 billion. However, the committee is aware that other elements of the Department, such as the

Defense Threat Reduction Agency, Combating Terrorism and Technical Support Office, and Defense Innovation Unit also request and expend funds to support SOF that may not be reflected in the service-common total. Therefore, the committee requires a better understanding of the total amounts requested for SOF across the Department and greater consolidated detail on such service-common and other enabling capabilities and support requested each fiscal year.

Section 1006—Determination of Budgetary Effects

This section would state the budgetary effects of this Act for the purpose of complying with the Statutory Pay-As-You-Go Act of 2010.

Section 1007—Independent Public Accountant Audit of Financial Systems of the Department of Defense

This section would direct the Secretary of Defense to ensure financial systems of the Department of Defense are reviewed by an independent public accountant to validate the financial system will meet applicable Federal requirements.

SUBTITLE B—COUNTERDRUG ACTIVITIES

Section 1011—Modification of Authority to Provide Support to Other Agencies for Counterdrug Activities and Activities to Counter Transnational Organized Crime

This section would modify the authority to provide support to other agencies for counterdrug activities and activities to counter transnational organized crime and clarify notification requirements for support provided under subsection (b).

Section 1012—Technical Correction and Extension of Reporting Requirement regarding Enhancement of Information Sharing and Coordination of Military Training between Department of Homeland Security and Department of Defense

This section would provide a technical correction and extend until December 31, 2022, to a report required by section 1014 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328).

Section 1013—Repeal of Secretary of Defense Review of Curricula and Program Structures of National Guard Counterdrug Schools

This section would repeal the Secretary of Defense's review of National Guard counterdrug school curricula and program structures.

SUBTITLE C—NAVAL VESSELS AND SHIPYARDS

Section 1021—Transportation by Sea of Supplies for the Armed Forces and Defense Agencies

This section would modify section 2631 of title 10, United States Code, to expand application of cargo transported by the Department of Defense to include defense agencies. Additionally, this sec-

tion would require additional latitude in the transportation of fuel products to better expand opportunities for U.S. flagged resources.

Section 1022—Use of National Defense Sealift Fund for Procurement of Two Used Vessels

This section would require the Secretary of the Navy to seek to enter into a contract for two used vessels for mobilization purposes.

Section 1023—Formal Schoolhouse Training for Shipboard System Programs of Record

This section would require the Secretary of the Navy to ensure there is a formal schoolhouse for all shipboard systems that are current programs of record in the fleet.

Section 1024—Report on Shipbuilder Training and the Defense Industrial Base

This section would require the Secretary of the Navy to submit a report on how the Navy plans to manage the need to grow the shipbuilding workforce as it builds to a 355-ship Navy.

SUBTITLE D—COUNTERTERRORISM

Section 1031—Extension of Authority for Joint Task Forces to Provide Support to Law Enforcement Agencies Conducting Counter-Terrorism Activities

This section would extend section 1022 of the National Defense Authorization Act for Fiscal Year 2004 (Public Law 108–136) from fiscal year 2020 to fiscal year 2022, and make technical corrections.

Section 1032—Prohibition on Use of Funds for Transfer or Release of Individuals Detained at United States Naval Station, Guantanamo Bay, Cuba, to Certain Countries

This section would prohibit the use of funding authorized to be appropriated or otherwise made available for the Department of Defense during the period beginning on the date of the enactment of this Act and ending on December 31, 2020, to transfer, release, or assist in the transfer or release of any individual detained at U.S. Naval Station, Guantanamo Bay, Cuba, to Libya, Somalia, Syria, Yemen, Cuba, Iran, Russia, North Korea, Mexico, Guatemala, Honduras, El Salvador, and Venezuela.

Section 1033—Prohibition on Use of Funds for Transfer to and Detention of Additional Individuals, Including United States Citizens, at United States Naval Station, Guantanamo Bay, Cuba

This section would prohibit the use of funding authorized to be appropriated or otherwise made available for the Department of Defense during the period beginning on the date of the enactment of this Act and ending on December 31, 2020, to detain any additional individuals, including United States citizens, at the detention facility at the United States Naval Station, Guantanamo Bay, Cuba.

This section would prohibit detention of additional individuals under the law of war or pursuant to a military commission pro-

ceeding, and defines additional individuals as individuals to be detained at Guantanamo following the most recent release of a detainee, pursuant to a plea agreement, in May 2018.

This section would also require a plan identifying a disposition other than continued law of war detention at United States Naval Station, Guantanamo Bay, Cuba, for each individual currently detained at Guantanamo.

Section 1034—Sense of Congress regarding the Provision of Medical Care to Individuals Detained at United States Naval Station, Guantanamo Bay, Cuba

This section would express the sense of Congress that the increasing age of detainees at the U.S. Naval Station, Guantanamo Bay, Cuba, poses challenges for the provision of medical care and that the United States has an ongoing obligation to provide medical care to detainees at Guantanamo that meets appropriate standards of care.

This section would also express the sense of Congress that the Secretary of Defense should take into account the standards of care provided at other relevant facilities, including those administered by the Federal Bureau of Prisons, when determining the policies regarding medical care for detainees at Guantanamo.

Section 1035—Independent Assessment on Gender and Countering Violent Extremism

This section would require the Secretary of Defense to enter into a contract with a nonprofit entity or a federally funded research and development center independent of the Department of Defense to conduct research and analysis on the intersection of gender and violent extremism and terrorism and provide a report to the congressional defense committees on the result of the research not later than 2 years after the date of the enactment of this Act.

SUBTITLE E—MISCELLANEOUS AUTHORITIES AND LIMITATIONS

Section 1041—Scheduling of Department of Defense Executive Aircraft Controlled by Secretaries of Military Departments

This section would require the Secretary of Defense to ensure there is a common scheduler for the scheduling and prioritization of executive airlift across the entire Department of Defense.

Section 1042—Explosive Ordnance Defense Disposal Program

This section would amend section 2284 of title 10, United States Code, to make technical changes regarding the responsibilities of the executive agent for the explosive ordnance disposal training and technology program. This section would also eliminate the requirement to designate a combat support agency to manage a defense-wide program element for certain explosive ordnance disposal activities.

Section 1043—Notification on the Provision of Defense Sensitive Support

This section would modify section 1055 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) to provide additional Defense Sensitive Support reporting requirements.

Section 1044—Modification and Technical Correction of Authority for Deployment of Members of the Armed Forces to the Southern Land Border of the United States

This section would modify the authority under section 1059 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92) to require the Secretary of Defense to fully consider readiness, mission and task alignment to requested support, and ensure that support requirements are inherently governmental when determining the Department of Defense's ability to provide assistance to secure the U.S. southern land border. Additionally, this section would add reporting requirements.

Section 1045—Limitation on Use of Funds for the Inactivation of Army Watercraft Units

This section would prohibit the use of any funds for fiscal year 2020 for the inactivation of an Army watercraft unit until the Secretary of Defense has completed a review and the findings have been validated by a federally funded research and development corporation.

Section 1046—Prohibition on Use of Funds for Construction of a Wall, Fence, or Other Physical Barrier along the Southern Border of the United States

This section would prohibit the obligation, expense, or use of funds, that have been authorized to be appropriated for national defense in fiscal years 2015 through 2020, to design or carry out a project to construct, replace, or modify a wall, fence or other physical barrier along the international border between the United States and Mexico.

Section 1047—Expenditure of Funds for Department of Defense Intelligence and Counterintelligence Activities

This section would authorize the expenditure of no more than 5 percent of Military Intelligence Program funds for Department of Defense recurring or anticipated intelligence and counterintelligence activities for each of the fiscal years 2020 through 2025. Further, this section would require the Secretary of Defense to provide a report of the expenditures covered by this authorization for each of the fiscal years 2020 through 2025.

This section would provide additional authorization in response to section 1041 of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115–91), which required the Secretary of Defense to clarify use of emergency and extraordinary expenses (EEE) for intelligence and counterintelligence (CI) activities that were determined not to be of an emergent or extraordinary nature. This modification of section 423 of title 10, United States Code, at-

tempts to normalize limited, controlled spending for the Department's intelligence and CI activities while preserving the EEE construct for those intelligence and CI expenses that are truly emergent and extraordinary, and cannot be classified with an established Department of Defense funding program.

Section 1048—Limitation on Use of Funds to House Children Separated from Parents

This section would prohibit amounts made available to the Department of Defense for fiscal year 2020 from being used to house children separated from their parent or legal guardian by Customs and Border Protection near a port of entry or within 100 miles of the border of the United States.

Section 1049—Limitation on Use of Funds for Providing Housing for Unaccompanied Alien Children

This section would require the Department of Defense to submit a congressional certification that any housing provided to unaccompanied alien children meets the standards of the Department of Health and Human Services, including those provided in the Flores settlement agreement, any waivers or exceptions to those standards, and identifies any environmental hazards and actions to mitigate those hazards.

SUBTITLE F—NATIONAL DEFENSE STRATEGY IMPLEMENTATION

Section 1051—Short Title

This section would establish that this subtitle may be cited as "the National Defense Strategy Implementation Act".

Section 1052—Report on Operational Concepts and Plans Regarding Strategic Competitors

This section would require the Secretary of Defense to provide to the congressional defense committees, not later than February 1, 2020, and biannually thereafter, a report on Department of Defense operational concepts and plans regarding strategic competitors.

Section 1053—Actions to Increase Analytic Support

This section would require the Secretary of Defense to direct the Under Secretary of Defense for Policy, the Director of the Joint Staff, and the Director of Cost Assessment and Program Evaluation, in consultation with the head of each military service, to jointly develop and implement a plan to strengthen necessary analytic capabilities, expertise, and processes for meeting the National Defense Strategy.

Section 1054—Definitions

This section would define the terms "operational challenges" and "strategic competitors" for the purposes of this subtitle.

SUBTITLE G—STUDIES AND REPORTS

Section 1061—Report on Transfers of Equipment to Prohibited Entities

This section would require the Secretary of Defense, in coordination with the Secretary of State, to submit an annual report on the transfer of defense articles to any unit committing a gross violation of human rights or any group or organization prohibited from receiving assistance from the United States during the preceding year. This section would also require a one time report on transfers during the period beginning on January, 1, 2015 and ending on the date of enactment of this Act.

Section 1062—Elimination of Requirement to Submit Reports to Congress in Paper Format

This section would enable the Department of Defense to provide reports required by the Congress in an electronic format rather than a paper format. By eliminating the requirement of the delivery of congressional reports in paper format, the Department of Defense would be able to streamline the reporting process both within the Department and in delivery of its reports to the Congress.

Section 1063—Modification of Annual Report on Civilian Casualties in Connection with United States Military Operations

This section would modify section 1057 of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115–91), as most recently amended by section 1062 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232), by adding additional elements and extending the reporting requirement.

Section 1064—Inclusion of Certain Individuals Investigated by Inspectors General in the Semiannual Report

This section would require the Inspector General of the Department of Defense to include the already-public names of senior officials who commit misconduct in quarterly reports.

Section 1065—Annual Report on Joint Military Information Support Operations Web Operations Center

This section would require the Commander of U.S. Special Operations Command (SOCOM) to provide an annual report to the congressional defense committees not later than December 1 of each year on the Joint Military Information Support Operations (MISO) Web Operations Center (JMWC). The report shall include a description of MISO activities hosted by the JMWC, activities conducted to achieve initial operating capability and full operational capability, measures of effectiveness, infrastructure, leveraging lessons learned across the platform, number of personnel, and synchronization of efforts across the interagency and with international partners, as appropriate.

The committee supports efforts to improve the effectiveness and efficiency of MISO programs. However, the committee is concerned the current plan for establishment of the JMWC is focused on con-

solidation rather than efficiencies and lacks focus on efforts to leverage lessons learned and implement measures of effectiveness across the geographic combatant commands.

Section 1066—Mobility Capability Requirement Study

This section would require the Commander, U.S. Transportation Command to submit a report and a briefing to the House Committee on Armed Services by January 1, 2021, with an interim update by June 1, 2020, assessing the operational risk for meeting the mobility requirements of the geographic combatant commanders.

Section 1067—Assessment of Special Operations Force Structure

This section would require the Secretary of Defense to enter into an agreement with a federally funded research and development center for the conduct of an independent assessment of the force structure and roles and responsibilities of special operations forces and to submit the assessment to the congressional defense committees not later than July 1, 2020.

Section 1068—Army Aviation Strategic Plan and Modernization Roadmap

This section would require the Secretary of the Army to provide a comprehensive strategy to the congressional defense committees by March 30, 2020, for Army aviation to ensure alignment between requirements, future Army budget submissions, and authorization of appropriations. The required strategy would cover both current and future multi-domain operations for Army aviation.

The fiscal year 2020 budget request for the Army included several significant changes to aviation modernization programs. While these changes may align with the long-term Army aviation strategy, the committee is concerned with the absence of such a strategy that incorporates both current and future capabilities.

Section 1069—Report on Ground-Based Long-Range Artillery to Counter Land and Maritime Threats

This section would require the Secretary of Defense to provide a report to the congressional defense committees not later than March 1, 2020, on the integration of emerging long range ground-based fires to counter land and maritime threats, particularly those in the U.S. Indo-Pacific Command and U.S. European Command areas of responsibility.

Section 1070—Independent Review of Transportation Working-Capital Fund

This section would require the Secretary of Defense, in coordination with the Secretaries of the military departments, to contract with an independent federally funded research and development center to conduct a review of the Transportation Working Capital-Fund (TWCF) of the U.S. Transportation Command.

The committee is disappointed to learn that U.S. Transportation Command has delayed the implementation of the changes that were mandated by the National Defense Authorization Act for Fis-

cal Year 2018 (Public Law 115–91) as it pertains to the management of the channel system. The channel system was designed to be a revenue generator for the TWCF but has consistently failed to meet this objective. The U.S. Transportation Command has done a poor job of projecting overhead costs and cargo as it relates to the channel system which has resulted in the military services budgeting incorrectly for the costs associated with using the channel system. The committee believes that rather than having the military services budget for the cost of using the channel system which then flow to the TWCF, U.S. Transportation Command should improve their cost projections and budget directly for them. The committee is also concerned that there has not been adequate oversight of where excess TWCF funds have been allocated. The committee expects U.S. Transportation Command to better disclose where excess TWCF funds are being allocated in the future.

Section 1071—Geographic Command Risk Assessment of Proposed Use of Certain Aircraft Capabilities

This section would require selected commanders of geographic combatant commands to provide a report to the congressional defense committees not later than March 31, 2020, that assesses the level of operational risk posed by the plans of the Department of the Air Force and the Department of the Navy to provide a mix of fifth generation and advanced fourth generation tactical aircraft capabilities to meet each commanders' contingency and steady-state operational requirements.

Section 1072—Annual Report on Strikes Undertaken by the United States Against Terrorist Targets Outside Areas of Active Hostilities

This section would require an annual report to Congress not later than May 1 of each year on the number of strikes undertaken by the United States against terrorist targets outside areas of active hostilities during the preceding calendar year, as well as assessments of combatant and non-combatant deaths resulting from those strikes.

Section 1073—Termination of Requirement for Submittal to Congress of Certain Recurring Reports

This section would terminate certain recurring reports effective December 30, 2021.

SUBTITLE H—OTHER MATTERS

Section 1081—Technical, Conforming, and Clerical Amendments

This section would make a number of technical, conforming, and clerical amendments of a non-substantive nature to existing law.

Section 1082—Submission to Congress of Department of Defense Execute Orders

This section would add a new section in chapter 2 of title 10, United States Code, that would require the Secretary of Defense to provide to the chairman and ranking member of each of the congressional defense committees, and their designated staff with the

appropriate security clearance, copies of each execute order issued by the Secretary or by a commander of a combatant command before the date of the enactment of this Act, and within 30 days of issuing an execute order after the date of the enactment of this Act.

Section 1083—Extension of National Security Commission on Artificial Intelligence

This section would modify reporting requirements for the National Security Commission on Artificial Intelligence, as established in section 1051 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232) by 180 days and extend the termination date to March 1, 2021.

Section 1084—National Commission on Military Aviation Safety

This section would amend section 1087 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232) to extend the deadline to December 1, 2020, for the National Commission on Military Aviation Safety to submit its final report. In addition, this section would require the Secretary of Defense, in coordination with the Secretaries of the military departments, to provide a report that assesses the commission's findings and conclusions, as well as details any plans for implementing recommendations made by the commission and any other actions being taken to improve military aviation safety. Finally, this section would authorize $3.0 million in fiscal year 2020 for the commission's operations.

Section 1085—Extension of Postage Stamp for Breast Cancer Research

This section would amend section 414 of title 39, United States Code, by authorizing the extension of the postage stamp for breast cancer research until 2027.

Section 1086—Processes and Procedures for Notifications regarding Special Operations Forces

This section would mandate the Secretary of Defense establish and submit processes and procedures for providing notifications to the congressional defense committees regarding members of special operations forces. This section would also mandate that the processes and procedures include clarification of the roles and responsibilities of the Secretaries of the military departments, the Assistant Secretary of Defense for Special Operations and Low Intensity Conflict, and the Commander of U.S. Special Operations Command in providing such notifications to Congress.

The Secretaries of the military departments provide notification to the congressional defense committees regarding members of the Armed Forces who receive awards of valor, demonstrate acts of heroism, are killed or wounded in action or while on duty, are alleged to have committed serious offenses punishable under the Uniform Code of Military Justice, are involved in high-profile incidents, and for other matters of interest.

However, the committee notes that ambiguity regarding the roles and responsibilities of the Secretaries of the military departments,

the Commander of U.S. Special Operations Command, and the Assistant Secretary of Defense for Special Operations and Low Intensity Conflict relating to notifications involving special operations forces have resulted in inconsistent, or lack of, notifications. For example, the congressional defense committees were not provided notifications of reprimands issued as a result of the investigation into the incident in Niger in 2017.

The committee expects processes and procedures established under this provision to be consistent with the processes for notifications involving the conventional forces and to account for the privacy of members of the Armed Forces.

Section 1087—Assessment of Standards, Processes, Procedures, and Policy Relating to Civilian Casualties

This section would require the Secretary of Defense to enter into an agreement with a federally funded research and development center for conduct of an independent assessment of the sufficiency of Department of Defense standards, processes, procedures, and policy relating to civilian casualties resulting from United States military operations.

Section 1088—Disposal of IPv4 Addresses

This section would require the Department of Defense to sell certain IPv4 addresses at fair market value. This section would also require the Secretary of Defense to submit a report to the congressional defense committees not later than 180 days after the date of the enactment of this Act on the disposal of certain IPv4 addresses, an accounting of the total number of IPv4 address holdings of the Department of Defense, and the plan of the Secretary to transition all Department addresses to IPv6. Finally, this section would limit the obligation or expenditure of funds for fiscal year 2020 to 70 percent of funds for the Office of the Secretary of Defense for travel until the Secretary submits this report.

Section 1089—Securing American Science and Technology

This section would establish an interagency working group to coordinate activities for the protection of federally funded research and development from foreign interference while accounting for an exchange of ideas and for the international talent required for scientific progress and American leadership in science.

Section 1090—Standardized Policy Guidance for Calculating Aircraft Operation and Sustainment Costs

This section would require the Under Secretary of Defense for Acquisition and Sustainment to develop and implement standardized policy guidance for calculating aircraft operation and sustainment costs for the Department of Defense.

Section 1091—Special Federal Aviation Regulation Working Group

This section would require the Secretary of Defense, the Secretary of Transportation, and the Secretary of State to establish a Special Federal Aviation Regulation interagency working group to review the current options for the Department of Defense to use

contracted U.S. civil aviation to provide support for Department of Defense missions in areas where a Federal Aviation Administration Special Federal Aviation Regulation is in effect.

TITLE XI—CIVILIAN PERSONNEL MATTERS

ITEMS OF SPECIAL INTEREST

Civilian Sexual Assault Study

The committee is concerned about sexual harassment and assault prevention and response procedures within the civilian workforce of the Department of Defense. The committee notes that civilian employees report harassment and assault at higher rates than their uniformed counterparts, and in some instances express dissatisfaction with their management's handling of these complaints.

Therefore, the committee directs the Comptroller General of the United States to submit a report to the congressional defense committees by March 1, 2020, on the Department of Defense sexual assault and harassment prevention and response system for civilian employees. This report shall include, but is not limited to, the following elements:

(1) the utilization rate of the sexual assault services by civilian employees;

(2) an assessment of the quality and timing of preventive training;

(3) the staffing level of the prevention and response systems, Department of Defense counselors, victim advocates, and special victims counsels for civilian employee sexual assault victims; and

(4) a comparison of the resources to those available for military personnel.

Department of Defense Report on Reduction in Force

The committee notes that section 1101 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92) required the Secretary of Defense to establish procedures to require that any reduction in force for civilian positions for the competitive service or the excepted service be conducted primarily on the basis of performance under any applicable performance management system. The committee also notes that the "New Beginnings" performance management and workforce incentive system was authorized by section 1113 of the National Defense Authorization Act for Fiscal Year 2010 (Public Law 111–84) in conjunction with the repeal of the National Security Personnel System.

The committee believes the impacts of these significant changes to civilian workforce policy in the Department of Defense should be identified and reviewed for any necessary modification. Therefore, the committee directs the Secretary of Defense to submit a report to the congressional defense committees by March 1, 2020, concerning all involuntary civilian reductions in force conducted on or after January 1, 2016, broken out by Department of Defense component. The report should illustrate the number of employees separated, the number of employees separated because of less favorable performance evaluations, and the demographics of each group.

Direct Hire Authority Clarification for Support Defense Activities

The committee notes that Subsection (a) of section 1125 of the National Defense Authorization Act for Fiscal Year 2017 granted temporary direct hire authority for domestic defense industrial base facilities and major range and test facilities bases. Furthermore, section 1101 of the National Defense Authorization Act for Fiscal Year 2019, implemented direct hire authority across the Department. These changes have sped up hiring, brought employees on faster, and increased productivity at Air Force Depots.

The committee notes that these changes to section 1125 and 1101 intended to cover positions that work on and support defense activities for the defense industrial base or the major range and test facilities bases. Positions that support the Depots themselves, for example, plumbers, electricians, exterior maintenance, finance, etc., are currently not covered by the changes in section 1125 and section 1101. These types of employees, although not doing direct depot work, directly support and enable the operation of the depot.

Therefore, the committee directs the Secretary of Defense to submit a report on the effects of the current interpretation of section 1125, specifically the challenges faced by the Air Force due to inadequate direct hire authority for positions that support defense activities for the defense industrial base or the major range and test facilities bases.

Optimizing Total Force Management

The Department of Defense's Fiscal Year 2020 budget request explains that the size and composition of its civilian workforce is shaped to reflect changes commensurate with the Department's military force structure and its civilian workforce is key to warfighter readiness. However, when the committee examined the workforce projections of the Department of Defense, it found the civilian workforce increases by 0.7 percent from fiscal year 2019 to 2020, while Active Component End Strength increases by 6.2 percent and Reserve Component End Strength by 1.5 percent.

Therefore, given these workforce mix decisions, the committee directs the Secretary of Defense to contract with a federal funded research and development center to review the Department's force structure decision-making processes in the Office of Secretary of Defense, Joint Staff and in each of the Military Departments to verify the Department is planning, programing and budgeting for a force structure that optimizes lethality by using military for warfighting functions and ensures that planned operational capabilities are fully executable and sustainable.

This review should include recommendations, and, as a minimum, include:

(1) an identification of best practices as well as impediments to the optimum sizing of each component of the Total Force of active military, reserve component military, civilian workforce, host nation support, and contract support;

(2) recommendations on how to leverage the Military Department's modeling efforts in order to achieve a more balanced Total Force mix, and;

(3) the effects of Full Time Equivalent (FTE) caps and associated business processes resulting from either legislation or Depart-

mental policy or practice that would impede the use of more holistic analytical tools for linking the enabling civilian to supported force structure.

The report should be provided and briefed to the Armed Services Committees not later than February 1, 2021.

Readiness and Borrowed Military Manpower

The committee notes that the Report of the Defense Science Board Task Force on Readiness concluded that in order to achieve and sustain readiness it was essential to consider, not just the amount of hardware but key manpower issues such as the active-reserve mix, retention, training, and the sufficiency of supporting government civilians. The task force also concluded borrowed military manpower results in a loss of unit cohesiveness, reduced training efficiency, and lowered readiness.

The committee questions whether the Department of Defense continues to divert service members from their unit assignments to perform nonmilitary functions which could be performed by civilian employees.

Therefore, the committee directs the United States Comptroller General to submit a report to the congressional defense committees by April 1st, 2020 assessing the level and impacts of borrowed military manpower.

This report should include the following elements:

(1) An analysis of the diversions of Soldiers, Sailors, Airmen or Marines from their unit assignments and or their military occupational specialties, to perform non-military essential functions which could be performed by civilian employees.

(2) A review the Department's tracking of borrowed military manpower in its readiness reporting systems and an assessment of the impact this is having on both the Department's ability to manage the Total Force, and the readiness effects of "missing", but unreported manpower.

The Department of Defense's Use of Term and Temporary Hiring Authorities

The Committee questions if the Department of Defense's Congressionally appropriated overseas contingency operations funds, exempt from The Budget Control Act of 2011 (P.L. 112–25), are funding enduring missions in support of the National Defense Strategy which is resulting in inappropriate use of term and temporary hiring authorities for enduring missions.

Furthermore, the Committee questions whether there are cases where term and temporary hiring authorities are being misused in cases when the funding for the program directly supports the National Defense Strategy and is funded over the Future Year Defense Program with an enduring funding line.

Lastly, the Committee is concerned that this creates a scenario for the Department of Defense to inappropriately circumvent title 5 due process and whistleblower protections and extend probationary periods.

Therefore, the committee directs the Comptroller General of the United States to submit a report to the congressional defense committees by March 1st, 2020 reviewing the Department's use of term

and temporary hiring authorities for enduring missions and analyzing the degree to which this is resulting from the misuse of overseas contingency operations funding or efforts to inappropriately extend probationary periods.

LEGISLATIVE PROVISIONS

Section 1101—Defense Advanced Research Projects Agency Personnel Management Authority

This section would amend section 1599(h) of title 10, United States Code, to allow the Director of the Defense Advanced Research Projects Agency to appoint additional employees to the agency using the personnel management authority codified in section 1599(h) of title 10, United States Code.

Section 1102—Modification of Probationary Period for Certain Department of Defense Employees

This section would amend section 1599e of title 10, United States Code, to change the probationary period for Department of Defense civilian employees from 2 years to 1 year.

Section 1103—Civilian Personnel Management

This section would amend section 129 of title 10, United States Code, to clarify that civilian personnel of the Department of Defense may not be managed on the basis of man-years, end strength, or full-time equivalent positions, or maximum number of employees, and instead will be managed based on the total force management policies and procedures established under section 129a of title 10, United States Code, the workload required to carry out the functions and activities of the Department, and the funds made available to the Department for each fiscal year.

Section 1104—One-Year Extension of Temporary Authority to Grant Allowances, Benefits, and Gratuities to Civilian Personnel on Official Duty in a Combat Zone

This section would amend section 1115 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232) by extending until 2021 the temporary authority granting allowances, benefits, and gratuities to civilian personnel on official duty in a combat zone.

Section 1105—One-Year Extension of Authority to Waive Annual Limitation on Premium Pay and Aggregate Limitation on Pay for Federal Civilian Employees Working Overseas

This section would amend section 1101 of the Duncan Hunter National Defense Authorization Act for Fiscal Year 2009 (Public Law 110–417) by extending premium pay for Federal civilian employees working overseas until the end of 2020.

Section 1106—Performance of Civilian Functions by Military Personnel

This section would amend section 129a of title 10, United States Code, to ensure that before the Secretary of a military department

directs military personnel to perform the functions of civilian personnel, the military department concerned is in compliance with section 129 of title 10, United States Code.

Section 1107—Extension of Direct Hire Authority for Domestic Industrial Base Facilities and Major Range and Test Facilities Base

This section would amend section 1125 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) to extend the authority of the Secretary of Defense to use direct hire procedures for civilian personnel at domestic defense industrial base facilities and the Major Range and Test Facilities Base until 2025.

Section 1108—Authority to Provide Additional Allowances and Benefits for Certain Defense Clandestine Service Employees

This section would authorize the provision of additional allowances and benefits for certain Defense Intelligence Agency, Defense Clandestine Service employees located in the United States, limited to 125 covered employees per year for locations with living costs determined by the Secretary of Defense to be equal to or higher than the District of Columbia. Further, the provision stipulates that the authorization is contingent upon the Secretary of Defense submitting required reports to the appropriate congressional committees, to include a 5-year future-year defense program strategy and an implementation plan. This section also requires an annual report detailing the extent to which the authority was utilized and efficacy of such authority in enabling the execution of the objectives of the Defense Intelligence Agency.

Section 1109—Prohibited Personnel Practices

This provision would amend section 2302 of title 5, United States Code, to extend the rights delineated in that section to all the interns in the United States Federal Government.

Section 1110—Enhancement of Antidiscrimination Protections for Federal Employees

This section would amend section 2301 of title 5, United States Code, to strengthen the management of Federal equal employment opportunity programs by requiring that they operate independently of agencies' human resources and general counsel offices. This section would also strengthen the accountability mechanisms that are central to the effectiveness of the equal employment opportunity process.

Section 1111—Modification of Direct Hire Authorities for the Department of Defense

This section would amend section 9905 of title 5, United States Code, by consolidating direct hiring authorities for the following positions:

(1) scientific, technical, engineering, mathematics positions within the defense acquisition workforce

(2) scientific, technical, engineering, mathematics positions working outside a scientific and technology reinvention laboratory
(3) medical or health professional positions
(4) childcare services positions
(5) financial management, accounting, auditing, actuarial, cost estimation, operational research, or business or business administration positions
(6) Department of Defense business transformation and management innovation positions.

The consolidation of these direct hiring authorities would sunset on September 30, 2025. In addition, this section would require the Secretary of Defense, in coordination with the Director of the Office of Personnel Management, to contract with a federally funded research and development center and submit a report to Congress by February 1, 2021, on improving competitive hiring at the Department of Defense.

Section 1112—Permitted Disclosures by Whistleblowers

This section would amend section 2302(b)(8)(B) of title 5, United States Code, to provide additional protections for whistleblowers who report waste, fraud, or abuse to their supervisors at a government agency.

TITLE XII—MATTERS RELATING TO FOREIGN NATIONS

ITEMS OF SPECIAL INTEREST

Assessment, Monitoring, and Evaluation Resources

The committee is concerned that the amount identified in the fiscal year 2020 budget request for assessment, monitoring, and evaluation (AM&E) of security cooperation programs is insufficient to meet congressional intent. The committee believes that the Department of Defense's prioritization and resourcing of AM&E of security cooperation programs has been vastly inadequate in recent years and has not kept pace with the significant growth of and emphasis on security cooperation capacity building programs and associated funding. The committee expects the Department's AM&E program to be rigorous and comprehensive, and to be incorporated into security cooperation programs from inception to completion to measure outcomes against defined objectives. Further, the committee expects that an effective AM&E program will include independent evaluations and capture lessons learned, which are critical to improving the effectiveness and efficiency of subsequent security cooperation efforts. The committee expects independent evaluations to be conducted by individuals who are not also conducting monitoring of security cooperation capacity building programs. The committee further expects the Department to allocate sufficient resources to accomplish these objectives in future budget requests.

Briefing on Afghanistan Reconciliation

The committee is aware that reconciliation talks have begun between the United States and the Taliban regarding a negotiated

peace in Afghanistan. The committee supports the objectives of the South Asia strategy to create the conditions to support a political settlement in Afghanistan, and the efforts of the Special Representative for Afghanistan Reconciliation, the Secretary of State, and the Commander, Resolute Support Mission, to engage in reconciliation talks. Therefore, the committee directs the Secretary of Defense, in coordination with the Secretary of State and the Director of National Intelligence, to provide a briefing to the House Committee on Armed Services by October 1, 2019, on the status of the U.S reconciliation negotiations with the Taliban and progress toward an intra-Afghan dialogue between the Afghan Government and the Taliban, as well as any potential shifts in the posture of the U.S. Armed Forces in Afghanistan as a result of successful negotiations. Such briefing shall also include the following elements with respect to the extent to which Taliban leaders present at the reconciliation talks:

(1) maintain active association with terrorist organizations inside and outside of Afghanistan;

(2) support the legitimacy of the Government of Afghanistan;

(3) commit to maintaining societal gains advanced in the past 18 years including: protecting the rights of women and girls to access public healthcare, hold property, access education, and have freedom of movement;

(4) commit to stop receiving funds and military support from non-Afghan governments or organizations;

(5) will assist and be an active participant with the Government of Afghanistan in future counterterrorism operations; and

(6) any other matter the Secretary of Defense considers appropriate.

Briefing on Defense Department Plans for the European Deterrence Initiative

The committee continues to support the European Deterrence Initiative (EDI) and seeks to ensure a sustained U.S. commitment to deterrence in Europe at levels appropriate to the challenges at hand. Therefore, the committee directs the Secretary of Defense, in coordination with the Commander, U.S. European Command, to provide a briefing to the House Committee on Armed Services not later than October 30, 2019. The briefing shall include the following:

(1) a thorough explanation of the plans and assumptions underlying the future years plan for EDI that was submitted to Congress pursuant to section 1237(a) of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115–91);

(2) a thorough explanation of the current plans and assumptions for EDI over the next 5 years, based on the planning that informed the fiscal year 2020 budget request for EDI;

(3) a comparison identifying and explaining the differences and similarities between the plans and assumptions identified in (1) and (2);

(4) a detailed explanation of the rationale and implications of any changes in the plans and assumptions identified in (1) and (2); and

(5) any other matters the Secretary considers appropriate.

Comptroller General Review of Posture to Counter Russian Aggression

The National Defense Strategy highlights challenges to the sovereignty and integrity of North Atlantic Treaty Organization (NATO) members posed by Russian aggression across all warfighting domains. NATO remains the foundation of trans-Atlantic security, and the committee supports U.S. engagement with our NATO allies. Since 2014, Congress has funded the European Deterrence Initiative (EDI) to strengthen our partnerships and deter Russian aggression by increasing the presence of U.S. forces and prepositioned equipment in Europe, improving infrastructure, supporting NATO enhanced forward presence deployments, and sponsoring multinational training and exercises. In testimony before the committee, the Commander of U.S. European Command stated these efforts have improved readiness and helped deter Russian aggression, but stressed the need to further augment U.S. ground, air, maritime and cyber forces and capabilities, and invest in NATO's logistical infrastructure and capacity.

Recognizing the long-term commitment to preserving peace and stability in Europe, the committee supports a strategy to counter Russian aggression, deter conflict, and achieve victory in a conventional conflict if deterrence fails. However, given the incremental approach taken under EDI to date, the committee is concerned that the options for meeting the force structure, posture, and readiness requirements to implement such a strategy have not been fully assessed. Therefore, the committee directs the Comptroller General of the United States to assess the extent to which the Department of Defense has evaluated its force structure and posture options for countering Russian aggression in Europe. At a minimum, this review should assess the extent to which the Department of Defense has:

(1) assessed requirements for land, air, maritime, space, and cyber capabilities and force structure;

(2) evaluated the strategic, operational, and tactical benefits and costs of different posture options, including forward stationed forces and rotational deployments;

(3) assessed the strategic lift, intra-theater mobility, infrastructure, and logistical support requirements and costs for different posture options; and

(4) factored in how U.S. Armed Forces would integrate with NATO enhanced forward presence and other forces.

The Comptroller General shall provide a briefing to the House Committee on Armed Services not later than March 1, 2020, on preliminary findings of the review, and to present final results in a format and timeframe agreed to at the time of the briefing.

Implementation of Taiwan's Defense Strategy

The committee recognizes that April 10, 2019, marks the 40th anniversary of the Taiwan Relations Act of 1979 (Public Law 96–8). The committee believes: (1) the Taiwan Relations Act and the Six Assurances are both cornerstones of United States relations with Taiwan; (2) the United States should strengthen defense cooperation with Taiwan to support the development of capable, ready, and modern defense forces necessary for Taiwan to maintain

a sufficient self-defense capability; (3) the United States should promote policies concerning exchanges that enhance the security of Taiwan, including opportunities for practical training and military exercises with Taiwan and exchanges between senior defense officials and general officers of the United States and Taiwan consistent with the Taiwan Travel Act (Public Law 115–135); and (4) the United States should transfer defense articles to Taiwan to improve Taiwan's self-defense capability.

The committee directs the Secretary of Defense, in coordination with the Secretary of State, to provide a report to the congressional defense committees, the House Committee on Foreign Affairs, and the Senate Committee on Foreign Relations not later than October 1, 2019, on activities to support Taiwan's implementation of its defense strategy.

At a minimum, the report shall include:

(1) an assessment of existing and likely future threats to Taiwan, and Taiwan's implementation of its defense strategy;

(2) a discussion of the Department's current and future plans to support Taiwan's efforts to develop and integrate self-defense capabilities against such threats into its military forces;

(3) a discussion of how the transfer of defense articles to Taiwan are tailored to meet Taiwan's self-defense needs;

(4) a description of senior-level engagement with Taiwan, including defense engagement, and how such engagements enhance Taiwan's self-defense capabilities;

(5) a description of the Department's efforts to support Taiwan's resilience to information or influence operations; and

(6) any other matters the Secretary of Defense determines should be included.

Insufficiency of the United States Strategy for Syria

The committee is concerned that the United States Strategy for Syria expresses objectives that cannot be achieved with the means identified. The committee urges the Department of Defense, in coordination with other relevant departments and agencies, to review the strategy to better scope its objectives in accordance with a realistic assessment of the activities to which the administration is willing to commit, appropriately bounded within the authorities granted by the Congress.

The committee is also concerned that non-military lines of effort to achieve U.S. objectives in Syria, as defined by the United States Strategy for Syria, lack the resources necessary to reach a stable solution in Syria that provides for a lasting defeat of the Islamic State of Iraq and Syria to include the countering of violent extremist ideology, and resolves the instability and insecurity that drives perennial insurgency and terrorism in the region. The committee urges the administration to ensure that a whole-of-government approach to these objectives is operationalized and properly resourced in order to achieve lasting peace in the region.

North Atlantic Treaty Organization Cooperative Cyber Defense Center of Excellence

The committee supports the efforts of the North Atlantic Treaty Organization (NATO) Cooperative Cyber Defense Center of Excel-

lence (CCDCOE) and encourages the Department of Defense to collaborate fully with the Center. The committee notes that the CCDCOE can play a unique role by increasing and improving cyber cooperation, joint exercises, and policy development within NATO. Recent studies and analyses from the CCDCOE, such as the report on 5th Generation (5G) communications technologies and the report on Principles of Cyber Deterrence, are advancing important policy and technical conversations within NATO and across a broader technical community. However, the committee is concerned that an executive agent has yet to be appointed to serve as a proponent for the COE's important work. The committee urges the Department of Defense to continue to work with the interagency and utilize the CCDCOE to improve NATO's ability to counter and mitigate the threat of malign influence by Russian and other malign actors in cyberspace. The committee further encourages the CCDCOE to engage in research in enabling emerging technologies such as artificial intelligence, quantum computing, and other related areas.

Additionally, the committee directs the Secretary of Defense to provide a briefing to the House Committee on Armed Services not later than March 1, 2020, on ways to improve cyber capabilities within NATO, including enhancing the capacity and resourcing of, and coordination with, the CCDCOE.

North Atlantic Treaty Organization Strategic Communications Center of Excellence

The committee supports the efforts of the North Atlantic Treaty Organization (NATO) Strategic Communications Center of Excellence (SCCOE), but remains concerned that the United States has not fully resourced or participated in this important COE. As the conferees noted in the conference report accompanying the National Defense Authorization Act for Fiscal Year 2018 (H. Rept. 115–404), by not actively participating, the Department of Defense is unable to shape the long-term agenda for research, exercises, and policy development. Furthermore, the Department is unable to embed personnel to gain experience or insight that can only be acquired by working side-by-side. The committee notes that the SCCOE can play a unique role by increasing cooperation for strategic communications within NATO and broader alliances, and provide research that directly addresses the many problems facing U.S. forces operating in the information environment. The committee urges the Department of Defense to work with the SCCOE and the interagency to improve NATO's ability to counter and mitigate disinformation, active measures, propaganda, and denial and deception activities of Russian and other malign actors. The committee further urges the Department of Defense to assign executive agent responsibilities to an appropriate organization within the Department of Defense to ensure effective partnering and advocacy for the COE.

Therefore, the committee directs the Secretary of Defense to provide a briefing to the House Committee on Armed Services not later than March 1, 2020, on ways to improve strategic communications within NATO, including enhancing the capacity of and coordination with the NATO Strategic Communications Center of Excellence.

Political Inclusion and the Safe Return of Iraqi Internally Displaced Persons to Their Homes

The committee recognizes the importance of the Government of Iraq affording its entire population, including Christians, Yezidis, and other ethnic minorities, sufficient access to security and political inclusion and representation within the Iraqi Government. The committee calls upon the Department of Defense to continue strengthening the institutions of Iraqi national defense to ensure that they are capable and positioned to absorb local populations, particularly at-risk minority populations, into their ranks, in order to provide security that is representative of the communities that Iraqi security forces are tasked to defend and secure. The committee is committed to supporting a sovereign and democratic Iraq at peace with its neighbors and safe for its citizens, regardless of their religion, sect, or ethnicity, and the safe and voluntary return of Iraq's internally displaced population to their homes.

Report on Chinese Efforts Targeting Democratic Elections and U.S. Alliances and Partnerships and Strategy to Counter Chinese Election Interference

The committee directs the Secretary of Defense, in coordination with the Director of National Intelligence, the Secretary of State, and the Secretary of Homeland Security, to provide a report to the congressional defense committees, the congressional intelligence committees, the House Committee on Foreign Affairs, the Senate Committee on Foreign Relations, the House Committee on Homeland Security, and the Senate Committee on Homeland Security and Governmental Affairs on China's influence operations and campaigns targeting democratic elections. The report shall be divided into two sections, which respectively address influence operations and campaigns targeting: (1) recent and upcoming elections in the United States (dating back to January 1, 2017), and (2) military alliances and partnerships of which the United States is a member. The report should also include a strategy to counter these activities. The committee further directs the Secretary of Defense to provide an interim report not later than November 5, 2019, and a final report not later than September 30, 2020.

The report shall be unclassified and appropriate for release to the public but may include a classified annex. At a minimum, the report should include:

(1) an assessment of China's objectives in influence operations and campaigns targeting democratic elections and military alliances and partnerships of which the United States is a member, and how such objectives relate to the China's broader strategic aims.

(2) the United States' strategy and capabilities for detecting, deterring, countering, and disrupting such Chinese influence operations (including recommended authorities and activities) and campaigns and a discussion of the Department of Defense's and intelligence community's respective roles in the strategy.

(3) a comprehensive list of specific Chinese state and non-state entities involved in supporting such Chinese influence operations and campaigns and the role of each entity in supporting them.

(4) an identification of the tactics, techniques, and procedures used in previous Chinese influence operations and campaigns.

(5) a comprehensive identification of countries with democratic election systems that have been targeted by Chinese influence operations and campaigns since January 1, 2017.

(6) an assessment of the impact of previous Chinese influence operations and campaigns targeting democratic elections and military alliances and partnerships of which the United States is a member, including the views of senior Chinese officials about their effectiveness in achieving Chinese objectives.

(7) an identification of countries with democratic elections systems that may be targeted in future Chinese influence operations and campaigns and an assessment of the likelihood that each such country will be targeted.

(8) an identification of all U.S. military alliances and partnerships that have been targeted by Chinese influence operations and campaigns since January 1, 2017.

(9) an identification of all U.S. military alliances and partnerships that may be targeted in future Chinese influence operations and campaigns and an assessment of the likelihood that each such country will be targeted.

(10) an identification of tactics, techniques, and procedures likely to be used in future Chinese influence operations and campaigns targeting democratic elections and military alliances and partnerships of which the United States is a member.

Report on Effective Security Sector Assistance Tools

The committee notes the United States has used a variety of security sector assistance tools to support partner forces in the campaign to defeat the Islamic State of Iraq and Syria since 2015. The purpose and scope of this assistance has changed over time. The committee recognizes that there may be other, potentially more effective means of assisting and building lasting capabilities within U.S. military partner forces.

Therefore, the committee directs the Secretary of Defense, in coordination with the Secretary of State, to provide a report to the House Committee on Armed Services not later than September 30, 2019, that analyzes the use of security sector assistance in the campaign to defeat the Islamic State of Iraq and Syria and the effectiveness of these tools for building partner capacity. The report should specifically review stipends as a security sector assistance tool and provide a comparison of stipends and other avenues of security sector assistance such as training and equipping. The report should identify other examples in which stipends have been used as a tool of security sector assistance, if applicable, the effectiveness of those cases, and whether stipend payments were transitioned to other security sector assistance methods. The report should further address the impact of stipends on the ability to pursue effective institutional capacity building within military partner institutions.

Report on Russian Efforts Targeting Democratic Elections and U.S. Alliances and Partnerships and Strategy to Counter Russian Election Interference

The committee directs the Secretary of Defense, in coordination with the Director of National Intelligence, the Secretary of State, and the Secretary of Homeland Security, to provide a report to the congressional defense committees, the congressional intelligence committees, the House Committee on Foreign Affairs, the Senate Committee on Foreign Relations, the House Committee on Homeland Security, and the Senate Committee on Homeland Security and Governmental Affairs on Russia's influence operations and campaigns targeting democratic elections. The report shall be divided into two sections, which respectively address influence operations and campaigns targeting: (1) recent and upcoming elections in the United States (dating back to January 1, 2017), and (2) military alliances and partnerships of which the United States is a member. The report should also include a strategy to counter these activities. The committee further directs the Secretary of Defense to provide an interim report not later than November 5, 2019, and a final report not later than September 30, 2020.

The report shall be unclassified and appropriate for release to the public but may include a classified annex. At a minimum, the report should include:

(1) an assessment of Russia's objectives in influence operations and campaigns targeting democratic elections and military alliances and partnerships of which the United States is a member, and how such objectives relate to Russia's broader strategic aims.

(2) the United States strategy and capabilities for detecting, deterring, countering, and disrupting such Russian influence operations (including recommended authorities and activities) and campaigns and a discussion of the Department of Defense's and intelligence community's respective roles in the strategy.

(3) a comprehensive list of specific Russian state and non-state entities involved in supporting such Russian influence operations and campaigns and the role of each entity in supporting them.

(4) an identification of the tactics, techniques, and procedures used in previous PRC influence operations and campaigns.

(5) a comprehensive identification of countries with democratic election systems that have been targeted by Russian influence operations and campaigns since January 1, 2017.

(6) an assessment of the impact of previous Russian influence operations and campaigns targeting democratic elections and military alliances and partnerships of which the United States is a member, including the views of senior Russian officials about their effectiveness in achieving Russian objectives.

(7) an identification of countries with democratic elections systems that may be targeted in future Russian influence operations and campaigns and an assessment of the likelihood that each such country will be targeted.

(8) an identification of all U.S. military alliances and partnerships that have been targeted by Russian influence operations and campaigns since January 1, 2017.

(9) an identification of all U.S. military alliances and partnerships that may be targeted in future Russian influence operations

and campaigns and an assessment of the likelihood that each such country will be targeted.

(10) an identification of tactics, techniques, and procedures likely to be used in future Russian influence operations and campaigns targeting democratic elections and military alliances and partnerships of which the United States is a member.

Report on U.S. Central Command's Accounting For and Management of Funds Received from Foreign Partners for Services

The committee is concerned that U.S. Central Command was unable to properly account for the fuel and in-flight refueling services that were delivered to the Saudi-led coalition in support of its conflict against the Houthis in Yemen. The committee directs the Secretary of Defense to provide a report to the House Committee on Armed Services, not later than September 30, 2019, on how U.S. Central Command accounts for and collects monies owed and received from foreign, non-coalition partners for goods and services rendered through acquisition and cross-servicing agreements and other potential avenues of exchange. Further, the report should include the command's process and procedures for tracking goods and services delivered and under what circumstances or conditions reimbursement for goods and services is not sought from foreign countries.

Report on U.S. Military Activity in Syria

The committee remains concerned by the Administration's lack of clarity regarding the U.S. military strategy in Syria. Therefore, the committee directs the Secretary of Defense to provide a report to the House Committee on Armed Services not later than September 30, 2019, on all activities being undertaken by the U.S. military in Syria and conditions that the Department of Defense seeks to achieve before the U.S. military withdraws from Syria. The report should include any current plans and associated timelines for withdrawal. The report should further assess the status of al-Qaeda and the Islamic State of Iraq and Syria within Syria. The report should be submitted in unclassified form but may include a classified annex.

Report on U.S. Military Training with the Republic of Korea

The committee recognizes combined force readiness is a requirement for maintaining a credible deterrent on the Korean Peninsula. The committee will continue to review the adjustments made to U.S. military training and exercise programs involving the Republic of Korea.

The committee directs the Secretary of Defense to provide a report to the House Committee on Armed Services by December 31, 2019, on U.S. military exercises involving the Republic of Korea for fiscal years 2017–19. The report shall be unclassified without any designation relating to dissemination control but may contain a classified annex. At a minimum, the report shall include:

(1) a detailed description of U.S. military exercises involving the Republic of Korea for fiscal years 2017–19;

(2) the size of each such exercise;

(3) the timing of each such exercise;

(4) the location of each such exercise;

(5) where applicable, the name of each such exercise;

(6) the cost of each such exercise, including a detailed description of direct costs to United States Forces Korea and costs incurred by service components;

(7) the costs incurred by the Republic of Korea for each such exercise;

(8) the scope of each such exercise, including: the manner in which such exercises are intended to improve the capability and capacity of the U.S. Armed Forces and Republic of Korea Armed Forces, and the interoperability of Republic of Korea Armed Forces with the U.S. Armed Forces; the necessary competencies or mission essential tasks trained for in the exercise as well as readiness problems or deficiencies identified with each such exercise; and the manner in which such exercises relate to operational concept refinements, military plans, and strategic documents;

(9) a discussion of service member turnover rates in Korea, an assessment of the impact of such rates on joint combined readiness, and efforts to design a training regime to mitigate the readiness impact of such rates; and

(10) any other matters the Secretary determines appropriate to include.

Report on U.S. Strategy to Respond to Russian Threats in the Black Sea

The committee is concerned by Russia's attack on Ukrainian vessels near the Kerch Strait that occurred on November 25, 2018, by its ongoing detention of Ukrainian sailors in the aftermath of that event, and by Russia's aggressive policies in the Black Sea region. Russia's actions pose a threat to lawful navigation in the Black Sea and Ukrainian sovereignty.

The committee is also concerned by Russia's ongoing illegal occupation of Crimea, its ongoing efforts to intimidate U.S. allies and partners in the Black Sea region, its buildup of military resources that could impinge on the sovereignty and freedom of navigation of countries in the Black Sea region, its efforts to interfere in regional elections and political systems, and its efforts to use the region as a vector to facilitate malign activities in the Balkans and other parts of Europe. The committee condemns Russia's actions and reaffirms the commitment of the United States, in coordination with its allies and partners, to countering Russian aggression and deterring actions that impinge on the sovereign rights of U.S. allies and partners in the Black Sea area.

Therefore, the committee directs the Secretary of Defense, in coordination with the Secretary of State, to submit a report to the congressional defense committees and the Committee on Foreign Affairs of the House of Representatives and the Committee on Foreign Relations of the Senate, not later than October 15, 2019, on the United States strategy to counter Russian threats in the Black Sea. At a minimum, the report should address the following issues:

(1) the strategy for the United States, in concert with allies and partners, to counter aggressive actions by Russia and ensure freedom of navigation pursuant to international law and uphold the navigation rights of allies and partners in the Black Sea region;

(2) the strategy to coordinate with the North Atlantic Treaty Organization on a long-term roadmap to counter aggression and uphold lawful navigation rights in the Black Sea region;

(3) the strategy to reinforce the credibility of U.S. commitment to and strengthen the capabilities of allies and partners in the Black Sea region;

(4) the strategy to counter malign influence by Russia and reinforce democratic governance, the rule of law, and shared values in the Black Sea region;

(5) an assessment of Russian military capabilities, including naval capabilities, in and around the Black Sea, and a strategy to counter those capabilities;

(6) an assessment of any deficiencies in Ukraine's naval capabilities which could be enhanced through existing authorities; and

(7) any recommended legislative initiatives that could enhance the ability of the United States to accomplish U.S. and allied goals in the Black Sea region.

Security Cooperation Programs and Activities

The committee notes that the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) enacted comprehensive reforms of the Department of Defense security cooperation programs and activities. These reforms empowered the Secretary of Defense to designate an individual to oversee strategic policy and guidance and to have responsibility for overall resource allocation for security cooperation programs and activities of the Department. Such reforms further enabled the Department to align security cooperation programs and activities in support of broader defense strategy and plans, as well as to better integrate title 10, United States Code, security cooperation activities into the broader United States Government approach to security sector assistance.

When enacting these reforms, the conferees noted that the Department's security cooperation activities over the last 15 years emphasized building the capacity of partner forces at the tactical and operational level and, further, that such activities achieved suboptimal outcomes and resulted in missed opportunities. The committee is concerned that, despite empowering an individual to oversee resource allocation and enabling the Department to align programs and activities toward strategic objectives, the Department has devoted insufficient attention and prioritization of resources toward those objectives since the fiscal year 2017 reforms. The committee notes that the Department's notifications to Congress of security cooperation programs and activities have not adequately demonstrated trade-offs among priorities, effective management of resources, or sufficient planning and synchronization to support strategic objectives.

Elsewhere in this report, the committee addresses the Department's insufficient emphasis and allocation of resources to assess, monitor, and evaluate its programs and activities despite the increase in resources for the Department's security cooperation programs and activities. The committee expects future notifications of security cooperation programs and activities to demonstrate effective management and prioritization of resources toward strategic objectives.

Security Cooperation with the Pacific Island Countries

The Committee recognizes that continued and further cooperation with Pacific Island countries is critical to American national security. Given their strategic location in Oceania, Pacific Island states are vital participants in, and contributors to, a free and open Indo-Pacific. The Committee strongly supports further United States collaboration with Pacific Island nations economically, politically, and strategically, particularly in concert with Australia and New Zealand.

The Committee therefore directs the Secretary of Defense to provide to the Committees on Armed Services of the Senate and House of Representatives, not later than January 1, 2020, a report detailing steps the United States is taking to enhance collaboration with Pacific Island countries, including security cooperation and the feasibility of facilitating the establishment of multinational open-source intelligence centers to enhance information sharing processes with Pacific Island countries on issues of local concern. The report should be in unclassified form and include options to involve likeminded partners such as Australia, New Zealand, Japan, and France.

LEGISLATIVE PROVISIONS

SUBTITLE A—ASSISTANCE AND TRAINING

Section 1201—Modification of Authority to Build Capacity of Foreign Security Forces

This section would clarify that international coalition operation in section 333 of title 10, U.S. Code, is an existing international coalition operation. Further, this section modifies the congressional notification requirement to require information regarding whether a program could also be authorized under other authorities under this title, the Foreign Assistance Act of 1961 (Public Law 87–195), or any other train and equip authorities of the Department of Defense, and an identification of each such authority.

Section 1202—Modification and Extension of Cross Servicing Agreements for Loan of Personnel Protection and Personnel Survivability Equipment in Coalition Operations

This section would extend section 1207 of the Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act for Fiscal Year 2015 (Public Law 113–291) through December 31, 2024. This authority allows the Secretary of Defense, with the concurrence of the Secretary of State, to loan personnel protection and personnel survivability equipment to military forces of other nations for their use in coalition operations with the United States as part of a contingency operation or a peacekeeping operation under the United Nations Charter or another international agreement.

Section 1203—Modification of Quarterly Report on Obligation and Expenditure of Funds for Security Cooperation Programs and Activities

This section would modify the quarterly reporting requirement on obligation and expenditure of funds for security cooperation pro-

grams and activities from 30 days after the calendar quarter to 60 days.

Section 1204—Integration of Gender Perspectives and Meaningful Participation by Women in Security Cooperation Authorities

This section would modify subsection (c)(3) of section 333 of title 10, United States Code, to include gender perspectives and meaningful participation by women.

SUBTITLE B—MATTERS RELATING TO AFGHANISTAN AND PAKISTAN

Section 1211—Extension and Modification of Authority for Reimbursement of Certain Coalition Nations for Support Provided to United States Military Operations

This section would extend through December 31, 2020, the authority to make Coalition Support Fund payments under section 1233 of the National Defense Authorization Act for Fiscal Year 2008 (Public Law 110–181) as most recently amended by section 1225 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232).

Section 1212—Modification and Extension of Afghan Special Immigrant Visa Program

This section would modify and extend the Afghan Allies Protection Act of 2009 (Public Law 111–8) by adjusting the number of visas available and individual eligibility requirements. It would not modify the length of employment or security criteria an applicant must meet.

The committee has repeatedly highlighted the critical importance of the Special Immigrant Visa Program for U.S. Government operations in Afghanistan. The modifications in this section reinforce the importance of this program and the committee's continued commitment to those who, at great personal risk, support the United States operations in Afghanistan.

Section 1213—Extension of Authority to Transfer Defense Articles and Provide Defense Services to the Military and Security Forces of Afghanistan

This section would extend through December 31, 2022, section 1222 of the National Defense Authorization Act for Fiscal Year 2013 (Public Law 112–239), as most recently amended under section 1211 of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115–91), to transfer defense articles and provide defense services to the military and security forces of Afghanistan.

Section 1214—Extension and Modification of Authority to Acquire Products and Services Produced in Countries along a Major Route of Supply to Afghanistan

This section would extend section 801(f) of the National Defense Authorization Act for Fiscal Year 2010 (Public Law 111–84) as most recently amended by section 1214 of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115–91), through December 31, 2021, to authorize the acquisition of products and

services produced in countries along a major route of supply to Afghanistan and would require the Secretary of Defense to submit a report on the use of the authority.

Section 1215—Authority for Certain Payments to Redress Injury and Loss in Afghanistan, Iraq, Syria, Somalia, Libya, and Yemen

This section authorizes ex gratia payments for certain countries not to exceed $5.0 million from Office of the Secretary of Defense, Department of Defense Operation and Maintenance Funds, expiring December 31, 2020.

Section 1216—Extension of Semiannual Report on Enhancing Security and Stability in Afghanistan

This section would extend through December 15, 2022, the authority under section 1225 of the Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act for Fiscal Year 2015 (Public Law 113–291), as amended by section 1215 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328).

This section would require a semiannual report to the appropriate committees of Congress on enhancing the strategic partnership between the United States and Afghanistan, providing an overview of the security situation in Afghanistan, and the efforts to build and sustain the Afghan National Defense and Security Forces.

SUBTITLE C—MATTERS RELATING TO SYRIA, IRAQ, AND IRAN

Section 1221—Modification of Authority to Provide Assistance to Counter the Islamic State of Iraq and Syria

This section would amend section 1236 of the Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act for Fiscal Year 2015 (Public Law 113–291) by modifying the authority to provide assistance to the security forces of the Government of Iraq to counter the Islamic State of Iraq and Syria.

Section 1222—Extension and Modification of Authority to Provide Assistance to the Vetted Syrian Opposition

This section would extend and modify section 1209 of the Carl Levin and Howard P. Buck" McKeon National Defense Authorization Act for Fiscal Year 2015 (Public Law 113–291), by extending the authority to support vetted Syrian opposition through December 30, 2020.

Section 1223—Extension and Modification of Authority to Support Operations and Activities of the Office of Security Cooperation in Iraq

This section would amend subsection (f)(1) of section 1215 of the National Defense Authorization Act for Fiscal Year 2012 (10 U.S.C. 113 note) to extend the authority for the Office of Security Cooperation in Iraq (OSC–I) through December 31, 2020. Additionally, this section would limit the amount of authorized funds available to be obligated or expended to not more than 50 percent for OSC–I until

the Secretary of Defense certifies that OSC–I has achieved specific reforms, including the appointment of a Senior Defense Official/Defense Attache; development of a plan to reorganize OSC–I similar to other regional security cooperation offices, including the placement of foreign area officers in leadership positions and closing duplicative or extraneous sections; and planning and initiation of bilateral engagement with Iraq that will culminate in a Joint Military Commission and the drafting of a 5-year security assistance roadmap for developing strategic and sustainable military capacity and capabilities for Iraq that includes a plan for defense industrial base and security sector reform.

Section 1224—Prohibition on Provision of Weapons and Other Forms of Support to Certain Organizations

This section would prohibit the use of funds authorized to be appropriated by this Act to the Department of Defense for fiscal year 2020 to provide weapons or any form of support to al-Qaeda, the Islamic State of Iraq and Syria, Jabhat Fateh al Sham, any individual or group associated with these organizations, or any entity the Secretary of Defense determines may trade or sell arms to terrorist organizations.

Section 1225—Rule of Construction Relating to Use of Military Force Against Iran

This section would establish that nothing in this Act or any amendment made by this Act may be construed to authorize the use of military force against Iran.

Section 1226—Sense of Congress on Support for Ministry of Peshmerga Forces of the Kurdistan Region of Iraq

This section would provide the sense of Congress on support for Ministry of Peshmerga Forces of the Kurdistan Region of Iraq.

SUBTITLE D—MATTERS RELATING TO RUSSIA

Section 1231—Prohibition on the Use of Funds To Suspend, Terminate, or Withdraw the United States From the Open Skies Treaty

This section would provide the sense of Congress on the history and benefits of the Open Skies Treaty. This section would also prohibit the use of Department of Defense funds to suspend, terminate, or withdraw from the Open Skies Treaty, unless certain certification requirements are made and a joint waiver is submitted to the congressional defense and House Committee on Foreign Affairs and the Senate Committee on Foreign Relations by the Secretary of Defense and the Secretary of State. This section would further update reporting requirements on flights conducted under the Open Skies Treaty.

Section 1232—Extension of Limitation on Military Cooperation Between the United States and Russia

This section would extend for 1 year section 1232(a) of the National Defense Authorization Act for Fiscal Year 2017 (Public Law

114–328), as most recently amended by section 1247 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232). This section would limit the use of fiscal year 2020 funds for bilateral military-to-military cooperation between the Government of the United States and Russia until the Secretary of Defense, in coordination with the Secretary of State, provides a certification to appropriate congressional committees relating to certain actions by Russia. This extension includes the rule of construction that was established in Public Law 115–232, indicating that nothing in the provision shall be construed to limit bilateral military-to-military dialogue for the purpose of reducing the risk of conflict.

Section 1233—Prohibition on Availability of Funds Relating to Sovereignty of Russia Over Crimea

This section would extend by 1 year the prohibition imposed by section 1245 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92), as amended by section 1241 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232). This section would prohibit the use of fiscal year 2020 funds to implement any activity that recognizes the sovereignty of Russia over Crimea. This section would also allow the Secretary of Defense, with the concurrence of the Secretary of State, to waive the prohibition if the Secretary determines that doing so would be in the national security interest of the United States and submits a notification to the Committees on Armed Services of the Senate and the House of Representatives, the Committee on Foreign Relations of the Senate, and the Committee on Foreign Affairs of the House of Representatives.

Section 1234—Modification and Extension of Ukraine Security Assistance Initiative

This section would authorize $250.0 million in fiscal year 2020 to carry out the authority provided in section 1250 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92) authorizing the Secretary of Defense to provide security assistance and intelligence support to the Government of Ukraine. This section would also modify the authority to require concurrence by the Secretary of State in the provision of assistance.

The committee commends the Department of Defense for providing assistance via the Ukraine Security Assistance Initiative in the past year designed to strengthen Ukraine's naval capabilities, following Russia's hostile actions in the Kerch Strait in November 2018.

Section 1235—Report on Treaties Relating to Nuclear Arms Control

This section would limit the Secretary of Defense travel funds until the Secretary of Defense produced a report on nuclear arms control treaties.

Section 1236—Sense of Congress on Updating and Modernizing Existing Agreements To Avert Miscalculation Between the United States and Russia

This section would express the sense of Congress that, in order to reduce the risk of miscalculation and unintended escalation between the United States and Russia, the Secretary of Defense and Secretary of State should pursue updates to the Agreement on the Prevention of Incidents on and Over the High Seas, options to reduce the risk of accidents in the air, and potential updates to the Vienna Document of the Organization for Security and Cooperation in Europe to reduce the risk that the United States or Russia might misinterpret a military exercise.

Section 1237—Sense of Congress on Support for Georgia

This section would express the sense of Congress regarding the United States support for Georgia.

Section 1238—Sense of Congress on Support for Estonia, Latvia, and Lithuania

This section would express the sense of Congress regarding the United States support for Estonia, Latvia, and Lithuania.

SUBTITLE E—MATTERS RELATING TO THE INDO-PACIFIC REGION

Section 1241—Modification of Indo-Pacific Maritime Security Initiative

This section would modify the Indo-Pacific Maritime Security Initiative to include additional elements of assistance and training, require additional information for congressional notifications, mandate an annual report, prohibit the use of funds to units of foreign security forces that have committed gross violations of human rights, and incorporate an assessment, monitoring, and evaluation program. This section would also require a one time report on the Initiative.

Section 1242—Extension and Modification of Report on Military and Security Developments Involving North Korea

This section would amend section 1236 of the National Defense Authorization Act for Fiscal Year 2012 (Public Law 112–81) to extend the requirement to provide a report on the military and security developments involving the Democratic People's Republic of Korea and would add a reporting element to require a discussion of North Korea's nuclear program, strategy, production capabilities, and future projections.

Section 1243—Limitation on Use of Funds To Reduce the Total Number of Members of the Armed Forces Serving on Active Duty Who Are Deployed to South Korea

This section would amend section 1264 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232) to prohibit the use of funds authorized to be appropriated by this Act to reduce the number of members of the Armed Forces serving on Active Duty in the Republic of Korea below

28,500 unless the Secretary of Defense first provides certification to the congressional defense committees that such a reduction is in the national security interest of the United States and will not significantly undermine the security of the United States' allies in the region.

Section 1244—Report on Direct, Indirect, and Burden-Sharing Contributions of Japan and South Korea

This section would require the Secretary of Defense to provide a report to the congressional defense committees, Senate Committee on Foreign Relations, and House Committee on Foreign Affairs, not later than March 1, 2020, and March 1, 2021, on the direct, indirect, and burden-sharing contributions of Japan and South Korea to support overseas military installations of the United States and U.S. Armed Forces deployed to or permanently stationed in Japan and South Korea.

The committee believes that U.S. national security is enhanced by the presence of U.S. forces in Japan and South Korea. Further, the committee values United States' alliances with Japan and South Korea, based on shared values of democracy, the rule of law, free and open markets, and respect for human rights.

The committee reaffirms United States' commitment to these alliances with Japan and South Korea, which are cornerstones for the preservation of peace and stability in the region and throughout the world. The committee recognizes the substantial financial commitments of Japan and South Korea to the maintenance of U.S. forces in these countries, making them among the most-significant burden-sharing partners of the United States.

Section 1245—Report on Strategy on the Philippines

This section would require the Secretary of Defense, in consultation with the Secretary of State, to provide a report to the congressional defense committees, Senate Committee on Foreign Relations, and House Committee on Foreign Affairs, not later than 120 days after the date of the enactment of this Act on the Department of Defense's objectives and strategy for achieving such objectives for the Philippines. The report would include a description of U.S. national security interests and objectives furthered by the Mutual Defense Treaty with the Philippines, a description of the regional security environment, and a discussion of Department of Defense support or assistance programs, partners, and authorities in the Philippines.

Section 1246—Modification of Annual Report on Military and Security Developments Involving the People's Republic of China

This section would amend section 1202 of the National Defense Authorization Act for Fiscal Year 2000 (Public Law 106–65) by requiring the Secretary of Defense to consult with the heads of other Federal departments and agencies as appropriate in developing the Annual Report to Congress on Military and Security Developments Involving the People's Republic of China. This section would also modify the specified congressional committees that receive the report and require an assessment of the implications of state-owned or controlled infrastructure projects of China on U.S. interests.

Section 1247—Modification of Annual Report on Military and Security Developments Involving the People's Republic of China

This section would amend section 1202 of the National Defense Authorization Act for Fiscal Year 2000 (Public Law 106–65) by modifying the specified congressional committees that receive the Annual Report to Congress on Military and Security Developments Involving the People's Republic of China. This section would also add elements to the report to include developments relating to the China Coast Guard.

Section 1248—Sense of Congress on Taiwan

This section would express the Sense of Congress that the United States should strengthen defense and security cooperation with Taiwan.

Section 1249—Enhancing Defense Cooperation With Singapore

This section would express the sense of Congress regarding enhancing defense cooperation between the United States and Singapore.

SUBTITLE F—MATTERS RELATING TO EUROPE AND NATO

Section 1251—Extension and Modification of NATO Special Operations Headquarters

This section would extend the funding authority granted in section 1244 of the National Defense Authorization Act for Fiscal Year 2010 (Public Law 111–84) for NATO Special Operations Headquarters (NSHQ) through fiscal year 2023. This section would also establish an annual reporting requirement on activities conducted by NSHQ and includes a limitation on funding until the Assistant Secretary of Defense for Special Operations and Low Intensity Conflict provides a report to the congressional defense committees on the 2019 rearrangement of responsibilities for overseeing and supporting NSHQ.

Section 1252—Modification and Extension of Future Years Plan and Planning Transparency for the European Deterrence Initiative

This provision would require an annual "Future Years Plan" for the European Deterrence Initiative (EDI) as previously required by section 1273(a) of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115–91) and require the Department's budget request materials for EDI to include a display that clearly and concisely communicates to Congress, at an appropriate level of detail, which budget lines constitute EDI. The committee seeks to conduct oversight and require better planning for EDI. The committee believes enabling cross-reference of requested EDI priorities and budget activities would enhance transparency, strengthen congressional oversight, and facilitate Congress's ability to support European deterrence needs.

Section 1253—Protection of European Deterrence Initiative Funds From Diversion for Other Purposes

This section would require a congressional report for each obligation of European Deterrence Initiative (EDI) funds above a threshold of $10.0 million and a report at the end of each fiscal year detailing how EDI funds were spent during the fiscal year in comparison to their intended uses. The committee aims to ensure that EDI funding is used for EDI purposes and is not diverted to other priorities.

Section 1254—Statement of Policy on United States Military Investment in Europe

This section would state that it is the policy of the United States to sustain a credible deterrent against Russian aggression, emphasizing the role in deterrence played by United States allies and partners, the importance of the North Atlantic Treaty Organization (NATO) alliance and adherence to the founding values of the NATO alliance by its members, the value of additional forward-deployed and continued rotational force presence, and the need for U.S. military posture in Europe that is holistic and geographically suited to a comprehensive response to Russian challenges across numerous European fronts.

This section would also encourage increased communication and active engagement by NATO officials with Congress and the executive branch to raise awareness of NATO's mission, efforts, and concerns.

Section 1255—Limitation on Transfer of F–35 Aircraft to Turkey

This section would prevent the transfer of any F–35 aircraft or related materials to Turkey unless the Secretary of Defense and Secretary of State jointly certify either that Turkey has provided credible assurances that it will not accept delivery of the S–400 air defense system, or that Turkey has abandoned an S–400 air defense system, if it had accepted it, along with any other equipment, materials, or personnel associated with the system, and has provided credible assurances that it will not take possession of an S–400 in the future.

Section 1256—Report on Value of Investments in Dual Use Infrastructure Projects by NATO Member States

This section would require the Secretary of Defense to submit a report, not later than June 1, 2020, on the value of investments in dual use infrastructure projects by the member states of the North Atlantic Treaty Organization in order to improve military mobility and interoperability across Europe.

Section 1257—Sense of Congress on Support for Poland

This section would express the sense of Congress on support for Poland.

SUBTITLE G—OTHER MATTERS

Section 1261—Sense of Congress on United States Partners and Allies

This section would express the sense of Congress that partners and allies are critical to achieving United States national security interests and defense objectives around the world.

Section 1262—Modification to Report on Legal and Policy Frameworks for the Use of Military Force

This section would modify section 1264 of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115–91) that required the President to submit a report to the appropriate congressional committees on the legal and policy frameworks for the use of military force and related national security operations to be an annual reporting requirement.

Section 1263—Limitation on Availability of Certain Funds Until Report Submitted on Department of Defense Awards and Disciplinary Action as a Result of the 2017 Incident in Niger

This section would withhold 20 percent of funds authorized to be appropriated for Operation and Maintenance Defense-Wide, Office of the Secretary of Defense, for travel expenses until the Secretary of Defense submits a report on each award and disciplinary action issued as a result of the 2017 incident in Niger.

Section 1264—Independent Assessment of Sufficiency of Resources Available to United States Southern Command and United States Africa Command

This section would direct the Secretary of Defense to seek to enter into a contract with an entity independent of the Department of Defense to conduct an assessment of the sufficiency of resources available to U.S. Southern Command and U.S. Africa Command.

Section 1265—Rule of Construction Relating to Use of Military Force

This section would establish that nothing in this Act or any amendment made by this Act may be construed to authorize the use of military force.

Section 1266—Rule of Construction Relating to Use of Military Force Against Venezuela

This section would establish that nothing in this Act or any amendment made by this Act may be construed to authorize the use of military force against Venezuela.

Section 1267—Sense of Congress on Acquisition by Turkey of Patriot System

This section would express the sense of Congress in support of efforts to achieve an arrangement with Turkey by which Turkey acquires the Patriot air and missile defense system as an alternative to the S–400 air and missile defense system.

SUBTITLE H—BALTIC REASSURANCE ACT

Section 1271—Findings

This section would establish findings with regard to the Baltic countries.

Section 1272—Sense of Congress

This section would express the sense of Congress that the United States is committed to the security of the Baltic countries.

Section 1273—Defense Assessment

This section would require the Secretary of Defense and Secretary of State to jointly conduct an assessment of the military requirements of the Baltic countries to deter and resist aggression by Russia and to submit a report related to such assessment.

Section 1274—Appropriate Congressional Committees Defined

This section would define "appropriate congressional committees"' for the purpose of receiving the report required elsewhere in this subtitle.

TITLE XIII—COOPERATIVE THREAT REDUCTION

LEGISLATIVE PROVISIONS

Section 1301—Funding Allocations

This section would allocate specific funding amounts for each program under the Department of Defense Cooperative Threat Reduction (CTR) Program from within the overall $338.7 million that the committee would authorize for the CTR Program. The allocation under this section reflects the amount of the budget request for fiscal year 2020.

Section 1302—Specification of Cooperative Threat Reduction Funds

This section would specify that funds authorized to be appropriated to the Department of Defense for the Cooperative Threat Reduction Program, established under the Department of Defense Cooperative Threat Reduction Act (50 U.S.C. 3711), would be available for obligation for fiscal years 2020, 2021, and 2022.

TITLE XIV—OTHER AUTHORIZATIONS

LEGISLATIVE PROVISIONS

SUBTITLE A—MILITARY PROGRAMS

Section 1401—Working Capital Funds

This section would authorize appropriations for Defense Working Capital Funds at the levels identified in section 4501 of division D of this Act.

Section 1402—Chemical Agents and Munitions Destruction, Defense

This section would authorize appropriations for Chemical Agents and Munitions Destruction, Defense at the levels identified in section 4501 of division D of this Act.

Section 1403—Drug Interdiction and Counter-Drug Activities, Defense-Wide

This section would authorize appropriations for Drug Interdiction and Counter-Drug Activities, Defense-wide at the levels identified in section 4501 of division D of this Act.

Section 1404—Defense Inspector General

This section would authorize appropriations for the Office of the Inspector General at the levels identified in section 4501 of division D of this Act.

Section 1405—Defense Health Program

This section would authorize appropriations for the Defense Health Program at the levels identified in section 4501 of division D of this Act.

Section 1406—National Defense Sealift Fund

This section would authorize appropriations for the National Defense Sealift Fund at the levels identified in section 4501 of division D of this Act.

SUBTITLE B—OTHER MATTERS

Section 1411—Authority for Transfer of Funds to Joint Department of Defense—Department of Veterans Affairs Medical Facility Demonstration Fund for Captain James A. Lovell Health Care Center, Illinois

This section would authorize the Department of Defense to transfer funds from the Defense Health Program into Joint Department of Defense—Department of Veterans Affairs Medical Facility Demonstration Fund for the Captain James A. Lovell Federal Health Care Center.

Section 1412—Authorization of Appropriations for Armed Forces Retirement Home

This section would authorize appropriations for fiscal year 2020 from the Armed Forces Retirement Home Trust Fund in the amount of $64.3 million for the operation of the Armed Forces Retirement Home.

TITLE XV—AUTHORIZATION OF ADDITIONAL APPROPRIATIONS FOR OVERSEAS CONTINGENCY OPERATIONS

ITEMS OF SPECIAL INTEREST

National Guard and Reserve Equipment

The budget request contained no funding for a National Guard and Reserve Component equipment account. The committee has long been concerned about the availability of modern equipment needed to ensure the relevance and readiness of the National Guard and Reserve Components as an operational reserve and for their domestic support missions. The committee notes that the National Guard and Reserve Equipment Report for Fiscal Year 2020 identifies continuing shortages in modernized equipment and challenges associated with efficiently fulfilling combat readiness training requirements.

The committee believes additional funds would help manage strategic risk and eliminate identified critical dual-use equipment shortfalls. The committee expects these funds to be used for the purposes of, but not limited to, the procurement of High Mobility Multipurpose Wheeled Vehicles; Family of Medium Tactical Vehicle trucks; Family of Heavy Tactical Vehicle trucks; F–16 Active Electronically Scanned Array radar; Ground Based Sense and Avoid radars; C–130H NP2000 Propeller Upgrades; C–130 Air National Guard Recapitalization; UH–60M Black Hawk helicopters; UH–72 Lakota helicopters; aviation crashworthy, ballistic-tolerant auxiliary fuel systems; and other critical dual-use, unfunded procurement items for the National Guard and Reserve Components.

The committee recommends $415.0 million for National Guard and Reserve equipment.

LEGISLATIVE PROVISIONS

SUBTITLE A—AUTHORIZATION OF APPROPRIATIONS

Section 1501—Purpose

This section would establish the purpose of this title and make authorization of appropriations available upon enactment of this Act for the Department of Defense, in addition to amounts otherwise authorized in this Act, to provide for additional authorization of funds due to overseas contingency operations and other additional funding requirements.

Section 1502—Procurement

This section would authorize additional appropriations for procurement at the levels identified in section 4102 of division D of this Act.

Section 1503—Research, Development, Test, and Evaluation

This section would authorize additional appropriations for research, development, test, and evaluation at the levels identified in section 4202 of division D of this Act.

Section 1504—Operation and Maintenance

This section would authorize additional appropriations for operation and maintenance programs at the levels identified in section 4302 of division D of this Act.

Section 1505—Military Personnel

This section would authorize additional appropriations for military personnel at the levels identified in section 4402 of division D of this Act.

Section 1506—Working Capital Funds

This section would authorize additional appropriations for Defense Working Capital Funds at the levels identified in section 4502 of division D of this Act.

Section 1507—Drug Interdiction and Counter-Drug Activities, Defense-Wide

This section would authorize additional appropriations for Drug Interdiction and Counter-Drug Activities, Defense-Wide, at the levels identified in section 4502 of division D of this Act.

Section 1508—Defense Inspector General

This section would authorize additional appropriations for the Office of the Inspector General at the levels identified in section 4502 of division D of this Act.

Section 1509—Defense Health Program

This section would authorize additional appropriations for the Defense Health Program at the levels identified in section 4502 of division D of this Act.

SUBTITLE B—FINANCIAL MATTERS

Section 1511—Treatment as Additional Authorizations

This section would state that amounts authorized to be appropriated by this title are in addition to amounts otherwise authorized to be appropriated by this Act.

Section 1512—Special Transfer Authority

This section would authorize the transfer of up to $0.5 billion of additional war-related funding authorizations in this title among the accounts in this title. This section would not be applicable to Drug Interdiction and Counter Drug Activities, Defense-Wide.

SUBTITLE C—OTHER MATTERS

Section 1521—Afghanistan Security Forces Fund

This section would extend the Afghanistan Security Forces Fund through fiscal year 2020. This section would also set a goal of using $45.5 million to support, to the extent practicable, the efforts of the Government of Afghanistan to promote the recruitment, training,

integration, and retention of Afghan women into the Afghan National Defense and Security Forces.

This section would also require the Secretary of Defense, in consultation with the Secretary of State, to submit an assessment of the Government of Afghanistan's ability to meet shared security objectives and manage, employ, and sustain equipment divested under the Afghanistan Security Forces Fund. If the results of said assessment were unfavorable, the Secretary of Defense would be required to withhold assistance under the Afghanistan Security Forces Fund.

TITLE XVI—STRATEGIC PROGRAMS, CYBER, AND INTELLIGENCE MATTERS

ITEMS OF SPECIAL INTEREST

SPACE ACTIVITIES

Centers of Innovation for Space Operational Testing

The committee directs the Secretary of Defense to provide a briefing to the House Committee on Armed Services not later than September 30, 2019, on a plan regarding the opportunities and costs to expand activities at existing defense facilities and partnerships to support operational testing and development of innovative technologies for multi-domain national security space missions. The briefing shall include an assessment of entities, partnerships, programs, and residual Department of Defense space assets that enable the iterative development, testing, and transfer of innovative space capabilities to the Department of Defense; a plan for utilizing applicable entities and residual Department of Defense space assets for the operational testing of innovative national security space technologies; the operational benefits created by engagement and utilization of industry and academic partnerships to accelerate development and testing technologies; the costs and value of leveraging these opportunities; and such other matters as the Secretary considers appropriate.

Department of Defense Resource-Sharing to Assist with Natural Disasters

The Committee notes the devastating consequences of natural disasters that are increasing in both frequency and severity. In some instances, resources from the Department of Defense may be able to help local communities mitigate the damage from these events. For example, defense satellites and other aerial survey technology and analysis have the capability to detect wildfire outbreaks soon after they occur—much earlier than traditional methods currently in use. Access to this data would allow local utilities and first responders to better contain these wildfires and limit loss of life, property, and infrastructure.

Therefore, the Committee directs the Secretary of Defense, in coordination with the National Geospatial Intelligence Agency and other agencies as appropriate, to provide a report to the House Committee on Armed Services no later than September 30, 2019 on options to work with the Departments of Energy, Interior and Agri-

culture and any on-going efforts to share resources, including surveillance data, to assist states and localities in identifying and responding to natural disasters such as wildfires. This report should include at a minimum: an identification of which Department of Defense surveillance data could be shared most quickly and efficiently on an ongoing basis without jeopardizing classified information; and a strategy for how this information could be shared in real time, while protecting the source of the information and the technologies used.

Efficient Acquisition of Commercial Satellite Communications

The committee supports the Department of Defense's continued efforts to integrate commercial satellite communications (COMSATCOM) capabilities into the Department's satellite communications (SATCOM) architecture and transition to a more efficient partnership with commercial operators. This new approach would ensure that the Department maximizes SATCOM value on a more secure, cost-effective, and resilient basis. The committee notes the Air Force is transferring COMSATCOM procurement authority from the Defense Information Systems Agency to Air Force Space Command, as legislatively mandated.

The committee directs the Secretary of Defense to provide a briefing to the House Committee on Armed Services not later than September 1, 2019, on efforts to integrate commercial satellite communications capabilities into the Department of Defense satellite communications architecture. The briefing should include an assessment of several matters, including establishing clear lines of authority for integration of COMSATCOM capabilities into a SATCOM architecture; tools and technologies necessary to improve efficiency, resiliency, usability, and functionality for the Department of Defense COMSATCOM user community; funding and resourcing required to adequately prioritize and accelerate commercial satellite communications integration; and innovative acquisition approaches that increase value for the Department and the warfighter with regard to acquiring commercial satellite communications services.

As the Department recapitalizes its space architecture for wideband and protected communications and transitions to greater reliance on commercial capabilities, the committee encourages the Department to prioritize adequate and stable funding for related activities.

Global Enhanced Geospatial-Intelligence Delivery

The committee notes that the Global Enhanced Geospatial-Intelligence Delivery (Global-EGD) program offers a cloud-free foundation of imagery. This program provides a unique level of situational awareness to thousands of U.S. Government users, including warfighters, for immediate tactical and emergency purposes, as well as long-term mapping and analysis. This service allows users to not only view imagery, but also access archives to see image progression over time. The committee supports this program and urges the Department of Defense to sustain it appropriately and consider making it a program of record.

Global Positioning System III Satellite Acquisition

The committee notes that the Department of Defense is continuing its investment in new Global Positioning System (GPS) satellites to maintain worldwide, persistent, all-weather capability to ensure accurate time source for military and civilian users. GPS III will provide significant enhancements to the current constellation including higher-power military signals, new civilian signals, and hosted search-and-rescue payloads. The committee directs the Secretary of the Air Force to provide a briefing to the House Committee on Armed Services not later than September 30, 2019, on the timelines and costs for procuring GPS III satellites, on options to improve the efficiency of GPS III satellite procurement to ensure optimum value in line with military requirements.

Improving Resilience of Space Architectures

The committee notes the importance of increasing resilience and developing new architectures to protect US national security assets in space and to strengthen deterrence in space. The committee supports the Air Force and Defense Advanced Research Projects Agency's (DARPA) investments in demonstrating a proliferated low earth orbit (LEO) architecture that has the potential to offer increased resilience for U.S. national security space missions, including missile warning. If successful, this approach could significantly and cost-effectively increase resilience in space, and allow more rapid technology insertions.

Therefore, the committee directs the Secretary of Defense to provide a briefing to the House Armed Services Committee not later than December 1, 2019, on progress made through the Blackjack program, and any other related program, to demonstrate the value and feasibility of a proliferated, global LEO constellation and other innovative space architectures.

The committee also directs the Secretary, in coordination with the Director of the Space Development Agency and the Director of DARPA, to provide a report not later than February 15, 2020, detailing the progress made, and if is successful, how such a proliferated LEO architecture could enhance the resilience of space architectures, enhance deterrence in space, and how such a constellation would be integrated into the national security space strategy and architecture, the planned applications of this approach to national security space missions, the timelines for development and production, and funding requirements.

Increasing Resilience by Leveraging Proliferated Constellations in Low Earth Orbit

The budget request contained $142.0 million in PE 1206427F for Space Systems Prototype Transitions. Of this amount, $55.0 million was requested for the DARPA Blackjack program to support continued demonstration of a proliferated low Earth orbit constellation. The committee supports the Blackjack objectives to demonstrate the military utility of lower cost payloads, leverage commercial architectures, and demonstrate on-orbit data processing and autonomy, through a 20-satellite prototype constellation by fiscal year 2022. The committee is aware that if successful, this architecture could provide an additional layer of resilience and rapidly

replenished capacity in space that could have wide-ranging applications.

Therefore, the committee recommends $162.0 million, an increase of $20.0 million, in PE 1206427F for the Blackjack demonstration program.

Leveraging Commercial Satellite Remote Sensing

The committee notes that responsibility for acquiring commercial imagery shifted from the National Geospatial-Intelligence Agency (NGA) to the National Reconnaissance Office (NRO), while the NGA retains responsibility for acquiring commercial geospatial-intelligence services. The committee supports the new leadership role of the NRO in acquiring commercial satellite remote sensing data on behalf of the Department of Defense and the intelligence community. In order to fully leverage U.S. industry capabilities, the committee urges the NRO to engage industry to the maximum extent practicable. The committee is aware that the NRO is currently evaluating its strategy for acquiring future commercial, high-resolution satellite imagery. In setting requirements for acquisition of commercial satellite imagery, the committee directs the Director of the NRO to be responsive not only to the NGA requirements but also the broader Department of Defense geospatial intelligence (GEOINT) user community, including the combatant commanders. To meet these broad and diverse requirements, the committee expects the NRO to engage with multiple commercial providers, leveraging multiple sources for global coverage and high revisit rates.

The committee directs the Director of the NRO, in coordination with the Director of the NGA, to provide a joint briefing to the House Committee on Armed Services not later than October 1, 2019, on progress toward an open and fair competitive acquisition process to leverage industry capabilities in the 2020s. This briefing should address how the agencies plan to work together to ensure no gaps in the support provided to the Department of Defense GEOINT user community as a result of the change in roles and responsibilities.

Leveraging Reusable Spacecraft

The committee notes the potential commercial development and use of a dedicated reusable spacecraft to support national security space requirements. The committee believes that the Department of Defense could leverage the National Aeronautics and Space Administration's extensive design development, computational and wind tunnel testing, and funding commitments that led to the production of a reusable spacecraft, and assess the potential for use to address national security requirements. The committee directs the Secretary of the Air Force to provide a briefing to the House Committee on Armed Services not later than September 15, 2019, on the feasibility, potential benefits, and costs of using a reusable spacecraft for launching satellites or to serve as a test platform.

National Geospatial-Intelligence Agency Aviation Mapping Capability

The committee is aware that the National Geospatial-Intelligence Agency (NGA) is planning to shift the aviation mapping capability from a commercial contract to an organic capability within NGA.

The committee directs the Director of NGA to provide a briefing to the House Committee on Armed Services not later than July 30, 2019, on a plan and rationale for this transition. The briefing should include, at a minimum, an assessment of the risks and benefits of this transition, timeline, costs, cost savings, potential gaps, and any other matters the Director would like to include.

Next-Generation LEO-Based Satellite Technology

The committee understands the commercial sector is developing next-generation Low Earth Orbit (LEO) satellite technology that could be leveraged to enhance tactical communications for the warfighter, enabling lower latency for time-critical services. The committee is specifically interested in commercial LEO-based satellite technology that is being developed to provide high powered, resilient direct satellite to broadband cellular connectivity to existing mobile devices, sensors and Internet of Things based platforms, without the need for traditional terrestrial ground infrastructure. The committee is interested in opportunities to leverage this type of commercial development for military specific applications to meet critical warfighter and national security requirements.

The committee directs the Secretaries of the Air Force, Army, and Navy to provide a briefing to the congressional defense committees by September 30, 2019 on their findings and potential opportunities for investment in this strategic capability. Included in these findings should be opportunities to leverage commercial LEO satellite technology capable of deliver direct satellite to broadband cellular technology for potential defense applications that include, but not limited to, improved space-based tactical communications, command and control, jamming and intercept capabilities, and tactical early warning missile detection.

Next-Generation Synthetic Aperture Radar

The committee is aware that the Army has undertaken efforts to augment existing collection capabilities with a family of small satellites of varying configurations. Those enhanced, space-based collection capabilities will include a number of smaller, more cost-effective and more survivable Synthetic Aperture Radar (SAR) satellites capable of supporting worldwide tactical operations. SAR, unlike passive collection systems, allows for penetration of clouds, precipitation, and dense vegetation day or night. While SAR space vehicles are historically large and heavy with significant power and heat-management challenges, technological developments have made it possible to produce much smaller and more affordable SAR satellites that can significantly contribute to tactical situational awareness and decision making in support of reconnaissance, surveillance, and target acquisition missions.

Therefore, the committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services not later than October 31, 2019, on opportunities and funding require-

ments for innovative research in the area of downsized, lightweight, and more cost-effective SAR technology. The committee believes that investment in a next-generation SAR tactical satellite could accelerate the development of technology to deliver mission-critical capabilities to military users and integrate space-based, SAR-derived data with other systems.

North Atlantic Treaty Organization Ally Launch Services

The committee notes that the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) required the Secretary of the Air Force to evaluate options and execute a plan to use allied launch vehicles as a backup in meeting the requirements for assured access into space as delineated in section 2273 of title 10, United States Code. The committee commends the Air Force for conducting an analysis and providing a report to Congress in the fall of 2017, positively identifying a suitable allied partner's capability to mitigate risks and ensure national security space launch services in the event of an emergency need that could not be met with domestic launch capacity. While the report identified future steps required to fully enable rapid certification of an allied nation's space launch capability, the Air Force has yet to implement the necessary next steps to ensure that the backup plan could be executed quickly if needed. The Department of Defense should take the next steps to identify specific payloads and conduct all detailed studies of requirements, costs, infrastructure, security, and other aspects of using space launch services provided by non-domestic providers as a backup during a time of national emergency.

Report on Commercial and Space-Based Radio Frequency Mapping

The committee directs the National Reconnaissance Office to provide a report to the House Committee on Armed Services not later than November 1, 2019 on commercial space-based radio frequency mapping and associated operations and services for space-based electromagnetic collections. The report shall include the timelines, milestones, and processes to establish the ordering and data delivery systems for commercial space-based radio frequency mapping and associated operations and services for space-based electromagnetic collections, how such commercial operations and services should integrate into existing workflows of the Department of Defense, how such commercial operations and services could be integrated into other existing analytics platforms, and how these services can meet current and future mission requirements.

Report on Commercial or Non-Commercial Security Launch Sustainability

The committee directs the Secretary of the Air Force to provide a report to the congressional defense committees and the congressional intelligence committees not later than 45 days after the date on which the Secretary of the Air Force selects during fiscal year 2020 two National Security Space Launch providers to be awarded phase two contracts, on whether each selected provider is sustainable as a business based on current or future launches by entities other than the Air Force.

Rocket Systems Launch Program

The committee continues to support sustained investment to further operationalize integration of new commercial small-launch services into the space enterprise. The committee directs the Secretary of Defense, in coordination with the Director of National Intelligence, to provide a briefing to the House Committee on Armed Services not later than September 15, 2019, on the Air Force's plan to leverage commercial investments in responsive launch capabilities and integrate tactically responsive launch capabilities into the Department of Defense's space operations. The briefing should provide an assessment of responsive launch operational tactics, techniques, and procedures; the operational benefits of responsive space launch demonstrations from military installations; and the required funding and resourcing to employ a contingency capability for rapid reconstitution and tactically responsive space launch.

Small Satellite Science, Security Applications, and Evolutionary Concepts

The committee supports the Department of Defense as it develops novel communications, sensing, and navigation payloads as well as modular, highly adaptable ground systems that can be readily configured to support the evolving needs of national security. These efforts support exploring the increasing trend toward using constellations of low-cost, low Earth orbit, small satellites for rapid response missions. The committee supports the Department in developing leap-ahead concepts, technologies, and capabilities that support assured positioning, navigation, and timing capabilities.

Space and Atmospheric Burst Reporting System

The committee notes that the Air Force hosts nuclear detonation detection capability in space on Global Positioning System and Defense Support Program satellites. The committee also notes that the Space and Atmospheric Burst Reporting System (SABRS) also contributes to nuclear detonation detection with the third payload launching in 2019 on the Space Test Program-6 satellite. However, the committee is aware that there have been delays in launching the SABRS payloads, and there are no current plans to launch SABRS–4 or future SABRS systems.

Therefore, the committee directs the Secretary of the Air Force, in coordination with the Administrator for Nuclear Security and the Secretary of State, to submit a plan to the congressional defense committees not later than November 15, 2019, to launch the SABRS–4 payload and following SABRS payloads. The plan shall include military and treaty verification requirements for nuclear detection, including requirement for SABRS payloads; identification of satellites that would host such a payload; requirements for ground-processing software; cost, including out-year funding requirements; and timelines for launching additional SABRS payloads.

Telemetry Extension Satellite Communications Relay

The committee supports long-range test events for advanced weapons platforms, integrated systems, and next-generation hypersonics. The telemetry extension satellite communication (SATCOM) relay project will assist range safety, testing, and evaluation personnel executing overwater missions that support test events of long-range weapons, aircraft, and sea surface platforms. The effort focuses on prototype integration and modification of unmanned surface vehicles by installing collection sensors, antennas, receivers, and transmitter hardware.

The committee expects that the Air Force will continue to prioritize the major test and evaluation investment budget line in support of the telemetry extension SATCOM relay project.

U.S. Reliance on Foreign In-Space Propulsion Systems

The committee directs the Secretary of Defense to provide a report to the congressional defense committees not later than November 1, 2019, on foreign in-space propulsion systems, including electric propulsion, Hall thrusters, and chemical apogee engines, which are used for transferring a satellite to its final orbital location, in-orbit maneuvering, and transferring to a graveyard orbit at the end of the life of the satellite.

The report should address which national security programs use these systems; whether there are risks from relying on foreign in-space propulsion; the impacts of a change in policy that would require U.S.-made propulsion systems, including impacts on the Department of Defense's ability to use hosted payloads or acquire commercial services; cost estimates associated with a change in policy; what research and development projects would be necessary to contribute to development and testing of U.S.-designed and -manufactured in-space propulsion systems for current and future military satellites in space; and associated costs of these development and acquisition costs.

Venture Class Launch Services

The Department of Defense relies heavily on space-based capabilities that are necessary for the warfighter. These capabilities include strategic warning, assured communication, weather, and positioning, navigation, and timing. The Department is heavily invested in national security space assets that include large, capable, expensive payloads launched on comparably large and expensive launch vehicles, and that do not rapidly incorporate the newest commercial technologies and techniques that U.S. commercial space industry and U.S. adversaries may use. The committee encourages the Department to consider increased use of small satellites to augment and complement the Department's existing capabilities. The committee further encourages the Department to use commercial contracting approaches such as National Aeronautics and Space Administration's Venture Class Launch Program to increase the survivability and resiliency of the Department's space assets.

MISSILE DEFENSE PROGRAMS

Airborne Tracking and Targeting System

The committee notes that in 2018 the Airborne Tracking and Targeting System (ATTS) executed a continuous 8-month deployment to the Pacific Missile Range Facility in Kauai to support Missile Defense Agency test events. The system was shown to be highly effective in tracking both ballistic and non-ballistic threats. In addition to the precision tracks provided by ATTS, these tests proved that the fire control solution was developed sufficiently early to enable early intercept to support a "shoot-assess-shoot." The committee encourages the Department of Defense to continue its support of ATTS, specifically supporting the modification of unmanned aerial vehicles for potential deployment outside the continental United States to support combatant commander needs.

Boost-Phase Ballistic Missile Defense Analysis of Alternatives

The committee notes that the President's budget request for fiscal year 2020 includes $34.0 million to initiate development of a neutral particle beam that would ultimately be deployed in space to conduct intercontinental-range ballistic missile (ICBM) boost-phase defense. The committee further notes ongoing research and development efforts across the Department of Defense to develop ICBM boost-phase intercept capability, to include kinetic interceptors launched from unmanned aerial vehicles and/or aircraft, and multiple directed energy technologies that are being evaluated. The committee is unaware of any analysis of alternatives (AOA) being conducted prior to the determination to move forward with neutral particle beam, and therefore, the committee directs the Director of Cost Assessment and Program Evaluation (CAPE) to conduct a comprehensive AOA on current boost-phase technologies being developed or investigated. The AOA should include aspects such as technical maturity of systems, total development and operational deployment costs, policy implications to strategic stability, and schedule. The committee directs the Director of CAPE to provide a briefing to the House Committee on Armed Services not later than March 31, 2020, on the results of this AOA.

Cybersecurity of Missile Defense Programs

The committee notes positive efforts being made by the Missile Defense Agency (MDA) to address controlled unclassified information (CUI) disseminated throughout the defense industrial base. The committee is supportive of these efforts, and encourages use of cyber assistance teams to be piloted across the Department of Defense.

The committee notes the pilot initiated in 2018 to incorporate cybersecurity program protection plans as a proposal requirement, and used as evaluation criteria in source selection activities. The committee supports the continuation of this pilot, and the potential for cyber protection becoming required evaluation criteria in all future MDA contract awards.

Noting the 2019 Department of Defense Inspector General findings, the committee acknowledges that cybersecurity remains a concern to be addressed on government-owned research, develop-

ment, test, and evaluation networks. The committee encourages MDA, in coordination with the military services, to address the findings and implement corrective actions to ensure the protection of networks from external and internal threats.

Further, the committee supports efforts to develop and deploy secure information systems and infrastructure ensuring the warfighter can receive, analyze, promulgate, and protect critical information with no risk of accidental exposure of the data to unauthorized individuals. MDA should prioritize developmental efforts within the directorate for advanced technology with the aim of providing the warfighter an operational cyber environment that enhances training, security, mobility, data analytics, and situational awareness.

While assurances have been made regarding operational ballistic missile defense system systems being protected against cyber threats, the committee notes that conducting persistent cyber operations may discover vulnerabilities and provide an opportunity to proactively address network weaknesses. The committee encourages the Director of MDA to work collaboratively with the Director of Operational Test and Evaluation and the combatant commanders to implement persistent cyber operations on RDT&E and operational networks, on a not-to-interfere basis. To understand the breadth of cybersecurity efforts at MDA, the committee directs the Director of MDA to provide a briefing to the House Committee on Armed Services by January 31, 2020, on all aspects of cybersecurity outlined above.

Hypersonic Carbon-Carbon Composites

The budget request contained $20.6 million in PE 63180C for advanced hypersonic development research.

The committee is aware that research conducted into carbon-carbon composites and similar materials is critical to the advancement of the Department of Defense hypersonics efforts. The benefits of carbon-carbon composites in extreme environments, such as those experienced in high-speed and hypersonic flight, warrant additional scientific and technical exploration. Additional research in reusable hypersonic vehicle materials, structure development, and thermal protection system development is necessary to enable rapid global response to threats and extend the survivability of platforms in highly contested environments. The committee believes additional emphasis on the capacity of the industrial base in carbon-carbon composites is necessary in order to increase the rate at which hypersonic systems can be developed, prototyped, and tested, while reducing the cost relative to current solutions.

Therefore, the committee recommends $27.6 million, an increase of $7.0 million, in PE 63180C for advanced hypersonic development research.

Low-Cost Patriot Interceptor

The committee acknowledges that the Patriot Integrated Air and Missile Defense System has long been a key component of U.S. ballistic missile defense. With ballistic missile threats increasing globally, combatant commander global force management requirements for missile defense capacity have consistently been increasing.

The committee notes that current unit costs for Patriot missile segment enhancement interceptors is approximately $1.0 million per interceptor. The incorporation of a low-cost interceptor to supplement existing Patriot interceptor variants could assist in increasing U.S. procurement quantities. Further, the committee understands that international partners have requested the Army include such a low-cost interceptor to reduce costs in foreign military sale cases. Therefore, the committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services not later than December 31, 2019, on options to incorporate a low-cost interceptor into the Patriot system. The report should include cost, schedule, technical, and operational considerations, in addition to an assessment of potential for foreign military sale.

Missile Defense Agency Undefinitized Contract Actions

The committee notes that since 2016, the Missile Defense Agency (MDA) has increasingly relied on undefinitized contract actions (UCAs) to expand and extend programmatic scope instead of executing traditional contract modifications with predetermined requirements. Particularly in the case of the Ground-Based Midcourse Defense (GMD) contract extension, the use of a UCA resulted in significant scope change through the definitization process. Conducting business in this manner has also been highlighted by the Government Accountability Office as resulting in increased cost.

The committee is concerned by the past several year trend of increasing UCA usage by the Missile Defense Agency, and therefore directs the Director of the Missile Defense Agency to provide a briefing to the House Committee on Armed Services not later than December 15, 2019, on a historical summary of all UCAs executed since 2015; what the final definitized contract included, highlighting changes in scope and cost; plans to definitize all open UCAs at the time of the briefing; and how MDA plans to reduce the use of UCAs in the future and maximize opportunities to hold contractors accountable to a predetermined scope.

Multi-Agency Sensors for Ballistic Missile Defense

The committee notes an evolution of emerging ballistic missile and hypersonic threats from a growing number of countries. The committee also notes that the U.S. Strategic Command commander has repeatedly stated that our ability to track advanced threats from "birth to death" is a key capability gap. The committee agrees the ability to track advanced threats throughout their entire flight is needed to enable any future defenses against these types of weapons, and further recognizes the challenges associated with developing, procuring, and deploying new sensors capable of meeting enhanced and evolving threats.

The committee is aware that there are numerous ground- and sea-based sensor platforms currently performing measurement and signature intelligence (MASINT) located in strategic regions where current sensing capability gaps exist. It is the committee's understanding that these are very capable sensors that may be able to perform multiple missions including MASINT, space surveillance, and missile defense.

Therefore, the committee directs the Director, Missile Defense Agency, in coordination with the Director of National Intelligence, to provide a briefing to the House Committee on Armed Services by January 31, 2020, detailing the current global ground- and sea-based MASINT sensors and the capability of the sensors to integrate into the U.S. homeland missile defense architecture. The report shall include the current participation of intelligence sensor assets in the U.S. ballistic missile defense system as well as the operational impacts, costs, and timelines associated with activating a U.S. homeland missile defense mission for each sensor.

On-Board Vehicle Power Technology

The committee notes that electrical power generation requirements continue to grow to meet the needs of our weapon systems and command and control infrastructure deployed around the world. Traditional electrical power generation in the field requires an increased logistical footprint that reduces maneuverability and deployability of operational units in austere conditions. The committee is aware of efforts by the Missile Defense Agency (MDA) to evaluate low-cost, non-developmental mature technologies that harness the electrical energy generated by a vehicle's transmission to produce mobile electrical power. The committee notes that the MDA is seeking to integrate on-board vehicle power for Terminal High Altitude Area Defense in order to provide increased capability, readiness, and the ability to conduct extended operations with greater energy efficiency than current systems.

The committee supports the efforts of the MDA and U.S. Army to evaluate ways to make ballistic missile defense systems more efficient in energy use and allow them more flexibility, readiness, and lethality on the battlefield. Therefore, the committee directs the Director of the Missile Defense Agency, in coordination with the Secretary of the Army, to provide a briefing to the House Committee on Armed Services by January 31, 2020, on candidate technologies being evaluated for integration onto ground vehicle platforms to make missile batteries more expeditionary, maneuverable, and fuel efficient. The report should include:

(1) preliminary results from the evaluation and fielding focused on interoperability, logistics, and installation of the systems;

(2) performance and recommendations on adoption of the technology by the other services; and

(3) a breakdown of costs expended to date on developing this technology, and any future costs needed to complete the effort.

Review of Ground-Based Midcourse Defense Contract Structure

The committee notes that in 2017 the Missile Defense Agency abandoned plans to re-compete the Ground-Based Midcourse Defense (GMD) system contract, and instead maintained the contract structure to execute missile defense and defeat enhancement efforts. With the recent definitization of the contract, the committee notes significant changes in scope and total value from the initial not-to-exceed agreement. Therefore, the committee directs the Comptroller General of the United States to complete an assessment of the GMD contract structure, and provide recommendations that could improve government management and increase con-

tractor accountability. The assessment should also include managing interfaces and specifications between the multiple system components; assessing which elements or missions, if any, could benefit from direct reporting to the Missile Defense Agency versus the prime contractor; and highlighting any areas that could be improved with regard to the path forward on the redesigned kill vehicle effort and its integration into the overall GMD system. The committee directs the Comptroller General to provide a briefing to the House Committee on Armed Services by February 28, 2020, on the initial findings of the assessment, and to submit a final report at a date agreed to at the time of the briefing.

Terminal High Altitude Area Defense Future Deployment

The committee notes that the terminal high altitude area defense (THAAD) system has previously been deployed to perform a layered U.S. homeland mission in Hawaii when the threat and indications and warnings dictated the need. The committee also understands that regional demands of this system, for which it was designed, are high and the limited number of batteries are prioritized to address growing regional threats.

The committee directs the Commander, U.S. Northern Command (NORTHCOM), in coordination with the Under Secretary of Defense for Policy, Commander, U.S. Indo-Pacific Command (INDOPACOM) (as appropriate), Secretary of the Army, and Director, Missile Defense Agency, to provide a report, with a classified annex if needed, to the congressional defense committees not later than February 28, 2020, on the following aspects should a THAAD homeland defense deployment be considered in the future:

(1) military requirement to deploy THAAD for homeland defense;

(2) how THAAD could contribute to current layered homeland defense architectures;

(3) changes in threat posture that would warrant such a deployment, and the mechanics of how NORTHCOM and INDOPACOM would determine the requirement and submit the force management request;

(4) timelines to deploy a THAAD battery, including the continental United States, Hawaii, and Alaska, should the decision be made to do so;

(5) impacts to global missile defense should one or more THAAD batteries be deployed for a homeland defense mission, and how that could be addressed with future procurement of additional THAAD batteries;

(6) how lessons learned from recent regional deployments would be incorporated into future planning;

(7) impacts to training and readiness of U.S. Army personnel to support such deployment; and

(8) policy implications and risks to strategic stability of deploying a regional THAAD capability for a homeland defense mission.

NUCLEAR FORCES

Air Force Global Strike Command Enterprise Analysis Center

The committee continues to oversee Air Force Global Strike Command (AFGSC) as it leads and coordinates efforts across the Air

Force for both nuclear deterrence operations and contributions to nuclear command, control, and communications. The committee believes sustained attention on these missions will be required in the context of the nuclear weapons modernization program.

The committee believes that AFGSC should provide an analytical basis for cost and capability trades to drive cost-effective acquisition solutions. Traditional requirements analysis maturation methodologies may be insufficient to support the tradeoff decisions related to nuclear enterprise systems. To address these challenges, AFGSC has proposed the use of digital models and dynamic analysis to improve requirements analysis. The committee is interested in understanding how these analytical efforts and AFGSC's planned Enterprise Analysis Center will contribute a cost-effective nuclear enterprise modernization program. Therefore, the committee directs the Secretary of the Air Force to provide a briefing to the Committee on Armed Services of the House of Representatives not later than November 15, 2019, on the Air Force Major Command Innovation Program and AFGSC's Enterprise Analysis Center regarding how these efforts will contribute to decision making and integrate into AFGSC's existing innovation strategy and planned nuclear institute.

Climate Change and the Nuclear Enterprise

The committee notes that climate change is a national security issue with impacts to Department of Defense missions, operational plans, and installations. The committee also notes that the United States is undergoing the most extensive modernization of its nuclear forces in at least three decades. This modernization effort will ensure the United States nuclear deterrent is safe, secure, and effective through 2080. The Department must plan to ensure the viability of the nuclear enterprise through this timeframe. In January 2019, the Department's "Report on Effects of a Changing Climate to the Department of Defense" noted that the Department "must be able to adapt current and future operations to address the impacts of a variety of threats and conditions, including those from weather and natural events. To that end, the Department of Defense factors in the effects of the environment into its mission planning and execution to build resilience."

Therefore, the committee directs the Secretary of Defense, in consultation with the Secretary of Energy, to provide a report to the House Committee on Armed Services not later than March 31, 2020, assessing the effects of climate change on the U.S. nuclear enterprise, to include bases, ports, laboratories, plants, sites, and testing facilities, through 2080.

Comptroller General Review of Implications of 2018 Nuclear Posture Review

The committee notes that the Department of Defense and the National Nuclear Security Administration (NNSA) are undertaking an extensive, multifaceted effort to recapitalize and modernize the U.S. nuclear weapons enterprise, including the nuclear weapons stockpile, dual-capable aircraft, submarine-launched ballistic missiles, intercontinental ballistic missiles, and nuclear-capable heavy bombers, as well as their associated warheads. The administration

is also planning to develop new missiles and warheads—including developing low-yield warheads to be carried on ballistic missiles on submarines—and pursuing the reintroduction of nuclear-armed sea-launched cruise missiles, consistent with recommendation from the 2018 Nuclear Posture Review.

The committee notes the significant level of investment and high concurrence of many of these modernization programs and the associated risks of schedule slips and increased costs, in addition to the need to sustain existing platforms and systems until the new systems are operational. The committee therefore recognizes the importance of risk mitigation plans and prioritization of modernization efforts as well as force structure decisions.

The committee directs the Comptroller General of the United States to provide a report to the congressional defense committees not later than April 1, 2020, assessing the Department and NNSA plans for prioritization of modernization efforts recommended by the Nuclear Posture Review and plans in the event of cost increases or delays. The committee further directs the Comptroller General to provide a briefing to the House Committee on Armed Services not later than February 15, 2020, on the Comptroller General's preliminary findings.

Delayed Life Extension Programs

The committee notes that the National Nuclear Security Administration (NNSA) is currently managing five nuclear warhead life extension (LEP), alteration or modification programs, and is concerned about the level of concurrency on these programs. The committee is concerned about the challenges that this concurrency has caused at NNSA facilities, including the Kansas City National Security Campus. The Nuclear Security Administrator testified in May 2019 that the "W80–4 LEP, W87–1 modification, and the W76–2 modification continue to remain on budget and schedule" but noted for the first time that the B61–12 LEP and the W88 Alteration 370 will be delayed, stating that "we are currently working through recently identified challenges that will impact delivery schedules and we are assessing options with DoD to mitigate delays."

The committee is aware that while the severity of delays currently remains uncertain, these delays could be significant. The committee also notes that both the independent Office of Cost Estimating and Program Evaluation within NNSA and the Office of Cost Assessment and Program Evaluation within the Department of Defense warned in 2016 that completion of the B61 LEP could be delayed by as much as 2 years. The committee is also aware that the Air Force recently proposed to delay the W80–4 first production unit (FPU) by at least a year without impact to initial operation capability, but NNSA has kept the FPU date to fiscal year 2025.

The committee questions the adequacy of program management, including the optimistic assumptions that seem to be driving LEP schedules, and the late realization, within less than a year of originally expected FPU dates for the B61 and the W88 Alteration, that delays will occur. The committee expects improvements in program planning, management, prioritization, and oversight, including

more realistic assumptions, to avoid short-notice delays, which entail not only cost increases but operational impacts.

Domestic Production of Large Solid Rocket Motors

The committee notes that the Air Force continues development of the Ground-Based Strategic Deterrent (GBSD). As the follow-on to the Minuteman III Intercontinental Ballistic Missile, the GBSD will have two to three large solid rocket motor boosters. The committee notes that there are only two suppliers of large solid rocket motors in the United States. The committee commends the Secretary of Defense for submitting the report required in section 1699 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232). The committee also notes the importance of maintaining the large solid rocket motor industrial base, as well as the careful analysis done by the Secretary of Defense. The committee wishes to follow up on this report with an update.

Therefore, the committee directs the Under Secretary of Defense for Acquisition and Sustainment to provide an updated report to the House Committee on Armed Services not later than December 1, 2019, assessing the following:

(1) the risks and benefits of utilizing both domestic producers of large solid rocket motors for the design, development, and production of rocket motors for the Ground-Based Strategic Deterrent Program, including any specific mitigation recommendations being considered or implemented;

(2) costs or cost savings associated with using two domestic producers, including with respect to the cost of the GBSD program;

(3) timelines for decision making on the number of producers; and

(4) a plan, if two producers were used.

Managing Risks of Nuclear Escalation

The committee notes the importance of nuclear deterrence in the U.S. national security strategy. As the 2018 Nuclear Posture Review notes, "effective U.S. deterrence of nuclear attack and non-nuclear strategic attack requires ensuring that potential adversaries do not miscalculate regarding the consequences of nuclear first use, either regionally or against the United States itself." However, the committee also notes the increasing number and diversity of strategic, including non-nuclear, capabilities and the increasing number of states deploying such capabilities. These factors may decrease decision time for policy makers and increase the potential for miscalculation and misconception.

The committee directs the Under Secretary of Defense for Policy to provide a report to the House Committee on Armed Services not later than January 31, 2020, detailing the Department's efforts to develop and implement guidance to ensure that the risks of inadvertent escalation to a nuclear war are considered within the decision-making processes with regard to relevant Department activities. The committee further directs the Under Secretary of Defense to identify the capabilities and factors taken into account in developing such guidance. The committee directs the report to be provided in unclassified form, with a classified annex as necessary.

Nuclear Arms Control

The committee notes the value of verifiable nuclear arms control to U.S. national security. The arms control architecture the United States has built over decades has long been an important element of U.S. nuclear force planning and meeting U.S. deterrence requirements. If the New Strategic Arms Reduction (New START) Treaty is not extended or replaced before it expires in 2021, the United States runs the risk of having no legally binding, verifiable limits on Russia's strategic nuclear arsenal, negatively impacting U.S. deterrence and U.S. national security.

The Department of State, in the December 1, 2018, "Report on the Reasons That Continued Implementation of the New START Treaty Is in the National Security Interests of the United States," noted: "New START Treaty's limits on Russia's strategic nuclear force . . . contribute currently to the national security of the United States." Further, the report noted that "The New START Treaty allows the United States to both retain and modernize its nuclear Triad while also providing the United States with the flexibility to adapt its force structure as needed." The State Department also confirmed Russia is in compliance with the treaty.

The committee encourages the President to keep Congress informed on the status of arms control agreements. The committee also notes the President announced U.S. intent to withdraw from the Intermediate-Range Nuclear Forces (INF) Treaty without notifying Congress. While Russia's material breach of the INF Treaty is clear, the committee notes such decisions should not be made without informing Congress.

In response to a question on whether he sees any reason for the United States to withdraw from the New START Treaty before it expires in 2021, absent Russia being in material breach of the treaty, General John Hyten, Commander of U.S. Strategic Command, responded "No." General Hyten also noted in testimony before the Senate Committee on Armed Services that he was "a big supporter of the New START agreement" and that the New START Treaty provides "insights into the Russians' capabilities. Those are hugely beneficial to me."

With regard to Russia's new nuclear capabilities, the New START Treaty's Bilateral Consultative Commission has provided the United States with a forum to discuss Russia's strategic force developments. The committee notes the importance of ensuring all applicable Russian nuclear systems are covered under the treaty's verification provisions and limits.

Radiation Exposure Compensation Act

The committee notes that the United States conducted nearly 200 atmospheric nuclear weapons development tests from 1945 to 1962. Also essential to the nation's nuclear weapons development was uranium mining and processing, carried out by tens of thousands of U.S. workers. The committee notes that the Radiation Exposure Compensation Act (RECA) provides for an administrative program for claims relating to atmospheric nuclear testing and claims relating to uranium industry employment. The committee notes that the Department of Justice has awarded more than $2.3 billion in awards under RECA.

Therefore, the committee directs the Secretary of Defense, in consultation with the Attorney General of the United States, to provide a report to the House Committee on Armed Services not later than December 13, 2019, assessing the extent to which those affected by government nuclear testing are prevented from receiving compensation under RECA. The committee requests that the report describe the different groups, and estimated number of people in each group, who are affected by government nuclear testing but are not compensated under RECA, including but not limited to those Americans who live in close proximity to where testing occurred.

Report on Assessing China's "No-First-Use" of Nuclear Weapons Policy

The committee notes that China maintains a no first use policy with regard to nuclear weapons which was not mentioned in its 2013 defense white paper, but was reaffirmed in its 2015 defense white paper. Therefore, the committee directs DoD, jointly with the Director of National Intelligence, to provide a report to the House Armed Services Committee no later than December 31, 2019 assessing China's no first use policy, including the rationale for, and credibility, of this policy. The report should include a comprehensive analysis which includes:

(1) Current debate and considerations within Chinese leadership regarding its No First Use Policy.

(2) The role China's No First Use Policy serves in strengthening its nuclear capability.

(3) China's doctrine regarding what actions would invoke a nuclear response

(4) Insight as to how China would perceive a U.S. policy change to no first use of nuclear weapons.

(5) The perspective of U.S. allies in the Indo-Pacific concerning China's no first use policy, as well as how those allies' expectations with regard U.S. extended deterrence commitments and assurances, views with regard to U.S. engagement on extended deterrence, and the policy debate on no-first-use.

(6) An assessment of implications of China's no-first use policy on nuclear proliferation motivations in East Asia east Asia and Nuclear Nonproliferation Treaty commitments.

Report on the Adequacy of the New START Treaty to Restrain Current Threats

The committee finds that arms control is beneficial for both United States national security and international stability, but the United States should not enter arms control agreements that impose unilateral restrictions on the United States Armed Forces and fail to properly account for the nuclear arsenals of all near-peer competitors in the international system.

The committee also finds that the United States and Russia signed the New Strategic Arms Reduction Treaty (the "New START Treaty") on April 8, 2010, which is due to expire in 2021, and that the United States does not have any arms control agreements with China. The 2018 Nuclear Posture Review states, "While the United States has continued to reduce the number and salience of nuclear weapons, others, including Russia and China, have moved in the

opposite direction. Russia has expanded and improved its strategic and non-strategic nuclear forces. China's military modernization has resulted in an expanded nuclear force, with little to no transparency into its intentions."

Regarding Russia, the 2018 Nuclear Posture Review states, "Russia is developing and deploying new nuclear warheads and launchers. These efforts include multiple upgrades for every leg of the Russian nuclear triad of strategic bombers, sea-based missiles, and land-based missiles. Russia is also developing at least two new inter-continental range systems, a hypersonic glide vehicle, and a new intercontinental, nuclear-armed, nuclear-powered, undersea autonomous torpedo." "[Russia] is also building a large, diverse, and modern set of non-strategic systems that are dual-capable . . . These theater- and tactical-range systems are not accountable under the New START Treaty."

Regarding China, the 2018 Nuclear Posture Review states, "China continues to increase the number, capabilities, and protection of its nuclear forces." It additionally states that, "China has developed a new road-mobile strategic intercontinental ballistic missile (ICBM), a new multi-warhead version of its DF5 silo-based ICBM, and its most advanced ballistic missile submarine armed with new submarine-launched ballistic missiles (SLBM). It has also announced development of a new nuclear-capable strategic bomber, giving China a nuclear triad."

In testimony before the Committee on Foreign Relations of the Senate on April 10, 2019, Secretary of State Mike Pompeo stated, in response to a question about extending the New START treaty, that "we need to make sure that we've got all the parties that are relevant as a component of this as well."

On March 16, 2019, National Security Advisor John Bolton stated, "China is building up its nuclear capacity now. It's . . . one reason why if we're going to have another arms control negotiation, for example, with the Russians, it may make sense to include China in that discussion as well". The committee seeks additional information from the Department of Defense related to Russia and China's expanding inventory of strategic and non-strategic nuclear weapon systems, and the suitability of the current New START Treaty to restrain Russia and China from developing and deploying additional nuclear weapons.

The committee therefore directs the Chairman of the Joint Chiefs of Staff and the Secretary of Defense to provide a report to the House Committee on Armed Services not later than December 11, 2019, on the following:

(1) Russia and China's expanding inventory of strategic and non-strategic nuclear weapon systems;

(2) The adequacy of the New START Treaty to restrain Russia and China from developing and deploying new, advanced strategic and non-strategic nuclear weapon systems;

(3) The impacts on United States national security should an extension or successor agreement of the New START Treaty not be: (A) a trilateral arrangement among the United States, Russia, and China; and (B) an expanded arrangement to include all strategic, non-strategic nuclear-capable weapon systems.

Report on the Nuclear-Armed Sea-Launched Cruise Missile

The committee notes that the 2018 Nuclear Posture Review (NPR) proposes to pursue a nuclear-armed sea-launched cruise missile (SLCM). The committee seeks additional clarification from the Department of Defense on why the capability is required and what impacts the deployment of a nuclear SLCM would have on the Navy. The committee notes that the Department is conducting an analysis of alternatives for the low-yield nuclear-armed SLCM.

The committee therefore directs the Chief of Naval Operations to submit a report to the House Committee on Armed Services not later than February 28, 2020, on the nuclear-armed SLCM. The report should include an assessment of the following:

(1) operational impacts to the conventional surface or submarine fleet, in particular with regard to port calls, base security, crew training, Personnel Reliability Program requirements, and crew certification;

(2) other impacts to missions of the conventional surface or submarine fleet if a nuclear SLCM were deployed; and

(3) any other risks and benefits to the Navy's surface fleet should a nuclear SLCM be deployed.

The report should be provided in unclassified form, with a classified annex as necessary. The committee further directs the Chief of Naval Operations to provide a briefing to the House Committee on Armed Services on analysis of alternatives once completed.

CYBER-RELATED MATTERS

Air Combat Training System and Spectrum Allocation

The committee notes that the January 2015 spectrum auction of Advanced Wireless Service licenses for three defined frequency bands, known as AWS–3, affected infrastructure for several Air Combat Training System (ACTS) programs including those that impact the F–35 program. The committee is concerned that the relocation or compression of spectrum from the AWS–3 auction, specifically from the 1755–1780 megahertz (MHz) band, may have adversely impacted ACTS programs as it relates to F–35 testing and evaluation and other related areas, such as joint interoperable live virtual constructive (LVC) training systems.

Therefore, the committee directs the Secretary of Defense to provide a briefing to the House Armed Services Committee no later than December 31, 2019, on actions taken related to impact mitigation of the Advanced Wireless Services 3 auction, and how relocation and compression efforts to date have been managed for DoD ACTS programs, F–35, electronic warfare programs, satellite operations, and other related areas.

Allied 5G Network Security

The committee is deeply concerned about the security of 5G wireless networks. Given that U.S. military forces operate worldwide, oftentimes on local networks, the security of those networks is paramount to United States national security. As senior defense leaders have repeatedly testified before the committee, the ability to reliably and securely share information is a bedrock principle of American military alliances. The committee is concerned that U.S.

allies, and partners may choose to include risky telecommunications equipment in their 5G networks from companies like Huawei and ZTE.

The Committee therefore directs the Secretary of Defense to provide to the congressional defense committees, not later than January 1, 2020, a report detailing the projected and potential impact to U.S. operations as a consequence of the adoption of 5G technology products from Huawei and ZTE by U.S. partners and allies. The report should examine the Huawei and ZTE products in current use in overseas communications networks, new products currently in testing but projected for production, and current risk mitigation practices for U.S. forces. This report shall have both unclassified and classified portions.

Briefing on the Integration of Cyber Planning at Unified Combatant Commands

The committee acknowledges U.S. Cyber Command's (CYBERCOM) efforts to develop and mature the Cyberspace Operations Integrated Planning Elements (COIPEs), teams of cyber operations planners from CYBERCOM who are forward staged at the unified combatant commands. While encouraged that CYBERCOM is seeking to integrate its planners at the geographic combatant commands and other functional combatant commands, the committee is concerned that this model could be hampered by the same issues that plagued the Cyber Support Elements, a defunct CYBERCOM concept similar to the COIPEs that were first briefed to the committee in 2010. While these were operationalized at varying degrees, their deactivation and the subsequent need for COIPEs suggests the Cyber Support Element concept was executed poorly. Therefore, the committee directs the CYBERCOM Commander, in coordination with the Principal Cyber Advisor, to provide a briefing to the House Committee on Armed Services not later than January 31, 2020, on how the COIPEs are being organized, staffed, implemented, and utilized by the unified combatant commands. Additionally, the briefing will cover how the COIPE concept is distinctive from the Cyber Support Elements, and how the development of the COIPEs will avoid the problems encountered by the Cyber Support Elements.

Comptroller General Report to Study the Department of Defense's Current Inventory of Internet Protocol Version 4 Addresses

The committee directs the Comptroller General of the United States to submit a report to the congressional defense committees not later than March 1, 2020, on the Department of Defense's status and plans to transition from Internet Protocol version 4 (IPv4) to Internet Protocol version 6 (IPv6). The Comptroller General's report should assess:

(1) the technical and security necessity for the Department of Defense to transition from IPv4 to IPv6;

(2) any existing plans and requirements for transitioning from IPv4 to IPv6;

(3) the number and ranges of IPv4 addresses assigned to the Department of Defense;

(4) of those assigned, the address ranges that are unused by the Department of Defense;

(5) any statutory, policy, or security limitations that may preclude the Department of Defense's ability to transfer unutilized addresses;

(6) the ability of the Department of Defense to transfer IPv4 addresses upon transitioning to IPv6;

(7) estimated costs associated with transition to IPv6; and

(8) any other matters the Comptroller General determines appropriate.

Cyber Capability Development, Acquisition, and Sustainment

The committee supports the Department of Defense's objective of building a superior cyber force, which includes the acquisition, development, and sustainment of accesses and tools required to enable military cyber operations. However, the committee notes with concern the potential that the nation's cyber force could be hindered with tools and accesses being developed and stored by different components of the services and Department of Defense agencies and elements. For all the components under its authority, U.S. Cyber Command should maintain a comprehensive and dynamic inventory of subordinate elements' accesses and tools, and emphasize the importance of sustaining these cyber-specific capabilities.

To this end, the committee directs the Secretary of Defense to provide a briefing to the House Committee on Armed Services not later than February 1, 2020, on the Department's strategy for acquisition, development, and sustainment of cyber-specific accesses and tools. This briefing should include details of the processes, procedures, roles and responsibilities, and sustainment plans for the Department of Defense's cyber capabilities. Additionally, the briefing should detail how the Department acquires tools, capabilities, and accesses from non-governmental sources, and conducts due diligence of these vendors.

Cybersecurity of Army Space and Missile Defense Assets

The budget request contained $46.9 million in PE 65602A for Army Technical Test Instrumentation and Targets. The committee supports the Department of Defense efforts to improve cybersecurity, resiliency, and hardening of net-centric weapon systems and space assets. The committee encourages the Secretary of Defense to continue to provide cyber protection for operational Army space and missile defense systems.

The committee recommends $51.9 million, an increase of $5.0 million, in PE 65602A for Army Technical Test Instrumentation and Targets to accelerate cybersecurity research and development providing cyber protection for operational Army space and missile defense assets.

Cybersecurity of Biosecurity and Pathogen Threat Data

The committee notes that the Department of Defense's work on biosecurity and pathogen threats spans several subordinate organizations and that the security of the data relating to these issues is critical to U.S. national security. The committee directs the Secretary of Defense to submit a report to the congressional defense

committees not later than March 1, 2020 that assesses the cybersecurity of Department of Defense entities engaged in the development, storage, processing, and transmission within the Department and to other United States government entities of data related to biothreats and pathogens. This assessment should examine, but not be limited to, the Defense Advanced Research Projects Agency, Defense Threat Reduction Agency, U.S. Army Edgewood Chemical Biological Center, U.S. Army Medical Research Institute of Infectious Diseases, U.S. Naval Medical Research Center, Joint Pathology Center, proving grounds where biological research and development is conducted, and military laboratories working with pathogens. The report should describe any vulnerabilities or deficiencies, and recommend steps for remediation of such vulnerabilities or deficiencies. A complementary implementation plan for addressing the report's recommendations should be provided to the congressional defense committees no later than one year after the delivery of the report.

Cybersecurity of the Supply Chain

The committee notes that effective and efficient supply chain management is critical for supporting the readiness and capabilities of the warfighter. U.S. Transportation Command (TRANSCOM), the Defense Logistics Agency (DLA), and the military services provide logistics capabilities that seek to deliver support to the warfighter at the right place, time, and cost. To meet this need, TRANSCOM, DLA, and the military services use information systems such as the Integrated Data Environment Global Transportation Convergence (IGC) database where 7,500 users have access to near-real time, in-transit visibility of 8 million lines of items of supply and transportation data.

The Department's Task Force on Survivable Logistics examined the threats posed by strategic competitors to military logistics and found that logistics information systems are potentially vulnerable to cyber attacks. The wide use of non-secure information technology across the logistics enterprise makes the military's systems potentially more susceptible to enemy activity as does the integration with commercial networks for suppliers and mobility. The task force also found that the Department has not conducted an end-to-end vulnerability assessment to remedy cyber challenges to logistics information systems that could be exploited in a strategic competition. Moreover, the Department does not have a corrective action plan to mitigate the potential risks associated with vulnerabilities in the logistics arena.

Therefore, the committee directs the Comptroller General of the United States to evaluate to what extent the Department has identified and addressed cybersecurity risks to its supply chain; to what extent the Department has visibility into cybersecurity risks to its supply chain for activities led by commercial networks and contractors; to what extent the Department has corrective action plans in place to mitigate cybersecurity risks associated with the supply chain; and any other related matters the Comptroller General considers appropriate.

The committee further directs the Comptroller General to provide a briefing to the House Committee on Armed Services not later than March 1, 2020, on preliminary findings of the Comp-

troller General's evaluation, and to present final results in a format and timeframe agreed to at the time of the briefing.

Department of Defense Cloud Strategy

The committee commends the Department of Defense for its Cloud Strategy, reasserting the Department's commitment to cloud technology and the need to view cloud initiatives from an enterprise perspective for more effective adoption. As part of the strategy, the Department has delineated the tangible objectives and benefits from a migration to cloud infrastructure, to include application of advanced computational power, scalability, and robust resiliency. Cloud infrastructure, such as the Joint Enterprise Defense Infrastructure, allows users to access information from anywhere at any time, effectively removing the need for the user to be in the same physical location as the hardware that stores the data. Before cloud technology had matured to its current state, the Department had purchased information technologies with capacities to support the widest possible sets of contingencies and uses, resulting in significant underutilization and overinvestment. The ability of cloud infrastructure to scale ensures that the Department efficiently manages and modernizes its information technology needs and demands. The committee endorses the Department's strategy and concept for a flexible enterprise cloud architecture that enshrines the need and value for both general purpose and fit-for-purpose cloud solutions through a multi-cloud, multi-vendor approach.

Department of Defense Cyber Red Team Alternatives

The committee recognizes the importance of crowdsourced security testing programs such as Hack the Pentagon that utilize technology platforms and ethical security researchers to test for cyber vulnerabilities within the Department of Defense. The committee notes that the Director of Operational Test and Evaluation recently concluded that the Department's cyber testing is "handicapped by lack of expertise" and tools to assess software-intensive weapon systems. Third-party security researchers offer the Department the manpower and expertise needed to find cyber vulnerabilities in weapon platforms, personally identifiable information, health data, and other critical defense systems in order to fix these vulnerabilities. The committee is aware that the Department funded a multiyear effort to enhance the scope of third-party cyber testing. These programs have been successful at finding vulnerabilities in defense systems, including weapon systems, quickly and have proven cost-effective. Therefore, in order to better secure the Department from cyber attacks and vulnerabilities, the committee encourages the Department to evaluate its use of third-party crowdsourced security platforms to inform cybersecurity priorities, policy, and requirements.

Efforts to Leverage Education Programs for the Department of Defense Cyber Workforce

The committee recognizes the challenges facing the Department of Defense in recruiting, training, retaining, and building its workforce for cyberspace operations. This is even more difficult as the country as a whole faces a cybersecurity workforce shortage of

nearly 314,000 individuals as of April 2019. The committee is aware of the multiple programs at the primary, secondary, and postsecondary levels to encourage students to get involved with technology and cybersecurity, but the committee is concerned that the Department of Defense and the military services are not postured to leverage these efforts without expanding their visibility and awareness of all the various initiatives underway. The current recruitment efforts by the military services do not appear calibrated for the needs of the Department in building its cyberspace force.

Therefore, the committee directs the Secretary of Defense to provide a briefing to the House Committee on Armed Services not later than March 31, 2020, on the Department's efforts to leverage and invest in the educational programs directed at primary, secondary, and postsecondary levels that are best suited to contribute to the Department's cyber workforce. The briefing should include information about how the military services are tailoring recruitment efforts for cyber fields, including emerging areas such as artificial intelligence, software engineering, data sciences, quantum sciences, and other related cross-functional technology fields.

Military Cyber Operations and Activities with Allies and Partners

The 2018 National Defense Strategy states that alliances and partnerships are one of the key elements the Department of Defense must possess to complement and enhance its warfighting capabilities. Similarly, the 2018 Department of Defense Cyber Strategy states that the Department will work with allies and partners to contest cyber activity that could threaten U.S. military forces and missions and to counter the exfiltration of sensitive Department information. While conducting cyber operations with allies and partners can enhance our nation's security and that of our allies and partners, it could also present challenges such as differing national security priorities and policies, laws, changing allegiances, transparency, and classification issues.

Therefore, the committee directs the Comptroller General of the United States to provide the congressional defense committees with an assessment of current military cyber operations with allies and partners. The assessment should include examples of offensive, defensive, and counterintelligence cyberspace operations that the Department conducts with allies and foreign partners and associated funding authorities or gaps; the status of current agreements and partnerships with countries with which the Department conducts regular cyberspace operations, including cyber threat information-sharing efforts and agreements; what is known about benefits and challenges the Department experiences in conducting cyberspace operations with allies and foreign partners and the extent to which the Department is taking action to address any challenges; the extent to which the Department considers and incorporates allies' and foreign partners' capabilities, laws, and policies into the planning process for cyberspace operations; and any other matters the Comptroller General determines to be relevant.

The committee further directs the Comptroller General to provide a briefing to the House Committee on Armed Services not later than March 1, 2020, on the Comptroller General's preliminary findings, and to present final results to the congressional defense

committees in a format and timeframe agreed to at the time of the briefing.

Persistent Cyber Training Environment

The committee judges the training of the service members and civilians dedicated to cyberspace operations as paramount, and a critical component to the nation's supremacy in cyberspace. To ensure unity of effort and synchronization in training across the military services, U.S. Cyber Command is developing the Persistent Cyber Training Environment (PCTE), with the U.S. Army serving as the program's executive agent. In concept, PCTE will be a hybrid cloud-based training platform supporting individual sustainment training, team certification, and provide the foundation for a collective training network. The committee supports PCTE as the mechanism for training the military and civilian personnel involved in cyberspace operations to maintain their skills and certification required to continue to work on missions.

To ensure the development of the program aligns with the program objectives, the committee directs the Commander of U.S. Cyber Command, in coordination with the Secretary of the Army, to provide a briefing to the House Committee on Armed Services by January 31, 2020, on PCTE. This briefing must include details on PCTE's governance framework and structure, current and projected program requirements, and acquisition schedule and plan, as well as a demonstration of the platform.

Pilot Program Authority to Enhance Cybersecurity and Resiliency of Critical Infrastructure

The committee supports the ongoing relationship and collaboration between the Department of Defense and the Department of Homeland Security to enhance cybersecurity and resiliency of critical infrastructure, as evidenced by the pilot program authorized in section 1650 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232). The committee believes that state and non-state adversaries continue to conduct cyber operations that hold critical infrastructure and key resources at risk, and notes with concern the under-use of this authority since both departments have yet to maintain a sustained and recurring relationship of technical personnel.

The committee is supportive of the signed memorandum of understanding (MOU) between the two departments, including an agreement to jointly prioritize high-value national functions and non-Department of Defense-owned mission-critical infrastructure deemed to be most important to the military. The committee views this aspect of the MOU as central to the complementary cybersecurity roles and missions of the Department of Defense and Department of Homeland Security, and notes that the Department of Defense's "defend forward" posture can inform and guide Department of Homeland Security efforts to anticipate adversary action and understand potential risks to critical infrastructure.

Therefore, in order to ensure maturation and development of a sustained and recurring relationship that enhances cybersecurity cooperation, the committee directs the Secretary of Defense to provide a report to the House Committee on Armed Services by March

2, 2020, on the use and implementation of the pilot program authorized in section 1650, including any implementation mechanisms, lines of effort, joint principles, and plans for maintaining a sustained and recurring relationship between the Department of Defense and the Department of Homeland Security after termination of the authority on September 30, 2022.

Report on Information Security and Endpoint Accounting

The committee notes that section 1653 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) required the Department of Defense to develop and enforce a new policy referred to as "comply-to-connect." In general, a comply-to-connect policy requires that a computer be in compliance with the network's configuration standards before it is allowed to participate in the network. A complementary concept is "continuous monitoring" and associated solutions which automatically detect and remediate vulnerabilities, primarily on endpoint devices such as computers and mobile phones.

The committee remains concerned that the Department of Defense still lags the private sector in accounting for endpoints connected to the Department of Defense Information Network (DODIN). Therefore, the committee directs the Chief Information Officer (CIO) of the Department of Defense to submit a report to the congressional defense committees by February 1, 2020, on implementation of the plan required by subparagraph (a)(1)(A) of section 1653 of Public Law 114–328. At a minimum, the report shall include:

(1) a detailed assessment of progress made to date towards implementing the plan;

(2) an explanation of any barriers the Department has encountered in its efforts to provide a comprehensive accounting of endpoints connected to the DODIN;

(3) an overview of how "comply-to-connect" and "continuous monitoring" relate to the overall cybersecurity strategy of the Department; and

(4) any other matters the CIO determines appropriate.

Report on Principal Cyber Advisor Resources and Manning

Section 2224 of title 10, United States Code, authorized the position of a Principal Cyber Advisor (PCA) to the Secretary of Defense, to counsel the Secretary specifically on military cyber forces and activities and supervise cyber activities related to offensive missions, defense of the United States, and defense of Department of Defense networks, including oversight of policy and operational considerations, resources, personnel, and acquisition and technology. Since 2017, this position has been held by the Assistant Secretary of Defense for Homeland Defense and Global Security (ASD GS&HD), a role which includes the oversight of the planning capability development, and operational implementation in the mission areas of countering weapons of mass destruction; cyber; space; defense continuity; mission assurance; defense support of civil authorities; and supervision of the homeland defense activities of the Department of Defense. Since the creation of the PCA position, the office of the PCA has benefited from having a uniformed member of the mili-

tary services in either the O–7 or O–8 level serving as the Deputy PCA, allowing for a senior individual to maintain focus on the responsibilities on a full-time basis.

The committee notes with concern that the responsibilities of the PCA cannot be afforded the requisite focus of the ASD GS&HD when that individual must contend with so many competing priorities. Additionally, the committee is equally concerned by the decision of the Joint Staff to eliminate the requirement for a general officer/flag officer to serve as the Deputy PCA. With the ASD GS&HD responsible for so many high-priority issues, the ability to rely on the experience and perspective of a senior military officer has been incalculable and the committee does not believe that a civilian may contribute to a comparable degree.

Therefore, the committee directs the Secretary of Defense to provide a briefing to the House Committee on Armed Services not later than January 31, 2020, on the role of the Principal Cyber Advisor, the Office of the Principal Cyber Advisor, current staffing, and a justification for reallocation of a military general officer/flag officer. Specifically, the briefing should include an analysis of the position of the Deputy PCA and the role of the military services in staffing the position.

Shared Cybersecurity Services Program for the Department of Defense

The committee notes the success of the Shared Cybersecurity Services Program, an effort by the Department of Homeland Security to host select security services on behalf of other Federal departments and agencies. This model offered improved cybersecurity to smaller Federal components that may lack the expertise to fully manage a comprehensive information technology security program, particularly given the increasing cyber threat. The size, scale, and federated nature of the Department of Defense's information technology footprint is so substantial that a similar model of shared cybersecurity services could reduce cybersecurity risk. The committee directs the Department of Defense Chief Information Officer to provide a briefing to the House Committee on Armed Services not later than April 1, 2020, on the feasibility of a shared cybersecurity services effort for the Department of Defense.

Support for the Cyber Excepted Service

The budget request contained $67.6 million in PE 33140D8Z for the Information Systems Security Program and the Cyber Excepted Service. The committee is encouraged by the Department of Defense's progress in introducing the Cyber Excepted Service (CES) personnel system, a component of the excepted service authorized in section 1599f of title 10, United States Code. CES will be a critical pillar in building a cyber workforce for the nation. However, the committee notes with concern the slow pace of implementation. While CES has been introduced at the Office of the Chief Information Officer, U.S. Cyber Command, and the Defense Information Systems Agency, phase 2 of the implementation has been challenged by multiple factors. Given the criticality of CES to building a cyber workforce, the committee urges the Department to consider plans for CES after phase 2 implementation, and specifically the

processes necessary for Department of Defense components to petition for inclusion of their eligible positions to CES. Such positions to be considered could include those involved in machine learning, data science, artificial intelligence, penetration testing, software engineering, and related technical career fields. To properly fund the implementation of CES, the committee recommends an increase of $10.0 million in PE 33140D8Z.

Synchronizing the Department of Defense Emergency Operations Management Systems

The committee recognizes the challenge of emergency operations management, both domestically and abroad, necessitating the synchronization of both military and civilian organizations, components, and agencies. During a natural disaster or physical incident, the Department of Defense must be able to communicate and coordinate with local authorities as well as other Federal agencies in responding to and providing assistance. The ability for government entities across the Federal, State, and local levels to communicate through a proven, widely adopted software solution should be a primary consideration for the Department of Defense.

The committee believes the Department can improve how emergency operations management and preparation are synchronized across the Department and military services, and can ensure that various components avoid developing solutions indigenously when widely adopted technological solutions are commercially available. Furthermore, the committee is aware of currently contracted and available commercial off-the-shelf (COTS) platforms that provide a common operating picture, enabling State and local users (both public and private entities) to communicate effectively with Federal agencies with complete scalability and configurability.

Therefore, the committee directs the Secretary of Defense to provide a briefing to the House Committee on Armed Services not later than March 31, 2020, on the Department's efforts to deconflict the emergency operations management systems utilized by various components across the Department and military services, and utilization of COTS solutions.

Utility Resilience Planning to Support Cybersecurity Threats

The committee recognizes utility systems located on Department of Defense installations are increasingly being connected to the internet and monitored or operated through computer-controlled industrial control systems (ICS). The benefits of such connection can be improved utility efficiencies and utility management. At the same time, the connectivity can expose the Department's utility systems to threats such as cyber attacks on ICS.

The committee is aware that prior Government Accountability Office (GAO) reports have identified challenges with the Department's ability to protect ICS from cyber threats, which could result in system failure or disruption. For example, in 2015, GAO reported that the military services had taken actions to mitigate risks posed by utility disruptions and were generally taking steps in response to Departmental guidance related to utility resilience. Further, GAO reported that at that time, the Department was in the planning stages of implementing new cybersecurity guidance to

enhance the cybersecurity of ICS, but faced challenges in implementing the guidance. The Department subsequently directed the services and other Defense agencies to develop plans for identifying the goals, milestones, and resources needed to identify, register, and implement cybersecurity controls on facility-related ICS. However, the status of implementation of this direction remains unclear to the committee.

Therefore, the committee directs the Comptroller General of the United States to evaluate the extent to which the military departments have developed and implemented plans and associated guidance to enhance the cybersecurity of ICS and what, if anything, remains incomplete; the challenges the military departments have encountered in implementing relevant guidance to enhance the cybersecurity of ICS and how effectively the challenges have been overcome; how effectively the military departments implemented industry leading practices to enhance cybersecurity for ICS; and how effectively the military departments conduct tests of the cybersecurity of ICS and implement improvements to security to counter any weaknesses identified.

The committee further directs the Comptroller General to provide a briefing to the House Committee on Armed Services not later than March 1, 2020, on preliminary findings of the Comptroller General's evaluation and to present final results in a format and timeframe agreed to at the time of the briefing.

INTELLIGENCE MATTERS

Airborne Intelligence, Surveillance, and Reconnaissance Operational Assessment

The committee recognizes the critical role that Department of Defense airborne intelligence, surveillance, and reconnaissance (ISR) capabilities play supporting military operations worldwide. The committee understands that responsive, persistent, and precise collection of operational information from the air will continue to provide an asymmetric and decisive advantage to operational commanders and tactical forces. The committee also recognizes that to meet the objectives described in the National Defense Strategy, the Department of Defense must modernize and adapt its ISR operating concepts and joint force structure to ensure it can maneuver, fight, and prevail in highly contested environments. However, the committee notes that there is an apparent lack of an integrated joint approach to the Department's ISR modernization strategy. The committee is concerned by recent military service decisions to reduce certain airborne ISR collection platforms without a clear transition plan or approved risk mitigation strategy, despite facing significant deficiencies in collection capacity.

The committee directs the Secretary of Defense to conduct a stress test of joint intelligence, surveillance, and reconnaissance enterprise capabilities required to achieve the operational objectives of its highest priority global campaign plans and evaluate the capability and capacity of existing service programs of record to satisfy joint force requirements for critical categories of intelligence. The committee also directs the Secretary of Defense to provide a briefing to the House Committee on Armed Services by March 1, 2020, on the results of this stress test. The briefing shall include capa-

bility and capacity shortfalls in platforms, sensors, and personnel, as well as address proposed risk mitigation strategies to address critical deficiencies.

China's Biological Weapons Program

The committee remains interested in ensuring the Defense Intelligence Enterprise is providing timely, accurate, and effective intelligence to support information needs of the Department of Defense, and is aware of a recent Government Accountability Office report on long-range emerging threats facing the United States that highlighted potential pursuit by near-peer competitors of biological weapons using genetic engineering and synthetic biology. Therefore, the committee directs the Under Secretary of Defense for Intelligence, in coordination with the Director of the Defense Intelligence Agency, to provide a briefing to the House Committee on Armed Services by November 1, 2019, on an assessment of China's current and projected biological weapons program, the risks presented to the joint force, and the mitigation strategies to protect U.S. military forces against said threats.

Comprehensive Assessment of the Roles, Responsibilities, and Organization of the Office of the Under Secretary of Defense for Intelligence

The committee recognizes the importance of the Under Secretary of Defense for Intelligence's (USD(I)) management and oversight of the Defense Intelligence Enterprise, and commends the Under Secretary's continued efforts to mature the organization's support to the operational requirements and strategic priorities of the Secretary of Defense. However, the committee notes the shift in priorities and focus of the Office of the Under Secretary of Defense for Intelligence (OUSD(I)), and potential impacts to the organization's ability to effectively execute oversight of the policy, processes, and procedures that guide the Department of Defense's intelligence organizations. The committee further acknowledges that the USD(I) is the principal advisor to the Secretary of Defense and the Deputy Secretary of Defense for all intelligence, intelligence-related, counterintelligence, and security matters, and is responsible for exercising authority, direction, and control over all associated defense intelligence organizations and activities.

Since the establishment of the Under Secretary of Defense for Intelligence (USD(I)) by the Bob Stump National Defense Authorization Act for Fiscal Year 2003 (Public Law 107–314), the roles and responsibilities assigned to the position and office continue to evolve. In 2018, the Deputy Secretary of Defense augmented the responsibilities of USD(I) to include the protection of Department of Defense physical properties and personnel. Additionally, the committee further clarified the security related responsibilities of USD(I) in the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232) to include enterprise-wide management and execution of the planning and resourcing for the personnel, physical, and industrial security components of the Department of Defense, as well as the protections required of Department classified information and controlled unclassified information. Most recently, in April 2019, the President directed the

transfer of personnel background investigations from the National Background Investigations Bureau to the Office of the Under Secretary of Defense for Intelligence (OUSD(I)), inclusive of the transition of associated operations, personnel, and resources.

As a result, the Defense Security Service, an organization responsible to the USD(I), will be renamed the Defense Counterintelligence and Security Agency (DCSA) and will serve as the primary federal entity for conducting background investigations for the federal government. DCSA will also execute the responsibilities relating to continuous evaluation, insider threat programs, and any other responsibilities assigned to it by the Secretary of Defense. As such, the committee is interested in better understanding how these recent developments might impact the roles and responsibilities of OUSD(I), and the ability of the organization to execute objective oversight and management of the Defense Intelligence Enterprise, as the organization continues to balance the range of priorities specified by the National Defense Strategy.

Accordingly, the committee directs the Comptroller General of the United States provide the congressional defense committees with an assessment of the roles, missions, and responsibilities of Office of the Under Secretary of Defense for Intelligence. The assessment should include details regarding USD(I)'s roles and responsibilities, if and how they have changed, and how the USD(I) addressed these changes; to what extent has the USD(I) developed processes for exercising authority, direction, and control over the Defense Intelligence Enterprise (DIE); actions the USD(I) has taken to adapt its approach to executing oversight and governance of the DIE, to include resource management across the aligned defense intelligence agencies; and to what extent the USD(I) has identified any misalignment of its roles and responsibilities regarding the DIE and efforts made to address such mismatch.

The committee further directs the Comptroller General of the United States to provide a briefing to the House Committee on Armed Services on preliminary findings with a report to follow to the congressional defense committees no later than April 30, 2020.

Congressional Intelligence Notifications

The Secretary of Defense maintains a responsibility to keep the congressional defense and intelligence oversight committees fully and currently informed of all defense intelligence capabilities and activities to support Department of Defense operational and strategic requirements. The committee is aware that the Under Secretary of Defense for Intelligence (USDI) issued a memorandum in January 2017 providing guidance to defense intelligence components on the necessity of providing timely and accurate notifications to Congress of all defense intelligence and counterintelligence activities. The committee supports additional efforts to enhance the Department's ability to provide timely, comprehensive, and accurate congressional intelligence notifications of intelligence and counterintelligence activities by the defense intelligence components listed in the January 2017 memorandum.

Therefore the committee directs the Under Secretary of Defense for Intelligence to provide a briefing to the House Committee on Armed Services and the House Permanent Select Committee on Intelligence by October 4, 2019, on the Department's current congres-

sional notification policies and procedures regarding defense intelligence activities and support by defense intelligence components supporting the Department of Defense. The briefing shall include plans to strengthen this notification process by the defense intelligence components, to include notifications of new and updated intelligence-sharing arrangements and Basic Exchange and Cooperation Agreements with second- and third-party international allies and partners to support Department of Defense requirements, and a description of current and planned coordination efforts with the interagency, specifically the Office of the Director of National Intelligence, to include any dispute resolution processes in regard to conflicting use of defense intelligence capabilities to support defense priorities and objectives.

Current and Future Staffing Requirements of the Joint Intelligence Operations Centers

The committee recognizes the evolving operational and strategic priorities of the Department of Defense will impact Defense Intelligence Enterprise capabilities and resources. The committee recognizes the ongoing efforts by the Under Secretary of Defense for Intelligence (USDI) to comply with the committee's direction specified by the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232) to reduce and prevent imbalances in priorities and mitigate against insufficient or misaligned resources within the Defense Intelligence Enterprise.

While the committee supports the efforts by USDI to create efficiencies across the Defense Intelligence Enterprise organizations, to include the Service Intelligence Centers and combatant command Joint Intelligence Operations Centers, and enable those elements to plan and posture staffing requirements accordingly, the committee is concerned that the shifts in current and future resourcing are lacking coherence to support the global mandate of the Department.

Therefore, the committee directs the Under Secretary of Defense for Intelligence, in coordination with the Director of the Defense Intelligence Agency, to provide a briefing to the House Committee on Armed Services by December 27, 2019, on how the Office of the Under Secretary of Defense for Intelligence and the Defense Intelligence Agency are managing resourcing requirements to the combatant command Joint Intelligence Operations Centers to meet current and future needs of the combatant commanders and the Department of Defense.

Cyber Intrusions of the Defense Industrial Base and Academic Institutions Affiliated with the Department of Defense

The committee is aware of ongoing cyber attacks targeting the defense industrial base (DIB) and academic institutions affiliated with the Department of Defense. The committee is interested in gaining a better understanding of actual versus unsubstantiated open-source reporting to ensure proper oversight and resourcing of defense industrial base and academia cybersecurity measures.

While the committee recognizes the critical roles and expertise provided by the DIB and those academic institutions providing the Department of Defense with expertise to support capability re-

search and development, the committee is concerned about the security controls protecting these virtual networks, especially in light of continued reports of cyber intrusions affecting elements of the DIB and affiliated academic institutions. The committee recognizes the importance of dispelling erroneous reporting, yet remains committed to ensuring continued, trusted partnerships comprising the foundations of the DIB to ensure comparative advantage for the joint force against strategic competitors.

Therefore, the committee directs the Under Secretary of Defense for Intelligence, in coordination with the Director of National Intelligence, to submit a report to the House Committee on Armed Services by December 6, 2019, describing how the Department defines cyber intrusions, including hacks, probes, penetrations, breaches, and other similar activities. The report shall also detail cyber intrusions of the DIB and affiliated academic institutions that have resulted in the compromise and loss of critical information relating to Department of Defense capabilities, programs, and/or activities in calendar years 2017 and 2018. Further, the report shall also include date and length of intrusion to include all events resulting in loss of information; total numbers of events for probes, hacks, penetrations, and breaches, as well as identification of threat actors and methods; and assessment of the impact of the totality of compromised information.

Development and Integration of Project Maven Services into Department of Defense Activities

The committee believes in the importance of developing artificial intelligence capabilities to enhance and augment execution of Defense Intelligence Enterprise (DIE) activities in support of Department of Defense priorities. Activities such as Project Maven are important efforts to modernize intelligence tradecraft and develop capabilities that can create efficiencies across the DIE and enhance effectiveness of defense operations. However, the committee is concerned about the broad scope of Project Maven, and the totality of requirements increasingly levied against the activity, without a comprehensive understanding of the key milestones to track and measure progress and alignment of Maven accomplishments against evolving Department capabilities and activities.

Therefore, the committee directs the Under Secretary of Defense for Intelligence to provide a briefing to the House Committee on Armed Services not later than January 3, 2020, on Project Maven's strategy for tracking and aligning the activity's milestones against key DIE efforts, such as the Defense Intelligence Agency's Machine-assisted Analytic Rapid-repository System (MARS) and continued development of Department of Defense advanced analytic tradecraft and foundational intelligence against advanced weapons systems and capabilities.

Explosive Ordnance Disposal Intelligence

The committee is concerned that the expertise of Explosive Ordnance Disposal (EOD) personnel is not adequately accessible and therefore not sufficiently utilized by the Defense Intelligence Enterprise and intelligence community to provide the combatant com-

mands with the required intelligence to identify, combat, and deter violent extremism and other asymmetric threats.

Explosive ordnance represents all munitions, inclusive of improvised explosive devices, propellants, nuclear fission or fusion materials, and biological and chemical agents. The primary consumers for this type of information are the military tactical explosive ordnance disposal units that employ the data for threat identification and neutralization. However, the required analyses to determine appropriate render-safe capabilities require operational and strategic intelligence to process and analyze the data, and data management processes to promulgate the resulting information. The committee believes the Department of Defense should modernize the processes and procedures to more comprehensively track, manage, and coordinate the capability and capacity of EOD intelligence within the intelligence community and the Defense Intelligence Enterprise to support all levels of render-safe capabilities.

Therefore, the committee directs the Under Secretary of Defense for Intelligence, in coordination with the Director of National Intelligence, to provide a briefing to the House Committee on Armed Services and the House Permanent Select Committee on Intelligence by March 6, 2020, on the capability and capacity of EOD intelligence expertise across the Defense Intelligence Enterprise and intelligence community. The briefing shall include an assessment of the coordination and integration of defense and national intelligence capabilities and capacity against EOD intelligence requirements, to include a mitigation strategy to address any identified gaps or deficiencies, information-sharing challenges, or any other impediments to integration of EOD expertise across the defense and intelligence communities. The briefing shall also include an assessment of the technical skills needed to address EOD intelligence requirements, while identifying any gaps or deficiencies in current personnel hiring and training structures, and a long-term plan to develop proficiency of EOD intelligence expertise in the defense and intelligence communities.

Governance of Data and Service Acquisitions Supporting Defense Intelligence Requirements

The committee recognizes initiatives across the Defense Intelligence Enterprise to collect, analyze, and share data to support critical foundation intelligence mission needs through various modernization initiatives like Project Maven and the Machine-assisted Analytic Rapid-repository System (MARS). However, the committee is concerned there is a lack of coordination and alignment of individual activities ongoing throughout the enterprise.

The committee lacks a comprehensive understanding of how data, information, and services procured in support of defense intelligence requirements are tracked, governed, and made available across the enterprise. The committee is concerned that as defense intelligence organizations move to cloud-based data management infrastructures, there is not enough emphasis on deconflicting these efforts to maximize investment and use across the enterprise and foreign partner coalitions. The committee notes that every effort should be made to ensure acquisition strategies that support these procurements make these products and services available to the entire enterprise, including U.S. allies and partners.

Therefore, the committee directs the Under Secretary of Defense for Intelligence to provide a briefing to the House Committee on Armed Services not later than December 6, 2019, on an enterprise-level strategy for data, information, and services acquisitions. The briefing shall detail a strategy to ensure these acquisitions are widely available across the Defense Intelligence Enterprise, thus reducing duplicative investments and creating efficiencies in the acquisition and capability management process.

Information-Sharing Arrangements with India, Japan, and the Republic of Korea

International alliances and partnerships are critical to the pursuit and sustainment of the United States national security objectives, built upon foundations of shared values and intent. The committee recognizes the importance of the Department of Defense sharing information with international allies and partners in support of the planning and execution of the National Defense Strategy, as allies and third-party international partners enhance strategic stability across the Department's purview while increasing effectiveness of operations. The committee believes the mechanisms to share information across the "Five Eyes" alliance continue to mature through established exercises, exchange of personnel, and virtual data sharing, while that cooperation is potentially less robust with third-party partners.

The committee supports the roles and contributions of third-party partners such as India, Japan, and the Republic of Korea, and recognizes their ongoing contribution toward maintaining peace and stability in the Indo-Pacific region. The committee is interested in understanding the policies and procedures governing the collaboration and information sharing with India, Japan, the Republic of Korea, and the "Five Eyes" alliance, and if opportunities exist to strengthen those arrangements.

Therefore, the committee directs the Under Secretary of Defense for Intelligence, in coordination with the Director of National Intelligence, to provide a briefing to the House Committee on Armed Services by December 1, 2019, on the benefits, challenges, and risks of broadening the information-sharing mechanisms between India, Japan, the Republic of Korea, and the "Five Eyes" alliance.

Intelligence Support to Defense Operations in the Information Environment

The committee supports Department of Defense efforts to improve capabilities and tradecraft to operate in the information environment. The committee is concerned about the Defense Intelligence Enterprise's (DIE) ability to provide the information operations community with all-source intelligence support, consistent with the support provided to operations in other domains.

Therefore, the committee directs the Under Secretary of Defense for Intelligence, in coordination with the Joint Staff Director for Intelligence and the Director of National Intelligence, to provide a briefing to the House Committee on Armed Services by November 1, 2019, on intelligence support to information operations. The briefing should include standardized defense intelligence lexicon for intelligence preparation of the battlefield for information oper-

ations, efforts to develop a process to ensure the full scope of emerging defense information operations threat requirements are structured to be addressed through the entirety of DIE capabilities, and how the Department perceives the future of defense operations in the information environment.

The briefing shall also include a description of how the national intelligence community, through the National Intelligence Priorities Framework, will account for a more dynamic use of defense intelligence capabilities to augment and enhance support to Department of Defense operations in the information environment.

Investments in Scientific and Technological Intelligence

The committee remains interested in the continued efforts of the Department of Defense to improve scientific and technological intelligence (S&TI) capabilities and tradecraft across the Defense Intelligence Enterprise. The committee recognizes S&TI is critical to strategic competition with near-peer competitors by ensuring comprehensive understanding of adversary capabilities and ability to inform development of joint force fifth-generation advanced weapons systems and other emerging technologies. Therefore, the committee directs the Under Secretary of Defense for Intelligence, in coordination with the Director of the Defense Intelligence Agency, to provide a briefing to the House Committee on Armed Services by December 6, 2019, on the alignment of current and planned Defense Intelligence Enterprise S&TI investments and activities to Department of Defense operational and strategic requirements. The briefing shall also include information on how the Department of Defense will continue the maturation of S&TI capabilities and tradecraft across the Defense Intelligence Enterprise.

List of Foreign Entities That Pose a Threat to Critical Technologies

The Committee directs the Director of National Intelligence, in consultation with the Secretary of Defense, to identify, compose, and maintain a list of foreign entities, including governments, corporations, nonprofit and for-profit organizations, and any subsidiary or affiliate of such an entity, that the Director determines pose a threat of espionage with respect to critical technologies or research projects, including research conducted at institutions of higher education.

Maintenance of this list will be critical to ensuring the security of the most sensitive projects relating to U.S. national security, such as defense and intelligence-related research projects. The initial list shall be available to the head of each qualified agency funding applicable projects and will include the following entities already identified as threating: Huawei Technologies Company, ZTE Corporation, Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, Dahua Technology Company, Kaspersky Lab. The Director of National Intelligence and the Secretary of Defense, or a delegate from both agencies, shall brief the findings to the House Committee on Armed Services no later than six months following the enactment of this provision.

Maturation of Defense Clandestine Service Capabilities

The committee recognizes the efforts made by the Defense Intelligence Agency, Defense Clandestine Service, to continue maturing capabilities to meet the Department of Defense's re-prioritization on National Defense Strategy key issues, while remaining committed to standing combatant commander requirements, balancing strategic challenges to national security and operational requirements supporting ongoing counterterrorism conflicts. The committee notes the efforts the Service has made to prioritize information needs to support emerging capabilities and other strategic challenges. The committee encourages the Defense Intelligence Agency to prioritize workforce recruitment of individuals with language skills relevant to the National Defense Strategy, while also emphasizing areas of expertise in the science, technology, engineering, and mathematics fields, and to continue supporting counterterrorism requirements as appropriate.

Qualitative Analysis of Adversary Development of Emergent Technologies

The committee believes the Department of Defense must ensure that the Defense Intelligence Enterprise is providing timely, accurate, and effective intelligence to support acquisition and development of advanced joint force military systems and capabilities to support strategic competition with near-peer competitors like Russia and China. The committee is also aware of a recent Government Accountability Office report on long-range emerging threats facing the United States that represented a whole-of-government consensus on long-term strategic challenges.

Therefore, the committee directs the Secretary of Defense, in coordination with the Chairman of the Joint Chiefs of Staff and the Director of the Defense Intelligence Agency, to provide a report to the congressional defense committees and the congressional intelligence committees by December 6, 2019, containing a technical description of U.S. joint force emergent capabilities, as well as a description of advancements made by strategic near-peer competitors in comparable emergent technologies, including but not limited to hypersonic weapons, rail gun technologies, quantum computing, and counter-space capabilities. The report should detail technical data of emergent systems and capabilities of the U.S. joint force and of adversary capabilities, to include program mission, objectives and drivers for these technologies, development milestones, capability effective defensive and strike ranges, known vulnerabilities and strengths, and expected completion dates for the United States and each of its near-peer adversaries.

Further, the committee directs the Secretary of Defense, in coordination with the Chairman of the Joint Chiefs of Staff and the Director of the Defense Intelligence Agency, to provide a briefing to the House Committee on Armed Services not later than November 1, 2019, on the initial findings in the report, including specific information that will be used to affect defense acquisition and development of joint force systems and capabilities to ensure that the United States maintains the capability to deter and address emerging threats.

Reviewing the Integrated Defense Intelligence Priorities

The committee notes that the Department of Defense is a major provider of intelligence capabilities to the intelligence community, as well as a major consumer of intelligence information. The committee is aware of the operational constraints on the joint force that using the National Intelligence Priorities Framework to guide the allocation of Defense Intelligence Enterprise assets presents, especially for those that are integral to warfighting functions. The committee is concerned that the Integrated Defense Intelligence Priorities (IDIP) activity is not providing the intelligence support to defense operations that section 922 of the National Defense Authorization Act for Fiscal Year 2014 (Public Law 113–66) intended. Therefore, the committee directs the Under Secretary of Defense for Intelligence to provide a briefing to the House Committee on Armed Services by December 27, 2019, with the current status of the IDIP activity, how the IDIP highlights gaps in defense and national intelligence priorities, and the measures in place to mitigate these gaps. The briefing shall also include details on why the IDIP is distinct from the National Intelligence Priorities Framework, an activity in which IDIP customers currently participate. Finally, the briefing shall also include a recommendation on whether the Department of Defense will continue or suspend the IDIP requirement.

Strengthening the Integrity of the Military Intelligence Program

The committee recognizes the Department of Defense efforts to comply with the direction in the committee report accompanying the National Defense Authorization Act for Fiscal Year 2019 (H. Rept. 115–676) to review the Military Intelligence Program (MIP) budget to more clearly define guidance about which programs, projects, or activities should be assigned to the MIP. The committee is encouraged by these ongoing efforts, led by the Under Secretary of Defense for Intelligence (USDI), to strengthen oversight of the programs, projects, and activities that are assigned to the MIP. The committee supports USDI's actions to enhance the Department of Defense's ability to make more informed decisions to balance appropriate resourcing against programs, projects, or activities on behalf of the Secretary of Defense, while strengthening the overall integrity of the MIP.

Tactical Exploitation of National Capabilities Program

The Tactical Exploitation of National Capabilities Program (TENCAP) serves as the centralized lead to identify and execute national intelligence cross-agency solutions to evaluate, enhance, prototype, and transition technologies across the national intelligence enterprise into military service systems and architectures to create tactical intelligence effects. The committee supports TENCAP and the flexibility these programs require to mature, but believes the Department of Defense must develop metrics for measuring the impact of affiliated and incubated programs, to more accurately capture which activities and capabilities have successfully transitioned to programs of record and substantiate effectiveness of the joint force. Further, the committee notes that failure is an intrinsic, and sometimes necessary, component of the innovation

process, and does not necessarily view failure to transition to a program of record as a negative issue.

Therefore, the committee directs the Under Secretary of Defense for Intelligence, in coordination with the directors of the military service TENCAP offices, to provide a briefing to the House Committee on Armed Services not later than November 1, 2019, on the plan to develop, track, and evaluate metrics associated with the TENCAP program for those projects which transition to programs of record.

Transitioning the Function of Background Investigations to the Department of Defense

Presidential Executive Order 13869 transitions the background investigation functions of the Federal Government from the Office of Personnel Management (OPM), National Background Investigations Bureau, to the Department of Defense, Defense Counterintelligence and Security Agency. The committee recognizes the importance of ensuring timely and efficient background investigations to overcome workforce staffing challenges of cleared individuals across the whole of government and private sector, and to vet personnel who come into contact with the Department's personnel, installations, and technology. The committee is aware of the temporary establishment of the Personnel Vetting Transformation Office in the Office of the Under Secretary of Defense for Intelligence to manage the transition of this activity from OPM to the Department and improve the processes and procedures related to vetting personnel for clearances across the whole of government and private sector.

However, the committee is concerned about the potential risks to personnel management and mission such a transfer may present, and believes that appropriate protections of civil liberties and privacy must be prioritized throughout the transition, through the implementation of modern and efficient vetting measures. The committee recognizes the Department's leadership, through sharing best practices with the Office of the Director of National Intelligence, in reforming the vetting process using modern techniques such as continuous evaluation, and expects regular updates on the Department's progress in addressing the current background investigations backlog.

Therefore, the committee directs the Under Secretary of Defense for Intelligence, in coordination with the Director of the Defense Counterintelligence and Security Agency, to provide a briefing to the House Committee on Armed Services by December 27, 2019, on how the Department of Defense will transfer the background investigation mission and establish an effective personnel vetting capability to provide for the security of the Department, while maintaining the civil liberties and privacy protections of personnel under consideration to receive a clearance.

Unified Air Force Airborne Signals Intelligence Enterprise

The committee notes the goal of the Air Force Airborne Signals Intelligence (SIGINT) Enterprise (ASE) program is to produce an integrated, service-wide, capability-focused SIGINT architecture and investment strategy for the U.S. Air Force (USAF). However, the committee observes that while investment in the ASE program

has produced significant advances in Air Force SIGINT capability, particularly within the RC–135 Rivet Joint program, the establishment of a true integrated airborne SIGINT enterprise architecture continues to elude the USAF. The committee is aware that significant capability gaps exist in MQ–9 SIGINT sensor relevancy against current threats, and the Air Force has not yet successfully addressed vanishing vendor issues with the high-altitude Airborne Signals Intelligence Payload (ASIP) program. Additionally, the USAF has not yet achieved a unified enterprise for SIGINT processing, exploitation, and dissemination (PED), despite having a distributed technical architecture within both the RC–135 Rivet Joint and Air Force Distributed Common Ground System (AF–DCGS) programs. The committee believes the Under Secretary of Defense for Intelligence should lead synchronization efforts with the intelligence community to integrate like data sources to enable more comprehensive analysis and exploitation on behalf of the military services.

Therefore, the committee directs the Secretary of the Air Force to provide a report to the House Committee on Armed Services by March 1, 2020, containing the Air Force's vision, strategy, and implementation plan to utilize Air Force airborne SIGINT program resources to establish a unified airborne SIGINT enterprise based on shared joint and intelligence community standards. The committee looks forward to additional clarification on how this enterprise will allow RC–135, U–2, RQ–4, MQ–9, Air Force DCGS SIGINT systems, and future SIGINT capabilities to operate as an integrated enterprise using cloud-based technologies and distributed crew concepts to directly deliver SIGINT data to the joint force from a global Air Force SIGINT system.

OTHER MATTERS

Next Generation Inertial Measurement Unit

The committee notes the ongoing efforts to design, develop, and manufacture next generation inertial measurement units (IMU) for use on strategic, hypersonic, and precision weapon systems. Multiple efforts across the Navy, Air Force, and Missile Defense Agency are looking to address both IMU obsolescence issues and implement capability improvements, primarily in the Trident D–5 ballistic missile, ground based strategic deterrent, conventional prompt strike programs, and ground-based midcourse defense system.

To fully understand the breadth and scope of the ongoing IMU efforts, the committee directs the Assistant Secretary of the Navy for Research, Development and Acquisition, in coordination with the Assistant Secretary of the Air Force for Acquisition, Technology and Logistics, and the Director of the Missile Defense Agency, to provide a briefing to the House Committee on Armed Services not later than December 15, 2019, on the development of next generation IMUs to address obsolescence and implement capability improvements.

LEGISLATIVE PROVISIONS

SUBTITLE A—SPACE ACTIVITIES

Section 1601—National Security Space Launch Program

This section would include a sense of Congress and requirements for the phase two acquisition strategy, including a prohibition on substantially changing the acquisition schedule and mission performance requirements. This section would also increase opportunities for competition by mandating that the Secretary of the Air Force compete contracts for any launches beyond 29 launches during the period from fiscal year 2020 to fiscal year 2024. This section would also mandate that the Secretary of the Air Force provide up to $500.0 million to providers that either win a phase two contract after fiscal year 2022 or win a phase two contract but are not part of a launch service agreement, in order to meet national security-unique infrastructure and certification requirements for a phase two contract.

This section would require a notification of the selection in fiscal year 2020 of the two providers for phase two launches, and would also require a report on the total investment made by the Department of Defense with respect to launch service agreements and engine development and how these investments were evaluated in the offers for phase two contracts.

Section 1602—Preparation to Implement Plan for Use of Allied Launch Vehicles

This section would require the Secretary of Defense, in coordination with the Director of National Intelligence, to take actions necessary to prepare to implement the plan developed pursuant to section 1603 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) regarding using allied launch vehicles to meet the requirements for achieving the policy relating to assured access to space set forth in section 2273 of title 10, United States Code.

Section 1603—Annual Determination on Plan on Full Integration and Exploitation of Overhead Persistent Infrared Capability

This section would add a sunset clause to the requirement for annual determination on plan on full integration and exploitation of overhead persistent infrared capability.

Section 1604—Space-Based Environmental Monitoring Mission Requirements

This section would require the Director of the National Reconnaissance Office to competitively procure and launch a modernized pathfinder not later than January 1, 2023, to mitigate risks related to cloud characterization and theater weather imagery requirements during the period between 2023 and 2025. It would also require a plan to procure and launch such a pathfinder.

This section would also require the Secretary of the Air Force to ensure that the electro-optical/infrared weather system satellite meets cloud characterization and theater weather imagery mission requirements, is procured using full and open competition through

the use of competitive procedures, and is launched not later than September 30, 2025.

Section 1605—Prototype Program for Multi-Global Navigation Satellite System Receiver Development

This section would require the Secretary of Defense to establish under the Space Development Agency (SDA) a program to prototype an M-code based, multi-global navigation satellite system (GNSS) receiver that would incorporate both allied and non-allied, trusted and open GNSS signals to increase the resilience and capability of military positioning, navigation, and timing (PNT) equipment.

This section would require that the Secretary provide an assessment of various benefits and risks of using each signal that could be used in the prototype receiver and of including U.S. and allied monitoring networks, and assess the impact on current receiver and antenna designs and the value of cooperative efforts with U.S. allies.

This section would require the SDA Director to provide a briefing to the congressional defense committees, not later than 90 days after the date of the enactment of this Act, on the costs, timelines, and plan for how the results of the program could be incorporated into future blocks of the Global Positioning System (GPS) Military User Equipment program, and on the analysis and recommendations of the related MITRE Corporation report.

This section would also require the SDA Director to submit to the congressional defense committees, the House Committee on Foreign Affairs, and the Senate Committee on Foreign Relations, not later than 120 days after date of the enactment of this Act, a report including an explanation of how the Secretary intends to comply with section 1609 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232); an outline of any potential cooperative efforts acting in accordance with the North Atlantic Treaty Organization, the European Union, or Japan that would support such compliance; an assessment of the potential to host, or incorporate through software defined payloads, Global Positioning System M-code functionality onto allied GNSS systems; and an assessment of new or enhanced monitoring capabilities that would be needed to incorporate GNSS functionality into weapon systems of the Department.

This section would limit the obligation or expenditure of funds to 75 percent of funds for the Military GPS User Equipment program until the required briefing and report have been submitted to Congress.

Section 1606—Commercial Space Situational Awareness Capabilities

This section would require the Secretary of Defense, acting through the Director of the Space Development Agency, to procure, not later than 90 days after the date of the enactment of this Act, commercial space situational awareness (SSA) services by awarding at least two contracts for such services. This section would also limit the obligation or expenditure of funds to 75 percent of funds for fiscal year 2020 for the enterprise space battle management

command and control until the date on which the Secretary certifies to the congressional defense committees that the Secretary has awarded these contracts. This section would also require a report from the Director of the Space Development Agency, in coordination with the Secretary of the Air Force, on using commercial SSA services to fill the SSA requirements that were not filled in the Joint Space Operations Center Mission Center.

Section 1607—Independent Study on Plan for Deterrence in Space

This section would require an independent study on deterrence in space and would require this independent study to be assessed by the Defense Policy Board. This section would require the Secretary of Defense to submit a report containing the study and the assessment, and a description of any changes to the policies, programs, and plans of the Department of Defense that would enhance deterrence in space, to the congressional defense committees not later than 270 days after the date of the enactment of this Act.

Section 1608—Resilient Enterprise Ground Architecture

This section would provide the sense of Congress on a resilient enterprise ground architecture. This section would require the Secretary of Defense, to the extent practicable, to develop future satellite ground architectures to be compatible with complimentary commercial systems that can support uplink and downlink capabilities with dual-band spacecraft, and to emphasize that future ground architecture transition away from stove-piped systems to a service-based platform that provides members of the Armed Forces with flexible and adaptable capabilities.

SUBTITLE B—DEFENSE INTELLIGENCE AND INTELLIGENCE-RELATED ACTIVITIES

Section 1611—Modifications to ISR Integration Council and Annual Briefing Requirements

This section would amend section 426 of title 10, United States Code, to modify council membership and annual briefing requirements of the Intelligence, Surveillance, and Reconnaissance Integration Council in the Department of Defense.

Section 1612—Survey and Report on Alignment of Intelligence Collections Capabilities and Activities with Department of Defense Requirements

This section would require the Under Secretary of Defense for Intelligence, in coordination with the Chairman of the Joint Chiefs of Staff and the Director of National Intelligence, to review and provide a report to the congressional defense committees and the congressional intelligence committees, not later than 120 days after the date of the enactment of this Act, on the organization, posture, and processes of intelligence collections capabilities and activities, for the purpose of assessing the ability of the intelligence collections capabilities and activities to support the current and future requirements of the Department of Defense.

Section 1613—Modification of Annual Authorization of Appropriations for National Flagship Language Initiative

This section would amend section 1911 of title 50, United States Code, to increase the annual authorized amount for the National Flagship Language Initiative from $10.0 million to $16.0 million beginning in fiscal year 2020.

SUBTITLE C—CYBERSPACE-RELATED MATTERS

Section 1621—Notification Requirements for Sensitive Military Cyber Operations

This section would modify section 395 of title 10, United States Code, which requires the Secretary of Defense to provide notification of sensitive military cyber operations to the congressional defense committees. The modifications include additional parameters to further define what offensive and defensive operations constitute a sensitive military cyber operation in order to strengthen oversight.

The committee recognizes that the Department of Defense has implemented section 395 of title 10, United States Code. However, the committee notes that the Department's definition of and threshold for sensitive military cyber operations notifications is not aligned with the intent of the committee. As military cyber operations increase in frequency and scope, the committee expects to be continually notified and kept fully and currently informed, in order to conduct oversight.

Section 1622—Quarterly Cyber Operations Briefings

This section would modify section 484 of title 10, United States Code, to require an overview of the readiness of the Cyber Mission Force to be presented as part of the mandatory cyber operations quarterly briefings.

Section 1623—Cyber Posture Review

This section would amend section 1644 of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115–91) by directing the Secretary of Defense, in consultation, as appropriate, with the Director of National Intelligence, the Attorney General, the Secretary of Homeland Security, and the Secretary of State, to conduct a review of the cyber posture of the United States on a quadrennial basis to begin not later than December 31, 2022. Additionally the section would require the Secretary to assess the potential costs, benefits, and value, if any, of establishing a cyber force as a separate uniformed service.

Section 1624—Tier 1 Exercise of Support to Civil Authorities for a Cyber Incident

This section would revise section 1648 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232) by directing the Commanders of U.S. Northern Command and U.S. Cyber Command to conduct a Tier 1 exercise by February 1, 2020. This section would also place a limitation on 10 percent of fiscal year 2020 funds authorized to be appropriated for the

White House Communications Agency until the exercise is initiated. Despite legislation directing the exercise in Public Law 115–232, the Department of Defense was unable to perform the exercise within fiscal year 2019, and the committee is concerned that the Department may not be focused adequately on the potential for a domestic cyber attack necessitating defense support to civil authorities.

Section 1625—Evaluation of Cyber Vulnerabilities of Major Weapon Systems of the Department of Defense

This section would modify section 1647 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92), that required evaluations of cyber vulnerabilities of each major weapon system of the Department of Defense by December 31, 2019, by requiring notification and justification for not meeting the deadline. Further, this section would require a comprehensive report from the Secretary of Defense, acting through the Under Secretary of Defense for Acquisition and Sustainment, upon completion of the requirement for evaluations of cyber vulnerabilities for each major weapon system to include vulnerabilities identified requiring mitigation, mitigation efforts, leveraging lessons learned across the Department, and incorporation of lessons learned to address or mitigate the likelihood of cyber vulnerabilities in major weapon systems through education and other changes earlier in the research, development, and acquisition cycle.

The committee commends the effort of the Department to meet the requirements of section 1647 of Public Law 114–92 and appreciates the Department's recognition that cyber vulnerabilities identified may not only require software or hardware solutions, but changes in doctrine, organization, training, materiel, leadership and education, personnel, and facilities to provide for comprehensive cybersecurity of weapon systems and prepare forces to operate in a cyber contested environment. However, the committee understands that not all organizations and entities, such as U.S. Special Operations Command, are aware of this effort and believes that lessons learned should be shared enterprise-wide. Thus, the committee requires a better understanding of vulnerabilities identified and joint solutions, as well as how lessons learned are being leveraged, shared, and institutionalized across the Department.

Finally, fidelity from the Department on resources relating to the evaluations and mitigation efforts requires improvement. Thus, the committee expects the Department to comply with section 1637 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232) requiring a budget display relating to ongoing cyber vulnerability evaluations and mitigation efforts beginning with the fiscal year 2021 budget submission.

Section 1626—Extension of the Cyberspace Solarium Commission

This section would extend the Cyberspace Solarium Commission, as established in the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232) and its final report by 1 year, from September 1, 2019, to September 1, 2020.

The committee notes that the Cyberspace Solarium Commission's work on developing a consensus on a strategic approach to defend-

ing the United States in cyberspace against cyber attacks of significant consequences would benefit from the inclusion of commissioners from the private sector who are able to represent the owners and operators of critical infrastructure, particularly the telecommunications, electricity, and financial sectors. These sectors have collaborated closely with government through the public-private partnership forum known as the Tri-Sector Executive Working Group.

Section 1627—Authority to Use Operation and Maintenance Funds for Cyber Operations-Peculiar Capability Development Projects

This section would allow the Secretaries of military departments to use money appropriated for operation and maintenance (O&M) to develop cyber operations-peculiar capabilities up to $3.0 million in each of fiscal years 2020 through 2022. The Department of Defense could use its O&M funds for rapid creation, testing, fielding, and operation of cyber capabilities that would be developed and used within the 1-year appropriation period. If the authority is utilized, the Department must notify the congressional defense committees not more than 15 days later, and present an annual report of the expenditures permitted under this authority.

Section 1628—Notification of Delegation of Authorities to the Secretary of Defense for Military Operations in Cyberspace

This section would require the Secretary of Defense to notify the congressional defense committees within 15 days of any delegation of authorities from the National Command Authority for military cyberspace operations.

Section 1629—Limitation of Funding for Consolidated Afloat Networks and Enterprise Services

This section would place a limitation on 15 percent of all funds authorized to be appropriated by this Act for the Department of the Navy's Consolidated Afloat Networks and Enterprise Services until the Secretary of Defense certifies to the congressional defense committees that the Navy has implemented the recommendations of the Office of the Inspector General's audit of the program.

Section 1630—Annual Military Cyberspace Operations Report

This section would require the Secretary of Defense to provide to the congressional defense committees, not later than March 1 of each calendar year, an annual report on military cyberspace operations, to include cyber effects enabling and cyber effects operations, activities, and missions.

The congressional defense committees do not receive written reports from the Department of Defense with details regarding military cyberspace operations. As military cyberspace operations mature, the committee expects to be kept fully apprised of operations, activities, and missions to include increasing fidelity on associated resources, units, tools, and infrastructure.

Section 1631—Report on Synchronization of Efforts Relating to Cybersecurity in the Defense Industrial Base

This section would require the Secretary of Defense to provide a report to the congressional defense committees not later than May 1, 2020, on the Department of Defense's many efforts related to cybersecurity and the Defense Industrial Base. The committee supports efforts to improve cybersecurity across the Defense Industrial Base, both through efforts by the Department and amongst industry. The committee recognizes the Department's efforts to address the protection of Department information held outside of government networks, and is aware of many programs across various elements of the Department of Defense to assist vendors and contractors. However, the committee is concerned that these efforts are not coordinated or deconflicted. The committee is also concerned by the sense of confusion generated by either varying or contradictory regulatory requirements around cybersecurity, and even conflicting definitions of key terms such as "Controlled Unclassified Information" and "For Official Use Only."

To address these deficiencies, the committee mandates a report that would have the Department comprehensively identify all disparate programs that aim to assist the Defense Industrial Base with cybersecurity and cybersecurity compliance. Moreover, the report would identify potential overlaps in program objectives, the requisite resources needed to ensure objectives are achieved, and identify incongruous regulations and standards across the entire defense enterprise that should be harmonized. The Department would also need to clarify overlap in the cybersecurity responsibilities of the Under Secretary of Defense for Acquisition and Sustainment, the Chief Information Officer, the Chief Management Officer, the Director of the Protecting Critical Technologies Task Force, and the Secretaries of the military services.

Section 1632—Briefings on the Status of the National Security Agency and United States Cyber Command Partnership

This section would direct the Secretary of Defense to provide quarterly briefings to the congressional defense committees and congressional intelligence committees on the nature of the National Security Agency and United States Cyber Command current and future partnership. The quarterly briefing mandate would terminate on January 1, 2022.

SUBTITLE D—NUCLEAR FORCES

Section 1641—Improvement to Annual Report on the Modernization of the Nuclear Weapons Enterprise

This section would add a requirement to the annual report on nuclear modernization to quantify funding for nuclear modernization within the Department of Defense as a percentage of the military services' and the Department's acquisition budgets. This section would also require a long-term plan for nuclear weapons modernization. The section would extend the original reporting requirement date to 2024 and put the original requirement into United States Code.

Section 1642—Briefings on Meetings Held by the Nuclear Weapons Council

This section would require the Secretary of Defense to provide to the congressional defense committees semiannual briefings on Nuclear Weapons Council meetings. The briefings should include the dates of the meetings and a summary of any decisions made by the Council pursuant to subsection at each such meeting, except with respect to budget decisions relating to the budget of the President for a fiscal year if the request for that fiscal year has not been submitted to Congress as of the date of the briefing. This section would also require the Secretary to submit at the time of the briefing any decision memoranda relating to the decisions specified in paragraph and a summary of the rationale and considerations that informed such decision.

Section 1643—Elimination of Conventional Requirement for Long-Range Standoff Weapon

This provision would eliminate the requirement for a conventional variant of the Long-Range Standoff Weapon.

Section 1644—Extension of Annual Briefing on the Costs of Forward-Deploying Nuclear Weapons in Europe

This section would extend the requirement for the Secretary of Defense to provide a briefing on costs to forward-deploy nuclear weapons in Europe to 2024.

Section 1645—Ten-Year Extension of Prohibition on Availability of Funds for Mobile Variant of Ground-Based Strategic Deterrent Missile

This section would extend the prohibition on a mobile variant of the Ground-Based Strategic Deterrent to fiscal year 2030.

Section 1646—Prohibition on Availability of Funds for Deployment of Low-Yield Ballistic Missile Warhead

This section would prohibit funds for the deployment of the W76–2 low-yield warhead.

Section 1647—Report on Military-to-Military Dialogue to Reduce the Risk of Miscalculation Leading to Nuclear War

This section would require the Secretary of Defense to submit a report, not later than 120 days after the date of the enactment of this Act, that contains a description of the current military-to-military discussions of the United States with counterparts from governments of foreign countries to reduce the risk of miscalculation, unintended consequences, or accidents that could precipitate a nuclear war, and bilateral and multilateral agreements to which the United States is a party that address such risks. This section would also require an assessment conducted jointly by the Secretary and the Chairman of the Joint Chiefs of Staff of the policy and operational necessity, risks, benefits, and costs of establishing military-to-military discussions with Russia, China, and North Korea to address such risks.

Section 1648—Plan on Nuclear Command, Control, and Communications Systems

This section would require a report from the Secretary of Defense, in coordination with the Commander of United States Strategic Command, not later than 270 days after the date of the enactment of this Act, on near-term and long-term plans for nuclear command, control, and communications, including planned architectures, requirements, classification requirements, supply chain security, timeline and cost estimates for long-term investments, options for potential negotiation with adversaries, and any other matters the Secretary wishes to include. This section would also require an interim briefing on these issues not later than 90 days after the date of the enactment of this Act.

Section 1649—Independent Study on Policy of No-First-Use of Nuclear Weapons

This section would require an independent study on the policy of no-first-use of nuclear weapons, including assessing the impacts such a policy would have on reducing the risk of miscalculation, on nuclear nonproliferation, on force structure requirements, and likely reactions from U.S. allies and adversaries. The section would require that the federally funded research and development center submit the study to the Secretary of Defense not later than 210 days after the date of the enactment of this Act, and that the Secretary submit the study to the congressional defense committees, House Committee on Foreign Affairs, and Senate Committee on Foreign Relations, not later than 240 days after the date of the enactment of this Act.

Section 1650—Independent Study on Risks of Nuclear Terrorism and Nuclear War

This section would require the Secretary of Defense to seek to enter into a contract with the National Academy of Sciences, not later than 30 days after the date of the enactment of this Act, to conduct a study on the potential risks of nuclear terrorism and nuclear war.

SUBTITLE E—MISSILE DEFENSE PROGRAMS

Section 1661—National Missile Defense Policy

This section would update U.S. national missile defense policy, in accordance with the 2019 Missile Defense Review, and would require the Director of Cost Assessment and Program Evaluation to provide a briefing to the House Committee on Armed Services on the programmatic impacts resulting from implementation of the 2019 Missile Defense Review.

Section 1662—Development of Hypersonic and Ballistic Missile Tracking Space Sensor Payload

This section would direct the Director of the Missile Defense Agency to continue development of a sensor payload for a space sensor layer for hypersonic and ballistic missile tracking, in coordination with the Director of the Space Development Agency and the

Secretary of the Air Force, on the overall constellation architecture. Further, this section would require the Director to submit an updated plan regarding requirements, cost, schedule, and deployment of the architecture and sensor payload to the congressional defense committees.

Section 1663—Requirement for Testing of Redesigned Kill Vehicle Prior to Production

This section would express the sense of Congress that the Director of the Missile Defense Agency must address technical issues discovered in the redesigned kill vehicle. The section would also update Secretary of Defense waiver requirements of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232) should the Missile Defense Agency move forward with procurement of components prior to flight testing.

Section 1664—Development of Space-Based Ballistic Missile Intercept Layer

This section would modify a National Defense Authorization Act for Fiscal Year 2018 (Public Law 115–91) requirement to develop a space-based test bed.

Section 1665—Organization, Authorities, and Billets of the Missile Defense Agency

This section would require an independent federally funded research and development center assessment of the Missile Defense Agency (MDA) alignment to the Under Secretary of Defense for Research and Engineering.

Further, this section would require the Secretary of Defense to notify the congressional defense committees before any of MDA's unique acquisition authorities were changed, and would prohibit changing the missile defense requirements generation process managed by U.S. Strategic Command. This section would also require congressional notification prior to transfer of civilian and military billets from MDA to other organizations within the Under Secretary of Defense for Research and Engineering.

Section 1666—Missile Defense Interceptor Site in Contiguous United States

This section would require the Secretary of Defense to designate an interceptor site for potential future deployment in the contiguous United States.

Section 1667—Missile Defense Radar in Hawaii

This section would allow the Missile Defense Agency to construct portions of the homeland defense radar-Hawaii with research, development, test, and evaluation funding.

Section 1668—Limitation on Availability of Funds for Lower Tier Air and Missile Sensor

This section would limit the obligation or expenditure of funds to 75 percent of funds for fiscal year 2020 for the Army for the Lower Tier Air and Missile Defense Sensor until the Secretary of the

Army provides a report to the congressional defense committees on the results garnered in the test events held in the third quarter of fiscal year 2019, and the decision of the Army to award a contract for initial operational capability based on those test events.

Section 1669—Command and Control, Battle Management, and Communications Program

This section would prohibit the Missile Defense Agency (MDA) from releasing command and control, battle management, and communications systems to foreign partners unless certain requirements are met.

Section 1670—Annual Assessment of Ballistic Missile Defense System

This section would require the Director of Operational Test and Evaluation to include in the annual report an assessment of the ballistic missile defense system and all of the elements of the system that have been fielded or are planned, as of the date of the assessment. This assessment shall include the operational effectiveness, suitability, and survivability of the ballistic missile defense system and the elements of the system that have been fielded or tested, and the adequacy and sufficiency of the test program of such system as of the date of the assessment, including with respect to the operational realism of the tests.

SUBTITLE F—OTHER MATTERS

Section 1681—Modification to Reports on Certain Solid Rocket Motors

This section would include a technical amendment to section 1696 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232).

Section 1682—Repeal of Review Requirement for Ammonium Perchlorate Report

This section would repeal a requirement for the Government Accountability Office (GAO) to review a Department of Defense report on ammonium perchlorate. Section 1694 of the National Defense Authorization Act of Fiscal Year 2018 (Public Law 115–91) required the Department to submit a business case regarding the domestic industrial base for ammonium perchlorate and GAO to comment on the report. There is no data for GAO to review. In lieu of the report, the Department briefed the congressional defense committees in 2018 on the options for the Federal Government.

Section 1683—Repeal of Requirement for Commission on Electromagnetic Pulse Attacks and Similar Events

This section would repeal the requirement for the commission on electromagnetic pulse attacks and similar events.

Section 1684—Conventional Prompt Global Strike Weapon System

This section would express the sense of Congress that the Under Secretary of Defense for Policy has not responded to a reporting re-

quirement from the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232) regarding miscalculation and ambiguity risks of hypersonic weapons. This section would also prohibit development that would be exclusive to a submarine-launched platform and would direct the Secretary of the Navy to submit a report to the congressional defense committees on what would be required to integrate conventional prompt strike capability into surface ships.

DIVISION B—MILITARY CONSTRUCTION AUTHORIZATIONS

PURPOSE

Division B provides military construction, family housing, and related authorities in support of the military departments during fiscal year 2020. As recommended by the committee, division B would authorize appropriations in the amount of $11,460,420,000 for construction in support of the Active Forces, Reserve Components, defense agencies, and the North Atlantic Treaty Organization Security Investment Program for fiscal year 2020.

MILITARY CONSTRUCTION AND FAMILY HOUSING OVERVIEW

The Department of Defense requested $9,639,125,000 for military construction, $278,526,000 for Base Realignment and Closure activities, and $1,324,002,000 for family housing for fiscal year 2020. The committee recommends authorization of appropriations of $8,720,727,000 for military construction, $398,526,000 for Base Realignment and Closure activities, and $1,464,802,000 for family housing in fiscal year 2020. In addition, the committee recommends the inclusion of $45,055,000 in undistributed savings from prior years. The Department of Defense also requested $9,844,526,000 for Overseas Contingency Operations military construction for fiscal year 2020. The committee recommends authorization of appropriations of $921,420,000 for Overseas Contingency Operations military construction within title XXIX.

Section 2001—Short Title

This section would cite division B of this Act as the "Military Construction Authorization Act for Fiscal Year 2020."

Section 2002—Expiration of Authorizations and Amounts Required to Be Specified by Law

This section would ensure that the authorizations provided in titles XXI through XXX (other than title XXVIII) of this Act shall expire on October 1, 2024, or the date of enactment of an Act authorizing funds for military construction for fiscal year 2025, whichever is later.

Section 2003—Effective Date

This section would provide that titles XXI through XXX (other than title XXVIII) of this Act would take effect on October 1, 2019, or the date of the enactment of this Act, whichever is later.

TITLE XXI—ARMY MILITARY CONSTRUCTION

SUMMARY

The budget request contained $1,453,499,000 for Army military construction and $499,279,000 for family housing for fiscal year 2020. The committee recommends authorization of appropriations of $1,211,999,000 for military construction and $549,279,000 for family housing for the Army in fiscal year 2020.

ITEMS OF SPECIAL INTEREST

Explanation of Funding Adjustments

The committee recommends the inclusion of funding for several projects requested by the Department of the Army but not contained in the budget request for military construction and family housing. These increases include:

(1) $40.0 million for an Air Traffic Control Tower and Terminal at Kwajalein Atoll;

(2) $21.0 million for a Railhead at Fort Drum, New York;

(3) $18.5 million for a Vehicle Bridge at Fort Hood, Texas; and

(4) $11.0 million for additional planning and design.

In addition, the committee recommends an authorization of appropriation of $68.6 million, an increase of $50.0 million, for Housing Privatization Support in the Army's Family Housing Operation and Maintenance account. These additional funds are intended to hire additional civilian personnel to improve the management and oversight of the Military Housing Privatization Initiative (MHPI) developments at the installation and headquarters levels.

Finally, the committee recommends a reduction of funding for projects contained in the budget request submitted by the Department of the Army for military construction and family housing. These reductions are:

(1) $211.0 million in unspecified worldwide construction. The committee notes that this amount was included in the budget request as a placeholder to support the Army, Navy, Marine Corps, and Air Force response to the challenges facing the management and oversight of the MHPI developments. The committee supports the authorization of additional resources to hire additional civilian personnel to improve the management and oversight of MHPI developments at the installation and headquarters levels. However, the committee believes these resources should be directed to the appropriate military departments' family housing accounts, as recommended elsewhere in this report. Therefore, the committee recommends no funds, a reduction of $211.0 million, for this project;

(2) $46.0 million for a Powertrain Facility (Machine Shop) at Corpus Christi Army Depot, Texas. The committee supports the requirement for this project and provides the full project authoriza-

tion of $86.0 million included in the budget request. However, the committee supports the authorization of appropriations in an amount equivalent to the ability of the Department to execute in the year of the authorization for appropriations. For this project, the committee believes that the Department of the Army cannot fully expend the requested funding in fiscal year 2020. Therefore, the committee recommends an authorization of appropriation of $40.0 million, a reduction of $46.0 million, for this project;

(3) $38.0 million for a General Instruction Building at Carlisle Barracks, Pennsylvania. The committee supports the requirement for this project and provides the full project authorization of $98.0 million included in the budget request. However, the committee supports the authorization of appropriations in an amount equivalent to the ability of the Department to execute in the year of the authorization for appropriations. For this project, the committee believes that the Department of the Army cannot fully expend the requested funding in fiscal year 2020. Therefore, the committee recommends an authorization of appropriation of $60.0 million, a reduction of $38.0 million, for this project; and

(4) $37.0 million for a Cyber Instructional Facility at Fort Gordon, Georgia. The committee supports the requirement for this project and provides the full project authorization of $107.0 million included in the budget request. However, the committee supports the authorization of appropriations in an amount equivalent to the ability of the Department to execute in the year of the authorization for appropriations. For this project, the committee believes that the Department of the Army cannot fully expend the requested funding in fiscal year 2020. Therefore, the committee recommends an authorization of appropriation of $70.0 million, a reduction of $37.0 million, for this project.

Army Test and Demonstration Program

The committee understands that the Army is seeking to integrate innovative technology into the management of installations to promote safety, increase efficiency, lower costs, and improve the quality of life of service members and their families. The committee notes that there are barriers that make it difficult for the Army to test new technologies that could further these goals. Accordingly, the committee directs the Secretary of the Army to provide a report to the House Committee on Armed Services by March 1, 2020, that addresses the feasibility of creating a commercial technologies test and demonstration program. The report shall at a minimum contain the following elements:

(1) a process by which the Army could identify commercially available technologies that improve the performance of infrastructure systems, the provision of base operations services, communications, safety, traffic management, energy use, time management, and related services that are available for testing on military installations;

(2) a framework for identifying potential risks associated with remotely monitored systems, and how those risks could be mitigated; and

(3) a methodology for assessing potential cost savings over the life cycle of the technology.

LEGISLATIVE PROVISIONS

Section 2101—Authorized Army Construction and Land Acquisition Projects

This section would contain a list of authorized Army construction projects for fiscal year 2020. The authorized amounts are listed on an installation-by-installation basis. The state list contained in this Act is intended to be the binding list of the specific projects authorized at each location. This section also requires the Secretary of Defense to provide a study of near-term facility alternatives to house high value detainees current detained at Naval Station Guantanamo Bay, Cuba.

Section 2102—Family Housing

This section would authorize new construction and planning and design of family housing units for the Army for fiscal year 2020.

Section 2103—Authorization of Appropriations, Army

This section would authorize appropriations for Army military construction levels identified in section 4601 of division D of this Act.

Section 2104—Modification of Authority to Carry Out Certain Fiscal Year 2019 Projects

This section would modify the authority provided by section 2101 of the Military Construction Authorization Act for Fiscal Year 2019 (division B of Public Law 115–232) and authorize the Secretary of the Army to make certain modifications to the scope of previously authorized construction projects.

TITLE XXII—NAVY MILITARY CONSTRUCTION

SUMMARY

The budget request contained $2,805,743,000 for Department of the Navy military construction and $365,531,000 for family housing for fiscal year 2020. The committee recommends authorization of appropriations of $2,752,571,000 for military construction and $425,131,000 for family housing for the Department of the Navy in fiscal year 2020.

ITEMS OF SPECIAL INTEREST

Explanation of Funding Adjustments

The committee recommends the inclusion of funding for several projects requested by the Department of the Navy, but not contained in the budget request for military construction and family housing. These increases include:

(1) $99.6 million for a Bachelor Enlisted Quarters at Yuma, Arizona;

(2) $79.0 million for an Aircraft Paint Complex at Coronado, California;

(3) $66.0 million for a Machinery Control Development Center at Philadelphia, Pennsylvania;

(4) $59.0 million for NMC Ordnance Facilities Recapitalization, Phase 1 at Yorktown, Virginia;

(5) $49.0 million for an MH–60 & CMV–22B Corrosion Control and Paint Facility at Norfolk, Virginia;

(6) $48.0 million to complete the costs of a Seawolf Service Pier at Kitsap, Washington;

(7) $37.4 million for a Child Development Center at Miramar, California;

(8) $37.2 million for Range Improvements & Modernization, Phase 3 at Parris Island, South Carolina;

(9) $28.0 million for a Missile Magazine at Seal Beach, California;

(10) $18.7 million for a Police Station and EOC Facility at Blount Island, Florida;

(11) $15.0 million for an Air Traffic Control Tower at Saint Inigoes, Maryland;

(12) $11.0 million for additional planning and design; and

(13) $9.9 million for PMO Facility Repair at San Diego, California.

In addition, the committee recommends an authorization of appropriation of $81.6 million, an increase of $59.6 million, for Housing Privatization Support in the Navy and Marine Corps Family Housing Operation and Maintenance account. These additional funds are intended to hire additional civilian personnel to improve the management and oversight of the Military Housing Privatization Initiative (MHPI) developments at the installation and headquarters levels.

Finally, the committee recommends a reduction of funding for several projects contained in the budget request submitted by the Department of the Navy for military construction and family housing. These reductions are:

(1) $100.0 million for a Bachelor Enlisted Quarters at Joint Region Marianas, Guam. The committee supports the requirement for this project and provides the full project authorization of $164.1 million included in the budget request. However, the committee supports the authorization of appropriations in an amount equivalent to the ability of the Department to execute in the year of the authorization for appropriations. For this project, the committee believes that the Department of the Navy cannot fully expend the requested funding in fiscal year 2020. Therefore, the committee recommends an authorization of appropriation of $64.1 million, a reduction of $100.0 million, for this project;

(2) $77.4 million for a Communications Station at Naval Air Station Sigonella, Italy. The committee supports this requirement. However, the committee recommends no funds in the base budget, a reduction of $77.4 million, for this project in order to transfer this project to Title XXIX, Overseas Contingency Operations Military Construction;

(3) $75.6 million for a Master Time Clocks & Operations Facility (INC) at Naval Observatory, District of Columbia. The committee supports the requirement for this project and provided the full project authorization of $115.6 million in the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law

115–232). However, the committee supports the authorization of appropriations in an amount equivalent to the ability of the Department to execute in the year of the authorization for appropriations. For this project, the committee believes that the Department of the Navy cannot fully expend the requested funding in fiscal year 2020. Therefore, the committee recommends no funds, a reduction of $75.6 million, for this project;

(4) $74.69 million for Pier 5 (Berths 2 and 3) at Yokosuka, Japan. The committee supports the requirement for this project and provides the full project authorization of $174.69 million included in the budget request. However, the committee supports the authorization of appropriations in an amount equivalent to the ability of the Department to execute in the year of the authorization for appropriations. For this project, the committee believes that the Department of the Navy cannot fully expend the requested funding in fiscal year 2020. Therefore, the committee recommends an authorization of appropriation of $100.0 million, a reduction of $74.69 million, for this project;

(5) $73.35 million for Wargaming Center at Marine Corps Base Quantico, Virginia. The committee supports the requirement for this project and provides the full project authorization of $143.35 million included in the budget request. However, the committee supports the authorization of appropriations in an amount equivalent to the ability of the Department to execute in the year of the authorization for appropriations. For this project, the committee believes that the Department of the Navy cannot fully expend the requested funding in fiscal year 2020. Therefore, the committee recommends an authorization of appropriation of $70.0 million, a reduction of $73.35 million, for this project;

(6) $60.0 million for II MEF Operations Center Replacement at Camp Lejeune, North Carolina. The committee supports the requirement for this project and provides the full project authorization of $122.2 million included in the budget request. However, the committee supports the authorization of appropriations in an amount equivalent to the ability of the Department to execute in the year of the authorization for appropriations. For this project, the committee believes that the Department of the Navy cannot fully expend the requested funding in fiscal year 2020. Therefore, the committee recommends an authorization of appropriation of $62.2 million, a reduction of $60.0 million, for this project;

(7) $53.4 million for Electrical System Upgrade at Bahrain. The committee supports this requirement. However, the committee recommends no funds in the base budget, a reduction of $53.4 million, for this project in order to transfer this project to Title XXIX, Overseas Contingency Operations Military Construction;

(8) $50.0 million for the I MEF Consolidated Information Center at Camp Pendleton, California. The committee supports the requirement for this project and provides the full project authorization of $113.87 million included in the budget request. However, the committee supports the authorization of appropriations in an amount equivalent to the ability of the Department to execute in the year of the authorization for appropriations. For this project, the committee believes that the Department of the Navy cannot fully expend the requested funding in fiscal year 2020. Therefore,

the committee recommends an authorization of appropriation of $63.87 million, a reduction of $50.0 million, for this project;

(9) $35.0 million for an Ammunition Pier at Seal Beach, California. The committee supports the requirement for this project and provides the full project authorization of $95.3 million included in the budget request. However, the committee supports the authorization of appropriations in an amount equivalent to the ability of the Department to execute in the year of the authorization for appropriations. For this project, the committee believes that the Department of the Navy cannot fully expend the requested funding in fiscal year 2020. Therefore, the committee recommends an authorization of appropriation of $60.3 million, a reduction of $35.0 million, for this project; and

(10) $11.6 million for ACV–AAV Maintenance Facility Upgrades at Camp Lejeune, North Carolina. While the committee supports the requirement for this project, the committee believes the Marine Corps should first prioritize the recovery of existing infrastructure damaged by the hurricanes in 2018 before undertaking upgrades to existing facilities. Therefore, the committee recommends no funds, a reduction of $11.6 million, for this project.

Naval Public Shipyards

The committee notes that the Secretary of the Navy submitted a comprehensive report on the state of the public shipyards to the congressional defense committees on April 11, 2019. In this report, the Secretary indicated that the naval shipyard production facilities are in poor or failing condition. Additionally, the Secretary indicated that the capital equipment "is well beyond effective service life, obsolete, unsupported by original equipment manufacturers, and at operational risk." To address these concerns, the Secretary proposed a plan to recapitalize the industrial base complex over the next 20 years with a proposed investment of $21.0 billion. The committee also notes that the Comptroller General of the United States submitted a report entitled "Military Depots: Actions Needed to Improve Poor Conditions of Facilities and Equipment That Affect Timelines and Efficiency of Maintenance" (GAO–19–242) to the congressional defense committees. In this report, the Comptroller General indicated that "the number of days of maintenance delay at the four Naval shipyards has increased by about 45 percent from fiscal year 2007 to 2017."

The committee strongly supports the Secretary's intended goals to revitalize and increase the efficiency of the industrial base. The committee believes this plan is essential to accommodate the expanding force structure proposed by the Secretary. However, the committee is unable to assess the efficacy of the Secretary's vision because the Secretary did not submit an implementation plan to begin this sophisticated recapitalization endeavor. Therefore, the committee directs the Secretary of the Navy to provide a report to the House Committee on Armed Services by March 1, 2020, that includes an implementation plan to revitalize the industrial base. Such a plan shall include the timelines associated with the following elements:

(1) the capital equipment reinvestment plan by project, location, and fiscal year;

(2) the military construction and facilities, sustainment, restoration, and modernization (FSRM) investment plan by project, location, and fiscal year; and

(3) the environmental analyses required to implement the Secretary's plan.

In completing this report, the Secretary shall include the program data sheet DD 1391 for each military construction and FSRM project included in the fiscal year 2021 fiscal year defense plan.

LEGISLATIVE PROVISIONS

Section 2201—Authorized Navy Construction and Land Acquisition Projects

This section would contain a list of authorized Department of Navy construction projects for fiscal year 2020. The authorized amounts are listed on an installation-by-installation basis. The State list contained in this Act is intended to be the binding list of the specific projects authorized at each location.

Section 2202—Family Housing

This section would authorize new construction and planning and design of family housing units for the Department of the Navy for fiscal year 2020.

Section 2203—Improvements to Military Family Housing Units

This section would authorize the Secretary of the Navy to make improvements to existing units of family housing for fiscal year 2020.

Section 2204—Authorization of Appropriations, Navy

This section would authorize appropriations for Department of Navy military construction at the levels identified in section 4601 of division D of this Act.

Section 2205—Modification of Authority to Carry Out Certain Fiscal Year 2017 Project

This section would modify the authority provided by section 2201 of the Military Construction Authorization Act for Fiscal Year 2017 (division B of Public Law 114–328) and authorize the Secretary of the Navy to make certain modifications to the authorized cost of a previously authorized construction project.

TITLE XXIII—AIR FORCE MILITARY CONSTRUCTION

SUMMARY

The budget request contained $2,179,230,000 for Air Force military construction and $398,647,000 for family housing for fiscal year 2020. The committee recommends authorization of appropriations of $1,819,130,000 for military construction and $429,847,000 for family housing for the Air Force in fiscal year 2020.

ITEMS OF SPECIAL INTEREST

Explanation of Funding Adjustments

The committee recommends the inclusion of funding for several projects requested by the Department of the Air Force but not contained in the budget request for military construction and family housing. These increases include:

(1) $54.0 million for a SOCNORTH Theater Operational Support Facility at Peterson Air Force Base, Colorado;

(2) $49.0 million for a Consolidated Cadet Prep School Dormitory at the United States Air Force Academy, Colorado;

(3) $36.0 million for an AFPC B–Wing at JBSA Randolph, Texas;

(4) $27.0 million for a Consolidated Vehicle Ops and Mx Facility at Whiteman Air Force Base, Missouri;

(5) $20.0 million for an NC3 Support WRM Storage/Shipping Facility at Holloman Air Force Base, New Mexico;

(6) $17.0 million for MMHS Allied Support at Travis Air Force Base, California;

(7) $12.5 million for the 41 RQS HH–60W Apron at Moody Air Force Base, Georgia;

(8) $11.0 million for additional planning and design;

(9) $7.0 million to complete a Dormitory at Little Rock Air Force Base, Arkansas;

(10) $4.8 million to complete the SERE Pipeline Dormitory at Fairchild Air Force Base, Washington; and

(11) $3.1 million to complete the F–35 Munitions Maintenance Facilities at Nellis Air Force Base, Nevada.

In addition, the committee recommends an authorization of appropriation of $53.79 million, an increase of $31.2 million, for Housing Privatization Support in the Air Force Family Housing Operation and Maintenance account. These additional funds are intended to hire additional civilian personnel to improve the management and oversight of the Military Housing Privatization Initiative (MHPI) developments at the installation and headquarters levels.

Finally, the committee recommends a reduction of funding for several projects contained in the budget request submitted by the Department of the Air Force for military construction and family housing. These reductions are:

(1) $117.5 million for a Weapons Storage and Maintenance Facility at Malmstrom Air Force Base, Montana. The committee supports the requirement for this project and provides the full project authorization of $235.0 million included in the budget request. However, the committee supports the authorization of appropriations in an amount equivalent to the ability of the Department to execute in the year of the authorization for appropriations. For this project, the committee believes that the Department of the Air Force cannot fully expend the requested funding in fiscal year 2020. Therefore, the committee recommends an authorization of appropriation of $117.5 million, a reduction of $117.5 million, for this project;

(2) $84.0 million for Fuel Tanks w/ Pipeline/Hydrant System at Tinian, Commonwealth of the Northern Mariana Islands. The committee supports the requirement for this project and provides the full project authorization of $109.0 million included in the budget request. However, the committee supports the authorization of ap-

propriations in an amount equivalent to the ability of the Department to execute in the year of the authorization for appropriations. For this project, the committee believes that the Department of the Air Force cannot fully expend the requested funding in fiscal year 2020. Therefore, the committee recommends an authorization of appropriation of $25.0 million, a reduction of $84.0 million, for this project;

(3) $84.0 million for Airfield Development Phase 1 at Tinian, Commonwealth of the Northern Mariana Islands. The committee supports the requirement for this project and provides the full project authorization of $109.0 million included in the budget request. However, the committee supports the authorization of appropriations in an amount equivalent to the ability of the Department to execute in the year of the authorization for appropriations. For this project, the committee believes that the Department of the Air Force cannot fully expend the requested funding in fiscal year 2020. Therefore, the committee recommends an authorization of appropriation of $25.0 million, a reduction of $84.0 million, for this project;

(4) $74.0 million for a Consolidated Space Operations Facility at Schriever Air Force Base, Colorado. The committee supports the requirement for this project and provides the full project authorization of $148.0 million included in the budget request. However, the committee supports the authorization of appropriations in an amount equivalent to the ability of the Department to execute in the year of the authorization for appropriations. For this project, the committee believes that the Department of the Air Force cannot fully expend the requested funding in fiscal year 2020. Therefore, the committee recommends an authorization of appropriation of $74.0 million, a reduction of $74.0 million, for this project;

(5) $73.0 million for a Parking Apron at Tinian, Commonwealth of the Northern Mariana Islands. The committee supports the requirement for this project and provides the full project authorization of $98.0 million included in the budget request. However, the committee supports the authorization of appropriations in an amount equivalent to the ability of the Department to execute in the year of the authorization for appropriations. For this project, the committee believes that the Department of the Air Force cannot fully expend the requested funding in fiscal year 2020. Therefore, the committee recommends an authorization of appropriation of $25.0 million, a reduction of $73.0 million, for this project;

(6) $68.0 million for a GBSD Mission Integration Facility at Hill Air Force Base, Utah. The committee supports the requirement for this project and provides the full project authorization of $108.0 million included in the budget request. However, the committee supports the authorization of appropriations in an amount equivalent to the ability of the Department to execute in the year of the authorization for appropriations. For this project, the committee believes that the Department of the Air Force cannot fully expend the requested funding in fiscal year 2020. Therefore, the committee recommends an authorization of appropriation of $40.0 million, a reduction of $68.0 million, for this project;

(7) $42.0 million for a Munitions Storage Area at Azraq, Jordan. The committee supports this requirement. However, the committee recommends no funds in the base budget, a reduction of $42.0 mil-

lion, for this project in order to transfer this project to Title XXIX, Overseas Contingency Operations Military Construction;

(8) $35.0 million for MIT–Lincoln Lab (West Lab CSL/MIF) Inc 2 at Hanscom Air Force Base, Massachusetts. The committee supports the requirement for this project and provided the full project authorization of $225.0 million in the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232). However, the committee supports the authorization of appropriations in an amount equivalent to the ability of the Department to execute in the year of the authorization for appropriations. For this project, the committee believes that the Department of the Air Force cannot fully expend the requested funding in fiscal year 2020. Therefore, the committee recommends an authorization of appropriation of $100.0 million, a reduction of $35.0 million, for this project; and

(9) $24.0 million for an Air Traffic Control Tower at Azraq, Jordan. The committee supports this requirement. However, the committee recommends no funds in the base budget, a reduction of $24.0 million, for this project in order to transfer this project to Title XXIX, Overseas Contingency Operations Military Construction.

Airspace at the Utah Test and Training Range

The committee recognizes the importance of ensuring adequate training ranges and airspace to support fifth generation aircraft and development and training of future military capabilities. The Utah Test and Training Range (UTTR) plays an important role in supporting Air Force testing, training, and readiness, and the committee believes it is important to ensure UTTR is able to adequately support current and future military requirements.

Therefore, the committee directs the Secretary of the Air Force to provide a report to the House Committee on Armed Services not later than January 31, 2020, that assesses the capability and capacity of UTTR to support current and foreseeable military test and training requirements. The report shall assess whether the current airspace of the UTTR supports current and future requirements, any limitations associated with current range infrastructure and airspace, efforts to optimize airspace at the UTTR, and any timelines associated with such efforts.

Long-Term Modernization of Lincoln Laboratory

The committee recognizes the critical role that Lincoln Laboratory plays in conducting research and developing technologies that address critical national security challenges. In an effort to address aging infrastructure that supports Lincoln Laboratory, the Air Force has two military construction projects to support the Lincoln Laboratory West Laboratory. The first military construction project was authorized by the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232) and the second project is currently programmed for fiscal year 2022. In addition, the committee is aware of a long-term modernization plan being proposed for Lincoln Laboratory that could amount to more than $1.5 billion in infrastructure investments over a 30-year period.

However, the committee is aware that the military construction program may not be able to support such a large investment due to competing Air Force infrastructure priorities. The committee is also aware that many other Federal agencies, inside and outside the Department of Defense, make use of the Air Force contract with Lincoln Laboratory. In addition, other statutory authorities, such as section 2353 of title 10, United States Code, may not currently allow for infrastructure investments due to circumstances specific to Lincoln Laboratory.

Therefore, the committee directs the Secretary of the Air Force to provide a briefing to the House Committee on Armed Services not later than November 1, 2019, on funding and authorities under consideration to support the long-term modernization plan for Lincoln Laboratory. The briefing should include a discussion of legislative proposals under consideration that could provide a viable path to support the long-term modernization plan, including the benefits and equities of all Lincoln Laboratory contract users paying a fair share of facility sustainment, recapitalization, and construction costs.

Tyndall Air Force Base Recovery

The committee is concerned about the devastation caused by Hurricane Michael at Tyndall Air Force Base on October 10, 2018. The committee is also aware that the Department of the Air Force has made a decision to locate Joint Strike Fighter aircraft at Tyndall Air Force Base and plans to rebuild the installation as a purpose-built fifth-generation fighter "base of the future." The committee directs the Secretary of the Air Force to submit a report to the House Committee on Armed Services not later than January 31, 2020, on the detailed master plan for executing all actions, including funding requirements by fiscal year, to fully recover from Hurricane Michael and to support the beddown of three Joint Strike Fighter squadrons and an MQ–9 wing as previously announced. The report should also include details of the environmental impact analysis schedule as required by the National Environmental Policy Act of 1969 (Public Law 91–190), planning and design, anticipated construction schedule by year, and planned delivery dates of aircraft by fiscal year. The Department of the Air Force shall also identify any constraints to the execution of the rebuild of Tyndall Air Force Base and ability of the base to accept the planned delivery of the Joint Strike Fighter aircraft by 2023 as currently planned.

LEGISLATIVE PROVISIONS

Section 2301—Authorized Air Force Construction and Land Acquisition Projects

This section would contain a list of authorized Air Force construction projects for fiscal year 2020. The authorized amounts are listed on an installation-by-installation basis. The State list contained in this Act is intended to be the binding list of the specific projects authorized at each location.

Section 2302—Family Housing

This section would authorize new construction and planning and design of family housing units for the Air Force for fiscal year 2020.

Section 2303—Improvements to Military Family Housing Units

This section would authorize the Secretary of the Air Force to make improvements to existing units of family housing for fiscal year 2020.

Section 2304—Authorization of Appropriations, Air Force

This section would authorize appropriations for Air Force military construction at the levels identified in section 4601 of division D of this Act.

Section 2305—Modification of Authorities to Carry Out Phased Joint Intelligence Analysis Complex Consolidation

This section would modify the authorities provided by section 2301(b) of the Military Construction Authorization Act for Fiscal Year 2015 (division B of Public Law 113–291), section 2301(b) of the Military Construction Authorization Act for Fiscal Year 2016 (division B of Public Law 114–92), and section 2301(b) of the Military Construction Authorization Act for Fiscal Year 2017 (division B of Public Law 114–328), and authorize the Secretary of the Air Force to make certain modifications to the location and scope of previously authorized construction projects related to the Joint Intelligence Analysis Complex.

Section 2306—Modification of Authority to Carry Out Certain Fiscal Year 2016 Projects

This section would modify the authority provided by section 2301 of the Military Construction Authorization Act for Fiscal Year 2016 (division B of Public Law 114–92) and authorize the Secretary of the Air Force to make certain modifications to the authorized cost of a previously authorized construction project.

Section 2307—Modification of Authority to Carry Out Certain Fiscal Year 2017 Projects

This section would modify the authority provided by section 2301 of the Military Construction Authorization Act for Fiscal Year 2017 (division B of Public Law 114–328) and authorize the Secretary of the Air Force to make certain modifications to the authorized cost of a previously authorized construction project.

Section 2308—Modification of Authority to Carry Out Certain Fiscal Year 2018 Projects

This section would modify the authority provided by sections 2301 and 2903 of the Military Construction Authorization Act for Fiscal Year 2018 (division B of Public Law 115–91) and authorize the Secretary of the Air Force to make certain modifications to the scope and authorized cost of previously authorized construction projects.

Section 2309—Modification of Authority to Carry Out Certain Fiscal Year 2019 Projects

This section would modify the authority provided by section 2301 of the Military Construction Authorization Act for Fiscal Year 2019 (division B of Public Law 115–232) and authorize the Secretary of the Air Force to make certain modifications to the scope and authorized cost of a previously authorized construction projects.

TITLE XXIV—DEFENSE AGENCIES MILITARY CONSTRUCTION

SUMMARY

The budget request contained $2,504,190,000 for defense agency military construction and $60,545,000 for family housing for fiscal year 2020. The committee recommends authorization of appropriations of $1,980,744,000 for military construction and $60,545,000 for family housing for defense agencies in fiscal year 2020.

ITEMS OF SPECIAL INTEREST

Explanation of Funding Adjustments

The committee notes the budget request submitted by the Department of Defense for military construction and family housing included $150.0 million for the Energy Resilience and Conservation Investment Program. The committee supports this program and encourages the Department to continue to emphasize projects that will support increased resiliency of military installations and mission functions. Therefore, the committee recommends an authorization of appropriations of $190.0 million, an increase of $40.0 million, for this program.

In addition, the committee recommends a reduction of funding for several projects contained in the budget request submitted by the Department of the Defense for military construction and family housing. These reductions are:

(1) $130.38 million for Kinnick High School at Yokosuka, Japan. The committee supports the requirement for this project and provided the full project authorization of $170.3 million in the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232). However, the committee supports the authorization of appropriations in an amount equivalent to the ability of the Department to execute in the year of the authorization for appropriations. For this project, the committee believes that the Department of Defense cannot expend the requested funding in fiscal year 2020. Therefore, the committee recommends no funds, a reduction of $130.38 million, for this project;

(2) $100.0 million for Next NGA West (N2W) Complex, Phase 2, Increment 2 at St. Louis, Missouri. The committee supports the requirement for this project and provided the full project authorization of $447.8 million in the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232). However, the committee supports the authorization of appropriations in an amount equivalent to the ability of the Department to execute in the year of the authorization for appropriations. For this project,

the committee believes that the Department of Defense cannot fully expend the requested funding in fiscal year 2020. Therefore, the committee recommends an authorization of appropriation of $118.8.0 million, a reduction of $100.0 million, for this project;

(3) $96.3 million for Bulk Storage Tanks Phase 1 at Yokota Air Base, Japan. The committee supports the requirement for this project and provides the full project authorization of $116.3 million included in the budget request. However, the committee supports the authorization of appropriations in an amount equivalent to the ability of the Department to execute in the year of the authorization for appropriations. For this project, the committee believes that the Department of Defense cannot fully expend the requested funding in fiscal year 2020. Therefore, the committee recommends an authorization of appropriation of $20.0 million, a reduction of $96.3 million, for this project;

(4) $65.8 million for Operations Center Phase 2 at Defense Distribution Depot Richmond, Virginia. The committee supports the requirement for this project and provides the full project authorization of $98.8 million included in the budget request. However, the committee supports the authorization of appropriations in an amount equivalent to the ability of the Department to execute in the year of the authorization for appropriations. For this project, the committee believes that the Department of Defense cannot fully expend the requested funding in fiscal year 2020. Therefore, the committee recommends an authorization of appropriation of $33.0 million, a reduction of $65.9 million, for this project;

(5) $63.9 million for MEDCEN Addition/Alteration Increment 3 at Bethesda Naval Hospital, Maryland. The committee supports the requirement for this project and provided the full project authorization of $510.0 million included in the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328). However, the committee supports the authorization of appropriations in an amount equivalent to the ability of the Department to execute in the year of the authorization for appropriations. For this project, the committee believes that the Department of Defense cannot fully expend the requested funding in fiscal year 2020. Therefore, the committee recommends an authorization of appropriation of $33.0 million, a reduction of $63.9 million, for this project;

(6) $52.0 million for a Mission Support Compound at a Classified Location. The committee supports the requirement for this project but notes that planning and design has not been initiated for this project and that, as currently presented, the Department cannot begin construction and cannot expend the requested funding in fiscal year 2020. Therefore, the committee recommends no funds, a reduction of $52.0 million, for this project; and

(7) $10.0 million for contingency construction at unspecified worldwide locations. While the committee notes this authority was used for a project in fiscal year 2018, unobligated balances remain available in the military construction account and other authorities exist to construct projects that are in keeping with a national security interest. As such, the committee recommends no funds, a reduction of $10.0 million, for this program.

LEGISLATIVE PROVISIONS

Section 2401—Authorized Defense Agencies Construction and Land Acquisition Projects

This section would contain a list of authorized defense agencies' construction projects for fiscal year 2020. The authorized amounts are listed on an installation-by-installation basis. The State list contained in this Act is intended to be the binding list of the specific projects authorized at each location.

Section 2402—Authorized Energy Resiliency and Energy Conservation Projects

This section would authorize the Secretary of Defense to carry out energy resilience and conservation projects.

Section 2403—Authorization of Appropriations, Defense Agencies

This section would authorize appropriations for defense agencies' military construction at the levels identified in section 4601 of division D of this Act.

TITLE XXV—INTERNATIONAL PROGRAMS

SUMMARY

The budget request contained $144,040,000 for the North Atlantic Treaty Organization Security Investment Program (NSIP) for fiscal year 2020. The committee recommends authorization of appropriations of $172,005,000 for NSIP for fiscal year 2020.

LEGISLATIVE PROVISIONS

SUBTITLE A—NORTH ATLANTIC TREATY ORGANIZATION SECURITY INVESTMENT PROGRAM

Section 2501—Authorized NATO Construction and Land Acquisition Projects

This section would authorize the Secretary of Defense to make contributions to the North Atlantic Treaty Organization Security Investment Program in an amount not to exceed the sum of the amount specifically authorized in section 2502 of this Act and the amount collected from the North Atlantic Treaty Organization as a result of construction previously financed by the United States.

Section 2502—Authorization of Appropriations, NATO

This section would authorize appropriations for the North Atlantic Treaty Organization Security Investment Program at the levels identified in section 4601 of division D of this Act.

SUBTITLE B—HOST COUNTRY IN–KIND CONTRIBUTIONS

Section 2511—Republic of Korea Funded Construction Projects

This section would authorize the Secretary of Defense to accept 8 military construction projects totaling $542.2 million pursuant to

agreement with the Republic of Korea for required in-kind contributions.

TITLE XXVI—GUARD AND RESERVE FORCES FACILITIES

SUMMARY

The budget request contained $552,423,000 for military construction of National Guard and Reserve facilities for fiscal year 2020. The committee recommends authorization of appropriations of $739,223,000 for military construction for the National Guard and Reserves for fiscal year 2020.

ITEMS OF SPECIAL INTEREST

Explanation of Funding Adjustments

The committee recommends the inclusion of funding for several projects requested by the Department of the Army and Department of the Air Force for their Reserve Components but not contained in the budget request for military construction and family housing. These increases include:

(1) $91.0 million for a National Guard Readiness Center at Jamaica Armory, New York;

(2) $57.0 million for a Fuels/Corrosion Control Hangar and Shops at Moffett Air National Guard Base, California;

(3) $34.0 million for an Enlisted Transient Barracks at Anniston, Alabama;

(4) $30.0 million for a General Instruction Building at Jericho, Vermont;

(5) $15.0 million for an AES Training Admin Facility at Joint Base Andrews, Maryland; and

(6) $9.8 million for an Aerial Port Facility at Minneapolis-St. Paul International Airport, Minnesota.

In addition, the committee recommends a reduction of funding for several projects contained in the budget request submitted by the Department of the Air Force for military construction for their Reserve Components. These reductions are:

(1) $37.5 million for a Maintenance Hangar at Luis Munoz-Marin International Airport, Puerto Rico. The committee supports the requirement for this project and provides the full project authorization of $37.5 million included in the budget request. However, the committee believes the Department cannot begin construction and cannot expend the requested funding in fiscal year 2020. Therefore, the committee recommends no funds, a reduction of $37.5 million, for this project; and

(2) $12.5 million for a Communications Facility at Luis Munoz-Marin International Airport, Puerto Rico. The committee supports the requirement for this project and provides the full project authorization of $12.5 million included in the budget request. However, the committee believes the Department cannot begin construction and cannot expend the requested funding in fiscal year 2020. Therefore, the committee recommends no funds, a reduction of $12.5 million, for this project.

LEGISLATIVE PROVISIONS

Section 2601—Authorized Army National Guard Construction and Land Acquisition Projects

This section would contain the list of authorized Army National Guard construction projects for fiscal year 2020. The authorized amounts are listed on an installation-by-installation basis. The State list contained in this Act is intended to be the binding list of the specific projects authorized at each location.

Section 2602—Authorized Army Reserve Construction and Land Acquisition Projects

This section would contain the list of authorized Army Reserve construction projects for fiscal year 2020. The authorized amounts are listed on an installation-by-installation basis. The State list contained in this Act is intended to be the binding list of the specific projects authorized at each location.

Section 2603—Authorized Navy Reserve and Marine Corps Reserve Construction and Land Acquisition Projects

This section would contain the list of authorized Navy Reserve and Marine Corps Reserve construction projects for fiscal year 2020. The authorized amounts are listed on an installation-by-installation basis. The State list contained in this Act is intended to be the binding list of the specific projects authorized at each location.

Section 2604—Authorized Air National Guard Construction and Land Acquisition Projects

This section would contain the list of authorized Air National Guard construction projects for fiscal year 2020. The authorized amounts are listed on an installation-by-installation basis. The State list contained in this Act is intended to be the binding list of the specific projects authorized at each location.

Section 2605—Authorized Air Force Reserve Construction and Land Acquisition Projects

This section would contain the list of authorized Air Force Reserve construction projects for fiscal year 2020. The authorized amounts are listed on an installation-by-installation basis. The State list contained in this Act is intended to be the binding list of the specific projects authorized at each location.

Section 2606—Authorization of Appropriations, National Guard and Reserve

This section would authorize appropriations for the National Guard and Reserve military construction at the levels identified in section 4601 of division D of this Act.

TITLE XXVII—BASE REALIGNMENT AND CLOSURE ACTIVITIES

SUMMARY

The budget request contained $278,526,000 for activities related to Base Realignment and Closure (BRAC) activities. The committee recommends authorization of appropriations of $398,526,000 for BRAC activities.

ITEMS OF SPECIAL INTEREST

Explanation of Funding Adjustments

The committee notes the budget request submitted by the Department of Defense for activities related to Base Realignment and Closure (BRAC) included $278.5 million for activities related to recommendations from the previous BRAC rounds. The committee notes that additional resources may allow for the acceleration of certain activities and also allow the Department to address emerging contaminates such as perfluorooctane sulfonate and perfluorooctanoic acid. Therefore, the committee recommends additional authorization of appropriations of $30.0 million for the Army, $60.0 million for the Navy, and $30.0 million for the Air Force Base Realignment and Closure accounts.

LEGISLATIVE PROVISIONS

Section 2701—Authorization of Appropriations for Base Realignment and Closure Activities Funded through Department of Defense Base Closure Account

This section would authorize appropriations for ongoing activities that are required to implement the base realignment and closure activities authorized by the Defense Base Closure and Realignment Act of 1990 (part A of title XXIX of Public Law 101–510), at the levels identified in section 4601 of division D of this Act.

TITLE XXVIII—MILITARY CONSTRUCTION GENERAL PROVISIONS

ITEMS OF SPECIAL INTEREST

Child Play Areas at Exceptional Family Member Program Installations

The committee notes that there are military members with dependents that are enrolled in the Exceptional Family Member Program (EFMP). Unfortunately, many of these dependent children do not have access to Americans with Disability Act (ADA) compliant playgrounds. The committee believes that it is imperative to have at least one ADA compliant playground at each Department of Defense EFMP designated installation. Therefore, the committee directs the Secretary of Defense to provide a report to the House Committee on Armed Services by February 1, 2020, on the Department's efforts to ensure that play areas for dependents of service members at installations designated as locations for Exceptional

Family Member Program are compliant with Architectural Barriers Act (ABA) (Public Law 90–480) accessibility standards for play areas and meet evidence-based design standards for all ability inclusion. Specifically, the report shall include:

(1) a list of all child play areas that are compliant with ABA accessibility standards for play areas and meet evidence-based design standards at all military installations designated to support the Exceptional Family Member Program; and

(2) a plan that details the Department of Defense effort to ensure that all non-compliant child play areas become compliant with ABA play area accessibility standards and meet evidence-based design standards for all ability inclusion to include cost for upgrades and timeline for completion.

Defense Access Road Projects

The committee notes that section 2865 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232) expanded the types of projects eligible for funding under the Defense Access Roads program to include construction, repair, and mitigation projects related to sea-level rise and recurrent flooding. While the committee recognizes this expanded list of project categories was enacted too late to inform project planning and design or submission for the fiscal year 2020 budget request, the committee does expect the Department of Defense to consider the use of this expanded authority for defense access roads going forward. Therefore, the committee directs the Secretary of Defense to provide a report to the House Committee on Armed Services not later than March 1, 2020, regarding the implementation of the expanded Defense Access Roads program. The report should address the process and the criteria that will be used for selecting projects and a list of projects that have been identified as being eligible for consideration at the time the report is submitted. The list of eligible projects should include the geographic description, impacted military installation, road name or description, purpose, cost, scope, and Department of Defense Form 1391 for each project.

Department of Defense Consultations with Native Hawaiians

The committee remains concerned about consultations between the Department of Defense and Native Hawaiians. The committee notes the differing official policies between the Departments of the Army, Navy, and Air Force. The committee views favorably the maximum extent that the Department of Defense can enable coordination with Native Hawaiian communities ahead of military construction and land lease projects.

Thus, the committee directs the Secretary of Defense to provide a report to the House Committee on Armed Services by September 1, 2019, that details the avenues to include Native Hawaiians in DoD 4710.02. This report shall include a strategy from the secretary for greater inclusion of Native Hawaiian consultations in Department of Defense military construction and land lease activities. This report shall also include previous circumstances of consultations or meetings with Native Hawaiian stakeholders.

Feasibility of Transitioning from 100-Year Floodplain to Sea-Level Rise Modeling at Coastal Installations as a Planning Assumption for Military Construction Projects

The committee notes that according to the Department of Defense's January 2019 report entitled "Report on Effects of a Changing Climate to the Department of Defense," two-thirds of the 79 installations analyzed in the report are vulnerable to current or future recurrent flooding. The report also noted that several installations on the eastern seaboard are already experiencing the effects of sea-level rise. The committee further notes that ensuring the right planning assumptions are used for military construction projects on flood-prone installations can help ensure the viability of infrastructure throughout its 40-year planned useful life, increase the resiliency of the Department's installations, and result in cost avoidance after catastrophic flooding events. Accordingly, the committee directs the Under Secretary of Defense for Acquisition and Sustainment to provide a report to the House Committee on Armed Services by February 1, 2020, that assesses the feasibility of transitioning from 100-year floodplain data to a forward-looking predictive model that takes into account the impacts of sea-level rise.

Mold Assessment, Mitigation, and Remediation Efforts in Military Housing Report

The committee is concerned with multiple reports of issues involving mold in Department of Defense housing to include privatized housing. These reports have indicated that mold in Department of Defense housing may have contributed to negative health effects on some occupants. These reports also pointed to lagging oversight of mold mitigation efforts at a number of Department of Defense housing locations. Therefore, the committee directs the Secretary of Defense to provide a report to the Committee on Armed Services of the House of Representatives not later than February 1, 2020, on the following:

(1) a meta-analysis relating to the health effects of mold exposure in housing, based on up-to-date scientific evidence;

(2) an analysis of existing standards and practices for mold assessment, mitigation, and remediation developed by States, other departments and agencies of the Federal Government, and research organizations;

(3) the feasibility of developing and implementing mold assessment, mitigation, and remediation standards for military housing that incorporate best standards and practices from the analysis under paragraph (2) above, and prescribe reasonable duties for occupants of military housing relating to mold mitigation; and

(4) an analysis of ongoing efforts of the Department of Defense to assess, track, mitigate, and remediate mold issues in military housing.

Report on Integration of Information Regarding Environmental Health Hazards into Defense Occupational and Environmental Health Readiness System

The committee believes the Department of Defense needs better data and information related to the tracking and monitoring of en-

vironmental health and occupational health exposures. However, the committee is concerned that existing data systems may not provide either the capability required or interoperability with the Military Health System (MHS) Genesis electronic health record. Therefore, the committee directs the Secretary of Defense to provide a report to the Committee on Armed Services of the House of Representatives not later than February 1, 2020, on the following:

(1) an analysis of how the Defense Occupational and Environmental Health Readiness System (DOEHRS) may be used to record information with respect to environmental health hazards in housing under the jurisdiction of the Department of Defense (including privatized housing and blast pressure exposure);

(2) the identification of potential environmental risk categories to be included in DOEHRS as a result of information received pursuant to housing inspections, reports, surveys, audits, or occupant complaints with respect to environmental health hazards;

(3) a discussion of any data system or repository (other than DOEHRS) under consideration by the Secretary of Defense to collect, maintain, and track environmental health hazards in housing under the jurisdiction of the Department of Defense (including privatized housing and blast pressure exposure);

(4) a description of the current status of interoperability between DOEHRS and the MHS Genesis electronic health record system, and the necessary steps to ensure full interoperability;

(5) a description of the desired end state with respect to interoperability between DOEHRS and an individual longitudinal exposure record; and

(6) the feasibility and advisability of allowing personnel of the Department of Defense and the Department of Veterans Affairs to have access to DOEHRS or a similar system.

Soo Locks, Sault Ste. Marie, Michigan

The committee understands that the Soo Locks on the St. Marys River at Sault Ste. Marie, Michigan, are the only waterway connection from Lake Superior to the rest of the Lower Great Lakes and the St. Lawrence Seaway. The committee believes that a failure at the Soo Locks would have a significant impact on national security, in that the U.S. iron mining-integrated steel production-manufacturing supply chain is dependent on the Soo Locks. Without redundancy, any unexpected outage at the Soo Locks would cripple steel production that is used for national defense priorities. Therefore, the committee supports a second 1,200-foot lock and believes that such a lock is necessary to maintain redundancy and resiliency at the Soo Locks and further protects our national defense priorities.

Status of the Utilities Privatization Program

The committee continues to encourage the Department of Defense utility privatization program as a way to achieve greater efficiencies, improve system reliability and resiliency, and reduce the life-cycle costs of the utility system. Accordingly, the committee directs the Secretary of Defense to provide a report to the House Committee on Armed Services by January 31, 2020, on its efforts to utilize the utilities privatization program, current installations considering or implementing the program, and any barriers to utili-

zation or additional authorities that would be required to facilitate the usage of the program.

U.S. Air Force Strategic Basing Process

The committee notes that the Secretary of the Air Force has developed a strategic basing process that is used to develop alternative basing options for the Secretary's consideration. In assessing alternative basing solutions, the committee understands that the Secretary uses a wide range of inputs to include mission, environmental, capacity and cost criteria in this assessment.

The committee also notes that section 2811 of title 10, United States Code provides the Secretary wide latitude in repurposing facility for alternative uses. The committee believes that section 2811 provides the Secretary a reduced cost alternative and an expedited facility solution to an otherwise lengthy beddown process.

The committee also believes that the repurposing of existing facilities should be included in future basing assessments and that section 2811 should be used to more optimally assess basing candidates. Therefore, the committee directs the Secretary of the Air Force to brief the House Committee on Armed Services by February 1, 2020 as to how section 2811 is used in the U.S. Air Force Strategic Basing Process.

LEGISLATIVE PROVISIONS

SUBTITLE A—MILITARY CONSTRUCTION PROGRAM CHANGES

Section 2801—Prohibition on Use of Military Construction Funds for Construction of a Wall, Fence, or Other Physical Barrier along the Southern Border of the United States

This section would prohibit the obligation, expense, or use of funds that have been authorized to be appropriated for military construction projects in fiscal years 2015 through 2020 to design or carry out a project to construct, replace, or modify a wall, fence, or other physical barrier along the international border between the United States and Mexico.

Section 2802—Modification and Clarification of Construction Authority in the Event of a Declaration of War or National Emergency

This section would amend section 2808 of title 10, United States Code, to limit the total cost of military construction projects undertaken during a national emergency to $500.0 million, with a further limit of $100.0 million for construction projects within the United States, would clarify the ability to waive any other provision of law, and would add elements to required congressional notifications.

Section 2803—Inclusion of Information regarding Military Installation Resilience in Master Plans for Major Military Installations

This section would amend section 2864 of title 10, United States Code, to provide additional clarity on the required elements of military installation resilience plans; encourage coordination with relevant local, State, and Federal entities in the development of plans;

and require an assessment of resiliency gaps and best practices. This section would further require the Secretary of Defense to provide a report to the House Committee on Armed Services by March 1, 2020, listing the installation master plans completed or in progress during the previous 12 months.

Section 2804—Improved Consultation with Tribal Governments when Proposed Military Construction Projects Potentially Impact Indian Tribes

This section would require the military departments to assess whether any military construction project has the potential to significantly affect tribal lands, sacred sites, or tribal treaty rights. Additionally, the Secretary concerned shall include a description of the current status of consultation with the tribal government of each impacted Indian tribe on military construction projects proposed to Congress.

Section 2805—Amendment of Unified Facilities Criteria to Promote Military Installation Resilience, Energy Resilience, Energy and Climate Resiliency, and Cyber Resilience

This section would prohibit the Department of Defense from spending more than 25 percent of the funds available for military construction planning and design until the Secretary of Defense submits a certification to Congress that the Tri-Service Engineering Senior Executive Board has initiated the process of updating the Unified Facility Criteria to ensure building practices and standards promote military installation resilience, energy resilience, energy and climate resiliency, and cyber resilience. The Secretary of Defense would further certify that the review and revision process will be complete by September 1, 2020.

Section 2806—Modification to Department of Defense Form 1391 regarding Consideration of Potential Long-Term Adverse Environmental Effects

This provision would ensure that prior to submitting a military construction project for consideration, the Department of Defense or service secretary must certify that the construction takes into account known extreme weather risks and employs best practices and local building code requirements for resiliency in the face of those risks.

SUBTITLE B—MILITARY FAMILY HOUSING REFORMS

Section 2811—Enhanced Protections for Members of the Armed Forces and Their Dependents Residing in Privatized Military Housing Units

This section would amend section 2886 of title 10, United States Code, to require the military services to have a tenant bill of rights for military residents of privatized military family housing that would include but not be limited to the following:

(1) a prohibition on reprisal by either the private partner or military chain of command;

(2) provision of a housing advocate that is not co-located with or employed by the private partner;

(3) a dispute resolution mechanism;

(4) prompt provision of maintenance by qualified personnel;

(5) effective communication regarding the status of their work orders;

(6) professional and courteous property management services; and

(7) information about known and potential hazards at the time of home selection, to include mold, lead, rodent infestation, and history of sickened residents.

Finally, the section would direct the Secretary of Defense to submit a report to the Senate Committee on Armed Services and the House Committee on Armed Services by March 1, 2020, on implementation of this provision.

Section 2812—Prohibition on Use of Nondisclosure Agreements in Connection with Leases of Military Housing Constructed or Acquired Using Alternative Authority for Acquisition and Improvement of Military Housing

This section would amend section 2882 of title 10, United States Code, to prohibit the use of non-disclosure agreements in connection with entering into, continuing, or terminating a lease for a housing unit covered under the Military Housing Privatization Initiative.

Section 2813—Authority to Furnish Certain Services in Connection with Use of Alternative Authority for Acquisition and Improvement of Military Housing

This section would amend section 2872a of title 10, United States Code, to add street sweeping and tree trimming and removal to the list of reimbursable services that may be furnished under that section.

Section 2814—Modification to Requirements for Window Fall Prevention Devices in Military Family Housing Units

This section would amend section 2879 of title 10, United States Code, to modify the requirements and applicable standards for window fall prevention devices.

Section 2815—Assessment of Hazards in Department of Defense Housing

This section would require the Secretary of Defense to develop an assessment tool to identify and measure health and safety hazards in Department of Defense housing, to include privatized housing, and provide a report to the Committees on Armed Services of the Senate and the House of Representatives.

Section 2816—Development of Process to Identify and Address Environmental Health Hazards in Department of Defense Housing

This section would require the Secretary of Defense, in coordination with the Secretaries of the military departments, to develop a process to identify, record, and resolve environmental health hazards in Department of Defense housing, to include privatized hous-

ing, and to provide a report to the Committees on Armed Services of the Senate and the House of Representatives.

Section 2817—Report on Civilian Personnel Shortages for Appropriate Oversight of Management of Military Housing Constructed or Acquired Using Alternative Authority for Acquisition and Improvement of Military Housing

This section would require the Department of Defense, in coordination with the Secretaries of the military departments, to provide a report to the congressional defense committees by September 30, 2020, on the manpower requirements and execution plan to staff military housing offices and headquarters to fill gaps in oversight personnel. The report shall include an assessment of what and where additional personnel are required, the positions these additional personnel will be filling, the job description associated with these positions, the estimated cost of hiring these personnel, the number of personnel already hired and their locations, and the timeline for hiring the remaining required personnel.

The committee notes that additional funding is authorized elsewhere in this Act for the hiring of additional civilian personnel for the oversight and management of military family housing. The committee further notes that a lack of oversight personnel at housing management offices has been a significant cause of the problems plaguing privatized military family housing. The chronic undermanning of housing offices has led to a lack of oversight of the maintenance work order process leading to environmental health and safety concerns, frustration amongst tenants, and a degradation in the overall quality of the tenant's experience in military family housing. The committee also notes that a lack of housing personnel at the headquarters level also contributed to an inability to assess data, track housing trends, and provide policy guidance, further exacerbating the problems with privatized housing.

Section 2818—Inspector General Review of Department of Defense Oversight of Privatized Military Housing

This section would require the Inspector General of the Department of Defense to conduct a review annually of Department of Defense oversight of the privatized military family housing at 15 randomly selected installations and publish the results on a publicly available website.

Section 2819—Department of Defense Inspection Authority Regarding Privatized Military Housing

This section would amend section 2885 of title 10, United States Code, to clarify that the Secretaries of the military departments retain the authority to inspect privatized military family housing. Tenant families shall be given at least 48 hours notice and retain the right to refuse.

Section 2820—Improvement of Privatized Military Housing

This section would amend subchapter IV of chapter 169 of title 10, United States Code, to require the Secretary of Defense to establish a publicly available database of complaints relating to

privatized military family housing. This section would also require an annual audit to be performed by the Comptroller General of the United States of a small, medium, and large military installation with privatized military family housing. This section would also amend section 2884 of title 10, United States Code, directing the Secretary of Defense to provide a report on military housing to the defense committees, annually.

SUBTITLE C—REAL PROPERTY AND FACILITIES ADMINISTRATION

Section 2831—Improved Energy Security for Main Operating Bases in Europe

This section would prohibit the use of Russian Federation-sourced natural gas at main operating bases in Europe.

Section 2832—Access to Department of Defense Facilities for Credentialed Transportation Workers

This section would enable the Transportation Worker Identification Credential card to be accepted as a valid credential for unescorted access to a work site at a maritime terminal of the Department of Defense and other Department of Defense facilities.

SUBTITLE D—LAND CONVEYANCES

Section 2841—Land Conveyance, Hill Air Force Base, Utah

This section would authorize the Secretary of the Air Force to convey 35 acres on Hill Air Force Base to the State of Utah for the purposes of permitting the State to construct a new interchange for Highway 15.

Section 2842—Release of Conditions and Reversionary Interest, Camp Joseph T. Robinson, Arkansas

This section would allow the Secretary of the Army to release the State of Arkansas from certain terms and conditions of the reversionary interest imposed by the United States to allow transfer to the Arkansas Department of Veterans Affairs for the purpose of expanding the Arkansas State Veterans Cemetery in North Little Rock, Arkansas.

Section 2843—Modification of Authorized Uses of Certain Property Conveyed by the United States in Los Angeles, California

This section would modify the authorized uses of a certain property conveyed by the United States to the State of California.

SUBTITLE E—MILITARY LAND WITHDRAWALS

Section 2851—Public Notice Regarding Upcoming Periods of Secretary of the Navy Management of Shared Use Area of the Johnson Valley Off-Highway Vehicle Recreation Area

This section would amend section 2942 of the Military Land Withdrawals Act of 2013 to require the Secretary of the Navy to provide public notice prior to the use of the Shared Use Area for military training purposes.

SUBTITLE F—WHITE SANDS NATIONAL PARK AND WHITE SANDS MISSILE RANGE

Section 2861—Short Title

This section would provide the short title for the White Sands National Park Establishment Act.

Section 2862—Definitions

This section would provide the definitions of terms under the White Sands National Park Establishment Act.

Section 2863—Findings

This section would provide congressional findings related to the White Sands National Park Establishment Act.

Section 2864—Establishment of White Sands National Park in the State of New Mexico

This section would establish the White Sands National Park in the State of New Mexico. Nothing in this section affects the authority of a State to redesignate areas under Clean Air Act, Section 164 (42 USC 7474).

Section 2865—Transfers of Administrative Jurisdiction Related to the National Park and White Sands Missile Range

This section would transfer administrative jurisdiction of land from the Secretary of the Army to the Secretary of the Interior in exchange for other parcels which would be transferred from the Secretary of the Interior to the Secretary of the Army.

Section 2866—Boundary Modifications Related to the National Park and Missile Range

This section would direct the Secretary of the Army and Secretary of Interior to coordinate in the preparation of a map reflecting the new boundary of the White Sands National Park.

SUBTITLE G—OTHER MATTERS

Section 2871—Installation and Maintenance of Fire Extinguishers in Department of Defense Facilities

This section would require the Secretary of Defense to ensure that portable fire extinguishers are installed and maintained at Department of Defense facilities in accordance with the requirements of national model fire codes.

Section 2872—Definition of Community Infrastructure for Purposes of Military Base Reuse Studies and Community Planning Assistance

This section would amend section 2391(c)(4) of title 10, United States Code, to add not-for-profit, member owned utility services to the definition of community infrastructure.

Section 2873—Report on Vulnerabilities from Sea Level Rise to Certain Military Installations Located Outside the Continental United States

This section would require the Secretary of Defense to provide a report to the Committees on Armed Services of the Senate and the House of Representatives on vulnerabilities from sea level rise at Naval Support Facility Diego Garcia and Ronald Reagan Ballistic Missile Defense Test Site, Kwajalein.

Section 2874—Black Start Exercises at Joint Bases

This section would require the Department of Defense to conduct three additional black start exercises at joint bases to test installation energy resiliency systems. This section would also require the Secretary of Defense to provide a report to the defense committees by June 1, 2020, on lessons learned from black start exercises concluded prior to December 31, 2019.

TITLE XXIX—OVERSEAS CONTINGENCY OPERATIONS MILITARY CONSTRUCTION

SUMMARY

The budget request contained $9,844,526,000 for Overseas Contingency Operations military construction for fiscal year 2020. The committee recommends authorization of appropriations of $921,420,000 for Overseas Contingency Operations military construction for fiscal year 2020.

ITEMS OF SPECIAL INTEREST

Explanation of Funding Adjustments

The committee notes that the budget request submitted by the Department of Defense included $497.2 million for military construction projects in support of the European Deterrence Initiative. The committee is supportive of the European Deterrence Initiative and continuing to make investments that support U.S. military posture in Europe. Therefore, the committee recommends additional authorization of appropriations in the amount of $56.14 million for the Department of the Army, $56.25 the Department of the Navy, and $56.25 million for the Department of the Air Force to carry out additional military construction projects in Europe that support the European Deterrence Initiative, contingent on the Department providing a spend plan for these additional funds.

In addition, the committee recommends reduction of funding for projects contained in the Overseas Contingency Operations budget request submitted by the Department of Defense for military construction. These reductions are:

(1) $7.2 billion for Unspecified Worldwide Construction. The budget request included $7.2 billion to support the President's efforts to construct a border wall along the southern border of the United States. The committee believes that the use of Department of Defense military construction funding and authorities to construct a border wall or barrier along the southern border of the United States is an inappropriate use of Department of Defense re-

sources. Therefore, the committee recommends no funds, a reduction of $7.2 billion, for this project.

(2) $2.0 for Unspecified Worldwide Construction. The budget request included $2.0 billion for hurricane recovery. The committee supports the Department of Defense's ongoing recovery efforts. However, the committee notes enactment of the Additional Supplemental Appropriations for Disaster Relief Act, 2019 (Public Law 116–20) which included $1.6 billion of military construction funds for this purpose. The committee is concerned the Department of Defense may have exceeded its ability to execute additional disaster recovery military construction projects in fiscal year 2020. Commensurate with appropriations included in the as reported Military Construction, Veterans Affairs, and Related Agencies Appropriations Act, 2020 (H.R.2745), the committee recommends an authorization of $2.3 billion related to additional disaster recovery and mitigation, but recommends no authorization of appropriation for this effort.

(3) $88.5 million for a High Value Detention Facility at Guantanamo Bay, Cuba. The committee continues to have questions about the need to construct a new permanent detention facility with increased capacity and capabilities. Furthermore, the committee believes the Department of Defense has not adequately assessed alternative options to support current and foreseeable detention requirements. Therefore, the committee recommends no funds, a reduction of $88.5 million, for this project.

As noted earlier in this report, the committee recommended a reduction in funding for several projects included in the base budget request in order to transfer them to the Overseas Contingency Operations title of this Act. Therefore the committee recommends a commensurate increase in the Overseas Contingency Operations account to support these projects. Specifically, these projects include:

(1) $77.4 million for a Communications Station at Naval Air Station Sigonella, Italy;

(2) $53.36 million for an Electrical System Upgrade at Bahrain;

(3) $42.0 million for a Munitions Storage Area at Azraq, Jordan; and

(4) $24.0 million for an Air Traffic Control Tower at Azraq, Jordan.

LEGISLATIVE PROVISIONS

Section 2901—Authorized Army Construction and Land Acquisition Projects

This section would contain the list of certain authorized Army construction projects for fiscal year 2020. The authorized amounts are listed on an installation-by-installation basis. The country list contained in this Act is intended to be the binding list of the specific projects authorized at each location. This section would also require the Secretary of the Army to submit a report to the congressional defense committees containing a plan to carry out each military construction project authorized in the final item in the table in this section for an unspecific location for the European Deterrence Initiative.

Section 2902—Authorized Navy Construction and Land Acquisition Projects

This section would contain the list of authorized Department of Navy construction projects for fiscal year 2020. The authorized amounts are listed on an installation-by-installation basis. The country list contained in this Act is intended to be the binding list of the specific projects authorized at each location. This section would also require the Secretary of the Navy to submit a report to the congressional defense committees containing a plan to carry out each military construction project authorized in the final item in the table in this section for an unspecific location for the European Deterrence Initiative.

Section 2903—Authorized Air Force Construction and Land Acquisition Projects

This section would contain the list of authorized Air Force construction projects for fiscal year 2020. The authorized amounts are listed on an installation-by-installation basis. The country list contained in this Act is intended to be the binding list of the specific projects authorized at each location. This section would also require the Secretary of the Air Force to submit a report to the congressional defense committees containing a plan to carry out each military construction project authorized in the final item in the table in this section for an unspecific location for the European Deterrence Initiative.

Section 2904—Authorized Defense Agencies Construction and Land Acquisition Projects

This section would contain the list of authorized defense agencies' construction projects for fiscal year 2020. The authorized amounts are listed on an installation-by-installation basis. The country list contained in this Act is intended to be the binding list of the specific projects authorized at each location.

Section 2905—Authorization of Appropriations

This section would authorize appropriations for Overseas Contingency Operations military construction at the levels identified in section 4602 of division D.

TITLE XXX—AUTHORIZATION OF EMERGENCY MILITARY CONSTRUCTION

LEGISLATIVE PROVISIONS

Section 3001—Authorization of Emergency Navy Construction and Land Acquisition Projects

This section would authorize Department of Navy military construction projects for fiscal year 2020. The authorized amounts are listed on an installation-by-installation basis. The State list contained in this Act is intended to be the binding list of the specific projects authorized at each location.

Section 3002—Authorization of Emergency Air Force Construction and Land Acquisition Projects

This section would authorize Department of the Air Force military construction projects for fiscal year 2020. The authorized amounts are listed on an installation-by-installation basis. The State list contained in this Act is intended to be the binding list of the specific projects authorized at each location.

Section 3003—Authorization of Emergency Army National Guard and Army Reserve Construction and Land Acquisition Projects

This section would authorize Army National Guard and Army Reserve military construction projects for fiscal year 2020. The authorized amounts are listed on an installation-by-installation basis. The State list contained in this Act is intended to be the binding list of the specific projects authorized at each location.

DIVISION C—DEPARTMENT OF ENERGY NATIONAL SECURITY AUTHORIZATIONS AND OTHER AUTHORIZATIONS

TITLE XXXI—DEPARTMENT OF ENERGY NATIONAL SECURITY PROGRAMS

ITEMS OF SPECIAL INTEREST

NATIONAL NUCLEAR SECURITY ADMINISTRATION

Weapons Activities

Nuclear warhead life extension program briefings

The committee commends the National Nuclear Security Administration (NNSA) for their work in producing informative quarterly briefings to the committee on each life extension program underway by the NNSA. Given the cost and complexity of these programs, the committee notes the importance of keeping the committee informed on this work throughout the year. The committee notes the utility of these briefings and looks forward to their continuation.

Report on unobligated enriched uranium and domestic uranium requirements

The committee believes the Department of Energy must ensure the availability of the supply of unobligated enriched uranium for national security purposes, notably for producing tritium and to power naval reactors. In addition, the Department of Energy recently announced plans to support a demonstration program for the enrichment of high-assay low enriched uranium (HALEU) for use in potential future advanced commercial reactors and micro-reactors for the Department of Defense. The committee also notes the importance and availability of the domestic uranium mining industry for U.S. national security.

The National Nuclear Security Administration shifted the need for domestically-produced low-enriched uranium (LEU) from 2027

to 2041 after additional review. Other options could delay the need to build a uranium enrichment facility: declaring additional excess highly-enriched uranium (HEU); negotiating an agreement with the European enrichment services company Urenco to allow the United States, as it does with France, to use the LEU it produces for military, but non-explosive purposes; reconsidering the amount of unobligated uranium required to produce tritium; building a new, smaller non-power-generating government reactor dedicated to the production of tritium for national security purposes; and using LEU for naval reactors. Serious consideration of these options would delay the need to build a new U.S. enrichment facility that the Department of Energy has estimated will cost $3.1 to $11.3 billion depending on its size.

In 2016, the Department of Energy initiated an analysis of alternatives (AOA) to provide a supply of unobligated enriched uranium for the long-term. The committee expects the Department of Energy to comprehensively consider all alternatives, consistent with Department of Energy guidance and the Government Accountability Office's 2018 report on enriched uranium and its 2015 report on best practices for AOA processes, and to consider costs, including life-cycle costs, need dates, domestic industrial base impacts, and opportunities to change existing policy. The Department of Energy should work closely with the Department of State to engage allies in discussions on potential policy changes.

The committee therefore directs the Administrator for Nuclear Security to provide a report to the congressional defense committees not later than November 1, 2019, including: information on size, costs and timelines for a new enrichment facility; options to declare additional HEU as excess and down-blend it; what percentage of LEU is used specifically for producing tritium, rather the total amount of LEU needed to fuel the TVA reactor; options to load the Tennessee Valley Authority (TVA) reactor cores with a mix of unobligated and obligated LEU, a plan to engage URENCO and European allies about the use of obligated LEU, options to reflag LEU used in TVA reactors and any related change in U.S. policy; amount and timelines related to HEU stocks for naval reactors and how much would be available if LEU (not from blend-down of HEU) fuel were available to use in aircraft carrier reactors and potentially in submarine reactors; the technical and cost considerations for building a government reactor dedicated to national security purposes; and the impact of the commercial HALEU production plans on the ability of the Department of Energy to meet unobligated fuel supply for national security missions, and why those fuels must utilize unobligated enriched uranium.

Reports of sexual assault in the protective force

The committee is concerned about recent reports of sexual harassment and assault within the National Nuclear Security Administration's (NNSA) protective force and the NNSA's response to these serious allegations. The protective force provides, among other things, the physical security for the Nation's most sensitive nuclear sites and facilities. A culture that is permissive of sexual harassment and assault cannot effectively perform its responsibilities and would pose serious national security risks. The committee encourages the NNSA to address these incidents must ensure their

system for reporting, investigating, and addressing allegations of sexual harassment and assault by Government contractors within the protective force is independently reviewed to assure its effectiveness.

Therefore, the committee directs the Comptroller General of the United States to comprehensively review the issue of sexual harassment and assault within the NNSA protective force. Specifically, the Comptroller General shall assess the impact of sexual harassment on security of the nuclear security enterprise; how NNSA's security contracts and its oversight and management mechanisms for these contracts integrate sexual harassment prevention and reporting into the safety culture; how NNSA's security contracts are awarded, managed, and overseen; how the NNSA's security oversight model and management mechanisms integrate sexual harassment prevention into its promotion of security culture; and the extent to which NNSA has held those responsible for sexual harassment or assault accountable. The Comptroller General shall provide an interim briefing to the House Committee on Armed Services not later than October 7, 2019, with a report to follow not later than December 20, 2019.

Risks and sustainment plan for Plutonium Facility at Los Alamos National Laboratory

The Department of Energy's Plutonium Facility (PF–4) at the Los Alamos National Laboratory is the Nation's enduring Plutonium Research and Development and production capability. The facility has been operational since 1978, and is currently undergoing major upgrades to ensure a pit production capability of 30 pits per year by 2026. Given the age and use of the facility, which includes additional plutonium activities, the committee is concerned about the continued viability of the site in the long-term.

To better understand the risks to PF–4 and plans to continue its mission, the committee directs the Administrator for Nuclear Security to provide a report to the congressional defense committees not later than December 31, 2019, assessing the risks to the continued viability of PF–4 through 2045 and plans for either sustaining the facility or replacing it, including timelines and estimated costs.

Stockpile Stewardship 2.0

The Department of Energy's science-based stockpile stewardship program has allowed the Department of Defense and the Department of Energy to certify to the President for the 22nd consecutive year that the U.S. nuclear weapons stockpile remains safe, secure, and effective without the use of nuclear explosive testing. This impressive scientific achievement is enabled by National Nuclear Security Administration's (NNSA) most valuable resource, its workforce. NNSA's ability to recruit, train, and retain the next generation of world-class scientists, engineers, and technicians is a major priority.

To ensure the NNSA's workforce achieved its stockpile stewardship goals over the past two decades, the NNSA constructed numerous world-class scientific facilities at its laboratories and production sites. These facilities have yielded important scientific insight of benefit to the nuclear enterprise, as well as the broader scientific community. As the NNSA continues to recruit, train, and re-

tain the next generation of world-class scientists, engineers and technicians, it must also remain on the cutting-edge of science and look to future scientific challenges facing the nuclear stockpile.

To better understand how the National Nuclear Security Administration will approach the next set of long-term science questions related to the nuclear stockpile, the committee directs the Administrator for Nuclear Security to provide a detailed report to the House Committee on Armed Services not later than March 13, 2020, assessing the major science questions facing the stockpile stewardship program over the next 20 years, and a plan to address them. The committee requests that the Department of Energy conduct this activity in consultation with the national laboratories and other partners as appropriate.

Defense Nuclear Nonproliferation

Excess Plutonium Disposition

The committee notes the United States' commitment to dispose of 34 metric tons of excess plutonium as part of the Management and Disposition of Plutonium Agreement, signed in 2000, with Russia. The committee also notes that in October 2018, the Secretary of Energy delivered official notice of contract termination of the Mixed-Oxide Fuel Fabrication Facility (MFFF) due to significant costs, delays and difficulties executing this program. The committee also emphasizes that the Secretary proposed to dispose of this material through the Dilute and Dispose program which was more affordable and required a fraction of the funding MOX would have required. The MFFF would have disposed of the 34 metric tons by creating mixed-oxide fuel for use in commercial power reactions.

The committee directs the Administrator for Nuclear Security to submit a report to the congressional defense committees not later than February 28, 2020, with a detailed plan, including timelines, plans to engage the State of New Mexico and Russia on any necessary negotiations to pursue the Dilute and Dispose approach, funding requirements, including funding requirements over the next 5 years, to begin disposing of this excess plutonium.

Nuclear Verification Plan

The committee notes that once the United States withdraws, absent Russia returning to compliance, from the Intermediate-Nuclear Forces Treaty (INF), only Russia's strategic forces accountable under the New START Treaty will be subject to constraints, inspection, and verification. The committee also notes that the United States, per the 2018 Nuclear Posture Review, is "prepared to consider arms control opportunities that return parties to compliance, predictability, and transparency, and remain receptive to future arms control negotiations if conditions permit and the potential outcome improves the security of the United States, its allies, and partners." As such, the committee notes that the United States must be prepared to address Russia's significantly larger non-strategic nuclear arsenal through arms control, should Russia accept such limits through a nuclear arms control negotiation.

Therefore, the committee directs the Administrator for Nuclear Security to provide a report to the House Committee on Armed

Services not later than March 13, 2020, with a detailed plan for ensuring the United States is prepared, from a technology perspective, to inspect and verify non-strategic nuclear warheads as part of a future arms control agreement. The report should detail domestic and international efforts that the Department is undertaking. The report should also assess the costs and timeline required to ensure full U.S. preparedness in the event the United States and Russia were to agree to limits on nonstrategic nuclear forces. The committee directs the report to be provided in unclassified form, with a classified annex as necessary.

Naval Reactors

Low-Enriched Uranium Fuel for Naval Reactors

The committee notes that since September 11, 2001, the U.S. Government has sought to remove weapons-usable highly enriched uranium (HEU) containing 20 percent or more uranium-235 from as many locations as possible because of concerns related to nuclear terrorism. The committee notes that the primary focus of this strategy has been on replacing HEU civilian research reactor fuel and targets used in the production of medical radioisotopes, with non-weapons-usable low-enriched uranium (LEU) fuel and targets. This program to reduce the use of HEU for civilian purposes has been successful in reducing the amount of HEU worldwide that could have been at risk of theft of diversion. However, this effort did not address the use of HEU for military purposes. Naval reactors account for the largest share of global HEU use other than nuclear weapons, and in the United States, the fuel is fabricated in civilian, not military, facilities. The committee has been supportive of efforts to assess the feasibility of using low-enriched uranium for naval reactors as such use would not only benefit nuclear non-proliferation efforts but also maintain the research and development skills necessary to sustain innovation and expertise with regard to naval fuel as research and development efforts on the Columbia-class reactor end. The committee continues to support efforts to assess the feasibility of using LEU in naval reactors to meet military requirements for aircraft carriers and submarines.

The National Defense Authorization Act for Fiscal Year 2018 (Public Law 115–91) required a nuclear submarine study. However, this study lacked sufficient detail to respond to the congressional mandate. Therefore, the committee directs the Administrator for Nuclear Security, in coordination with the Secretary of the Navy, to provide a report to the congressional defense committees not later than December 15, 2019, assessing the feasibility of a design of the reactor module of the Virginia-Class replacement nuclear powered attack submarine that retains the existing hull diameter but leaves sufficient space for an LEU-fueled reactor with a life of the ship core, possibly with an increased module length. If a life of the ship core is unattainable, the report should include the feasibility of a reactor design with the maximum attainable core life and a configuration that enables rapid refueling.

ENVIRONMENTAL AND OTHER DEFENSE ACTIVITIES

Defense Environmental Cleanup

Savannah River Advanced Manufacturing Collaborative

The committee notes that the fiscal year 2020 budget request included a request for the Advanced Manufacturing Collaborative to support design and construction of a modern research and development facility accessible by commercial industry and academia. The committee further notes the goal of the facility would be to develop safer, faster, and more cost effective nuclear chemical manufacturing and cleanup technologies and expertise to tackle the remaining challenges in the cleanup of radioactive and chemical waste from Cold War activities, nuclear research, and non-proliferation missions.

Therefore, the committee directs the Administrator for Nuclear Security to provide a report to the House Committee on Armed Services not later than March 13, 2020, with a detailed plan of the construction and operations process for the Advanced Manufacturing Collaborative, including an option for the site's location being outside of the site to encourage local community engagement.

LEGISLATIVE PROVISIONS

SUBTITLE A—NATIONAL SECURITY PROGRAMS AND AUTHORIZATIONS

Section 3101—National Nuclear Security Administration

This section would authorize appropriations for the National Nuclear Security Administration for fiscal year 2020, including funds for weapons activities, defense nuclear nonproliferation programs, naval reactor programs, and federal salaries and expenses, at the levels specified in the funding table in division D of this Act. This section would also authorize new plant projects.

Section 3102—Defense Environmental Cleanup

This section would authorize appropriations for defense environmental cleanup activities for fiscal year 2020 at the levels specified in the funding table in division D of this Act.

Section 3103—Other Defense Activities

This section would authorize appropriations for other defense activities for the Department of Energy for fiscal year 2020 at the levels specified in the funding table in division D of this Act.

Section 3104—Nuclear Energy

This section would authorize appropriations for certain nuclear energy programs for the Department of Energy for fiscal year 2020 at the levels specified in the funding table in division D of this Act.

SUBTITLE B—PROGRAM AUTHORIZATIONS, RESTRICTIONS, LIMITATIONS, AND OTHER MATTERS

Section 3111—Personnel Levels of the Office of the Administrator for Nuclear Security

This section would raise the number of full-time equivalent positions the Administrator for Nuclear Security would be able to hire before notifying Congress, and amend reporting requirements related to support service contracts.

Section 3112—Office of Cost Estimating and Program Evaluation

This section would express the sense of Congress on the staffing level of the Office of Cost Estimation and Program Evaluation (CEPE), mandate that the Director of CEPE report directly to the National Nuclear Security Administration Administrator, and require the Administrator for Nuclear Security to provide a briefing to the House Committee on Armed Services not later than 180 days after the date of the enactment of this Act on the plan to fully staff CEPE.

Section 3113—Clarification of Certain Stockpile Responsiveness Program Objectives

This section would clarify the requirements in section 2538(b) of title 50, United States Code, and tie the requirement for prototypes to intelligence requirements.

Section 3114—Modification to Plutonium Pit Production Capacity

This section would repeal the requirement for the Secretary of Energy to demonstrate the capability to produce war reserve plutonium pits at a rate sufficient to produce 80 pits per year by 2027.

Section 3115—Annual Certification of Shipments to Waste Isolation Pilot Plant

This section would extend the certification of shipments of waste to the Waste Isolation Pilot Plant from a 3-year period to a 10-year period.

Section 3116—Repeal of Limitation on Availability of Funds for Acceleration of Nuclear Weapons Dismantlement

This section would amend section 3125 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) to terminate the prohibition on accelerating nuclear weapons dismantlement and the maximum funds that may be obligated or expended to carry out nuclear weapons dismantlement and disposition activities.

Section 3117—Elimination of Limitation on Availability of Funds Relating to Submission of Annual Report on Unfunded Priorities

This section would repeal the limitation on funds related to submission of the annual report on unfunded priorities.

Section 3118—Program for Research and Development of Advanced Naval Nuclear Fuel System Based on Low-Enriched Uranium

This section would require the Administrator for Nuclear Security to establish, not later than 60 days after the date of the enactment of this Act, a program to assess the viability of using low-enriched uranium in naval nuclear propulsion reactors, including such reactors located on aircraft carriers and submarines.

Section 3119—Replacement of W78 Warhead

This section would require the Administrator for Nuclear Security to conduct an analysis of alternatives with respect to replacing the W78 warhead, and require the Director of Cost Estimation and Program Evaluation to review the analysis of alternatives. The section would further limit funds for the W78 replacement program until the analysis of alternatives is submitted to the congressional defense committees. Lastly, this section would require an independent study of the need of the W78 replacement and related certification issues.

Section 3120—National Laboratory Jobs Access Program

This section would authorize the Secretary of Energy to establish a program known as the "Department of Energy National Lab Jobs ACCESS Program."

TITLE XXXII—DEFENSE NUCLEAR FACILITIES SAFETY BOARD

LEGISLATIVE PROVISIONS

Section 3201—Authorization

This section would authorize $29,450,000 for the Defense Nuclear Facilities Safety Board.

Section 3202—Improvements to the Defense Nuclear Facilities Safety Board

This section would create a director of operations for the Defense Nuclear Facilities Safety Board, establish a floor for the number of full-time equivalent employees, and codify the Board's prompt and unfettered access to defense nuclear facilities.

TITLE XXXIV—NAVAL PETROLEUM RESERVES

LEGISLATIVE PROVISIONS

Section 3401—Authorization of Appropriations

This section would authorize $14.0 million for fiscal year 2020 for operation and maintenance of the Naval Petroleum Reserves.

TITLE XXXV—MARITIME MATTERS

ITEMS OF SPECIAL INTEREST

Reducing Reliance on Foreign Flagged Vessels

The committee notes the Center for Strategic and Budgetary Assessment issued a report warning that "decades of downsizing and consolidation with the goal of achieving greater efficiency have left U.S. defense maritime logistics forces brittle while simultaneously contributing to the decline of the U.S. shipbuilding industry and the Merchant Marine. Failing to remedy this situation when adversaries have U.S. logistics networks in their crosshairs could cause the United States to lose a war and fail its allies and partners in their hour of need." The committee shares this concern. Elsewhere in this Act, the committee includes several provisions that would help the Navy address its existing sealift shortfall by reauthorizing the Maritime Security Program, creating a Tanker Security Program to address the shortfall in US-flagged, US-crewed tankers, and requiring the Navy to initiate an affordable, domestic built sealift ship. While these provisions will help address the sealift shortfall in the long term, the committee remains concerned about near-term mitigations and the reliance on foreign built and foreign flagged vessels to support U.S. sealift requirements.

Therefore, the committee directs the Secretary of Defense to provide a report to the House Committee on Armed Services, not later than March 1, 2020, that outlines near-term actions being taken to reduce the Department of Defense's reliance on foreign-flagged vessels.

LEGISLATIVE PROVISIONS

SUBTITLE A—MARITIME ADMINISTRATION

Section 3501—Authorization of the Maritime Administration

This section would authorize appropriations for the national security aspects of the Maritime Administration for fiscal year 2020.

Section 3502—Reauthorization of Maritime Security Program

This section would reauthorize the Maritime Security Program and extend it to 2035.

Section 3503—Maritime Occupational Safety and Health Advisory Committee

This section would amend section 656 of title 29, United States Code, and establish the Maritime Occupational Safety and Health Advisory Committee as a continuing body that does not have to be reestablished every 2 years as previously structured.

SUBTITLE B—TANKER SECURITY FLEET

Section 3511—Tanker Security Fleet

This section would authorize a tanker security fleet program.

DIVISION D—FUNDING TABLES

Section 4001—Authorization of Amounts in Funding Tables

This section would provide for the allocation of funds among programs, projects, and activities in accordance with the tables in division D of this Act, subject to reprogramming guidance in accordance with established procedures.

Consistent with the previously expressed views of the committee, this section would also require that a decision by an agency head to commit, obligate, or expend funds to a specific entity on the basis of such funding tables be based on merit-based selection procedures in accordance with the requirements of section 2304(k) and section 2374 of title 10, United States Code, and other applicable provisions of law.

SUMMARY OF NATIONAL DEFENSE AUTHORIZATIONS FOR FISCAL YEAR 2020

(In Thousands of Dollars)

	FY 2020 Request	House Change	House Authorized
DISCRETIONARY AUTHORIZATIONS WITHIN THE JURISDICTION OF THE ARMED SERVICES COMMITTEE			
National Defense Funding, Base Budget Request			
Function 051, Department of Defense-Military			
Division A: Department of Defense Authorizations			
Title I—Procurement			
Aircraft Procurement, Army	3,696,429	–8,740	3,687,689
Missile Procurement, Army	3,207,697	–166,000	3,041,697
Weapons & Tracked Combat Vehicles, Army	4,715,566	231,200	4,946,766
Procurement of Ammunition, Army	2,694,548	–140,484	2,554,064
Other Procurement, Army	7,451,301	–158,502	7,292,799
Aircraft Procurement, Navy	18,522,204	299,560	18,821,764
Weapons Procurement, Navy	4,235,244	–113,311	4,121,933
Procurement of Ammunition, Navy & Marine Corps	981,314	–102,900	878,414
Shipbuilding & Conversion, Navy	23,783,710	–1,569,325	22,214,385
Other Procurement, Navy	9,652,956	–505,989	9,146,967
Procurement, Marine Corps	3,090,449	–100,300	2,990,149
Aircraft Procurement, Air Force	16,784,279	963,522	17,747,801
Missile Procurement, Air Force	2,889,187	–33,700	2,855,487
Space Procurement, Air Force	2,414,383	–67,440	2,346,943
Procurement of Ammunition, Air Force	1,667,961	–70,000	1,597,961
Other Procurement, Air Force	21,342,857	–80,373	21,262,484
Procurement, Defense-Wide	5,114,416	–28,800	5,085,616
Joint Urgent Operational Needs Fund	99,200	–99,200	0
Subtotal, Title I—Procurement	**132,343,701**	**–1,750,782**	**130,592,919**
Title II—Research, Development, Test and Evaluation			
Research, Development, Test & Evaluation, Army	12,192,771	–181,750	12,011,021
Research, Development, Test & Evaluation, Navy	20,270,499	–411,691	19,858,808
Research, Development, Test & Evaluation, Air Force	45,938,121	–1,826,337	44,111,784
Research, Development, Test & Evaluation, Defense-Wide	24,772,953	–188,098	24,584,855
Operational Test & Evaluation, Defense	221,200	0	221,200
Subtotal, Title II—Research, Development, Test and Evaluation	**103,395,544**	**–2,607,876**	**100,787,668**
Title III—Operation and Maintenance			
Operation & Maintenance, Army	42,012,484	–1,846,985	40,165,499
Operation & Maintenance, Army Reserve	3,029,110	–6,516	3,022,594
Operation & Maintenance, Army National Guard	7,629,403	–155,400	7,474,003
Operation & Maintenance, Navy	51,125,751	–1,042,439	50,083,312
Operation & Maintenance, Marine Corps	7,926,724	–96,950	7,829,774
Operation & Maintenance, Navy Reserve	1,125,116	–15,000	1,110,116
Operation & Maintenance, Marine Corps Reserve	292,076	0	292,076
Operation & Maintenance, Air Force	44,910,832	–459,466	44,451,366
Operation & Maintenance, Space Force	72,436	–57,436	15,000

SUMMARY OF NATIONAL DEFENSE AUTHORIZATIONS FOR FISCAL YEAR 2020—Continued

(In Thousands of Dollars)

	FY 2020 Request	House Change	House Authorized
Operation & Maintenance, Air Force Reserve	3,396,818	–57,625	3,339,193
Operation & Maintenance, Air National Guard	6,727,229	–130,567	6,596,662
Operation & Maintenance, Defense-Wide	37,479,841	–110,162	37,369,679
US Court of Appeals for the Armed Forces, Defense	14,771	0	14,771
DOD Acquisition Workforce Development Fund	400,000	–25,000	375,000
Overseas Humanitarian, Disaster and Civic Aid	108,600	2,200	110,800
Cooperative Threat Reduction	338,700	0	338,700
Environmental Restoration, Army	207,518	28,291	235,809
Environmental Restoration, Navy	335,932	29,951	365,883
Environmental Restoration, Air Force	302,744	63,064	365,808
Environmental Restoration, Defense	9,105	9,897	19,002
Environmental Restoration, Formerly Used Sites	216,499	0	216,499
Subtotal, Title III—Operation and Maintenance	**207,661,689**	**–3,870,143**	**203,791,546**
Title IV—Military Personnel			
Military Personnel Appropriations	143,476,503	–1,228,000	142,248,503
Medicare-Eligible Retiree Health Fund Contributions	7,816,815	0	7,816,815
Subtotal, Title IV—Military Personnel	**151,293,318**	**–1,228,000**	**150,065,318**
Title XIV—Other Authorizations			
Working Capital Fund, Army	89,597		89,597
Working Capital Fund, Air Force	92,499		92,499
Working Capital Fund, DECA	995,030		995,030
Working Capital Fund, Defense-Wide	49,085		49,085
Working Capital Fund, Defense Counterintelligence and Security Fund	200,000		200,000
National Defense Sealift Fund	0	723,252	723,252
Chemical Agents & Munitions Destruction	985,499	–10,000	975,499
Drug Interdiction and Counter Drug Activities	799,402	–33,647	765,755
Office of the Inspector General	363,499		363,499
Defense Health Program	32,998,687	–68,000	32,930,687
Subtotal, Title XIV—Other Authorizations	**36,573,298**	**611,605**	**37,184,903**
Total, Division A: Department of Defense Authorizations	**631,267,550**	**–8,845,196**	**622,422,354**
Division B: Military Construction Authorizations			
Military Construction			
Army	1,453,499	–241,500	1,211,999
Navy	2,805,743	–53,172	2,752,571
Air Force	2,179,230	–360,100	1,819,130
Defense-Wide	2,504,190	–478,391	2,025,799
NATO Security Investment Program	144,040	27,965	172,005
Army National Guard	210,819	155,000	365,819
Army Reserve	60,928		60,928
Navy and Marine Corps Reserve	54,955		54,955
Air National Guard	165,971	7,000	172,971
Air Force Reserve	59,750	24,800	84,550

SUMMARY OF NATIONAL DEFENSE AUTHORIZATIONS FOR FISCAL YEAR 2020—Continued

(In Thousands of Dollars)

	FY 2020 Request	House Change	House Authorized
Unaccompanied Housing Improvement Fund	500		500
Subtotal, Military Construction	**9,639,625**	**–918,398**	**8,721,227**
Family Housing			
Construction, Army	141,372		141,372
Operation & Maintenance, Army	357,907	50,000	407,907
Construction, Navy and Marine Corps	47,661		47,661
Operation & Maintenance, Navy and Marine Corps	317,870	59,600	377,470
Construction, Air Force	103,631		103,631
Operation & Maintenance, Air Force	295,016	31,200	326,216
Operation & Maintenance, Defense-Wide	57,000		57,000
Improvement Fund	3,045		3,045
Subtotal, Family Housing	**1,323,502**	**140,800**	**1,464,302**
Base Realignment and Closure			
Base Realignment and Closure—Army	66,111	30,000	96,111
Base Realignment and Closure—Navy	158,349	60,000	218,349
Base Realignment and Closure—Air Force	54,066	30,000	84,066
Subtotal, Base Realignment and Closure	**278,526**	**120,000**	**398,526**
Undistributed Adjustments			
Prior Year Savings	0	–45,055	–45,055
Subtotal, Base Realignment and Closure	**0**	**–45,055**	**–45,055**
Total, Division B: Military Construction Authorizations	**11,241,653**	**–702,653**	**10,539,000**
Total, 051, Department of Defense-Military	**642,509,203**	**–9,547,849**	**632,961,354**
Division C: Department of Energy National Security Authorization and Other Authorizations			
Function 053, Atomic Energy Defense Activities			
Environmental and Other Defense Activities			
Nuclear Energy	137,808	0	137,808
Weapons Activities	12,408,603	–601,529	11,807,074
Defense Nuclear Nonproliferation	1,993,302	11,785	2,005,087
Naval Reactors	1,648,396	–16,254	1,632,142
Federal Salaries and Expenses	434,699	–24,699	410,000
Defense Environmental Cleanup	5,506,501	109,500	5,616,001
Other Defense Activities	1,035,339	0	1,035,339
Defense Nuclear Waste Disposal	26,000	–26,000	0
Subtotal, Environmental and Other Defense Activities	**23,190,648**	**–547,197**	**22,643,451**
Independent Federal Agency Authorization			
Defense Nuclear Facilities Safety Board	29,450		29,450
Subtotal, Independent Federal Agency Authorization	**29,450**	**0**	**29,450**

SUMMARY OF NATIONAL DEFENSE AUTHORIZATIONS FOR FISCAL YEAR 2020—Continued

(In Thousands of Dollars)

	FY 2020 Request	House Change	House Authorized
Subtotal, 053, Atomic Energy Defense Activities	**23,220,098**	**–547,197**	**22,672,901**
Function 054, Defense-Related Activities			
Other Agency Authorizations			
Maritime Security Program	300,000		300,000
Subtotal, Independent Federal Agency Authorization	**300,000**	**0**	**300,000**
Subtotal, 054, Defense-Related Activities	**300,000**	**0**	**300,000**
Subtotal, Division C: Department of Energy National Security Authorization and Other Authorizations	**23,520,098**	**–547,197**	**22,972,901**
Total, National Defense Funding, Base Budget Request	**666,029,301**	**–10,095,046**	**655,934,255**
National Defense Funding, Overseas Contingency Operations			
Function 051, Department of Defense-Military			
Procurement			
Aircraft Procurement, Army	381,541	–49,450	332,091
Missile Procurement, Army	1,438,058	–23,000	1,415,058
Weapons & Tracked Combat Vehicles, Army	353,454		353,454
Procurement of Ammunition, Army	148,682		148,682
Other Procurement, Army	1,131,450	–50,000	1,081,450
Aircraft Procurement, Navy	119,045	–77,000	42,045
Weapons Procurement, Navy	97,466		97,466
Procurement of Ammunition, Navy & Marine Corps	204,814		204,814
Other Procurement, Navy	357,600		357,600
Procurement, Marine Corps	20,589		20,589
Aircraft Procurement, Air Force	309,110		309,110
Missile Procurement, Air Force	201,671		201,671
Procurement of Ammunition, Air Force	939,433		939,433
Other Procurement, Air Force	3,538,098		3,538,098
Procurement, Defense-Wide	447,047	–3,000	444,047
National Guard & Reserve Equipment		415,000	415,000
Subtotal, Procurement	**9,688,058**	**212,550**	**9,900,608**
Research, Development, Test and Evaluation			
Research, Development, Test & Evaluation, Army	204,124	–8,000	196,124
Research, Development, Test & Evaluation, Navy	164,410		164,410
Research, Development, Test & Evaluation, Air Force	128,248		128,248
Research, Development, Test & Evaluation, Defense-Wide	401,950		401,950
Subtotal, Research, Development, Test and Evaluation	**898,732**	**–8,000**	**890,732**
Operation and Maintenance			

SUMMARY OF NATIONAL DEFENSE AUTHORIZATIONS FOR FISCAL YEAR 2020—Continued

(In Thousands of Dollars)

	FY 2020 Request	House Change	House Authorized
Operation & Maintenance, Army	18,772,938	1,095,000	19,867,938
Operation & Maintenance, Army Reserve	37,592		37,592
Operation & Maintenance, Army National Guard	83,291		83,291
Afghanistan Security Forces Fund	4,803,978	–300,000	4,503,978
Counter-ISIS Train and Equip Fund	1,045,000	168,000	1,213,000
Operation & Maintenance, Navy	6,561,650	664,375	7,226,025
Operation & Maintenance, Marine Corps	1,124,791		1,124,791
Operation & Maintenance, Navy Reserve	23,036		23,036
Operation & Maintenance, Marine Corps Reserve	8,707		8,707
Operation & Maintenance, Air Force	9,396,379	550,000	9,946,379
Operation & Maintenance, Air Force Reserve	29,758		29,758
Operation & Maintenance, Air National Guard	176,909		176,909
Operation & Maintenance, Defense-Wide	8,368,112	–603,290	7,764,822
Ukraine Security Assistance		250,000	250,000
Subtotal, Operation and Maintenance	**50,432,141**	**1,824,085**	**52,256,226**
Military Personnel			
Military Personnel Appropriations	4,485,808		4,485,808
Subtotal, Military Personnel	**4,485,808**	**0**	**4,485,808**
Other Authorizations			
Working Capital Fund, Army	20,100		20,100
Drug Interdiction and Counter Drug Activities	163,596	–10,496	153,100
Office of the Inspector General	24,254		24,254
Defense Health Program	347,746		347,746
Subtotal, Title XIV—Other Authorizations	**555,696**	**–10,496**	**545,200**
Military Construction			
Army	9,389,218	–9,232,358	156,860
Navy	94,570	187,006	281,576
Air Force	314,738	122,246	436,984
Defense-Wide	46,000		46,000
Subtotal, Military Construction	**9,844,526**	**–8,923,106**	**921,420**
Subtotal, 051, Department of Defense-Military	**75,904,961**	**–6,904,967**	**68,999,994**
Total, National Defense Funding, Overseas Contingency Operations Funding	**75,904,961**	**–6,904,967**	**68,999,994**
Total, National Defense	**741,934,262**	**–17,000,013**	**724,934,249**
MEMORANDUM: NON-DEFENSE AUTHORIZATIONS			
Title XIV—Armed Forces Retirement Home (Function 600)			64,300
Title XXXIV—Naval Petroleum and Oil Shale Reserves (Function 270)			14,000
MEMORANDUM: TRANSFER AUTHORITIES (NON-ADD)			
Title X—General Transfer Authority			[1,000,000]

SUMMARY OF NATIONAL DEFENSE AUTHORIZATIONS FOR FISCAL YEAR 2020—Continued

(In Thousands of Dollars)

	FY 2020 Request	House Change	House Authorized
Title XV—Special Transfer Authority			[500,000]
MEMORANDUM: DEFENSE AUTHORIZATIONS NOT UNDER THE JURISDICTION OF THE ARMED SERVICES COMMITTEE (NON-ADD)			
Defense Production Act	[34,000]		[34,000]

NATIONAL DEFENSE BUDGET AUTHORITY IMPLICATION

(In Thousands of Dollars)

	FY 2020 Request	House Change	House Authorized
Summary, Discretionary Authorizations Within the Jurisdiction of the Armed Services Committee			
SUBTOTAL, DEPARTMENT OF DEFENSE (051)	**642,509,203**	**–9,547,849**	**632,961,354**
SUBTOTAL, ATOMIC ENERGY DEFENSE PROGRAMS (053)	**23,220,098**	**–547,197**	**22,672,901**
SUBTOTAL, DEFENSE-RELATED ACTIVITIES (054)	**300,000**		**300,000**
TOTAL, NATIONAL DEFENSE (050)—BASE BILL	**666,029,301**	**–10,095,046**	**655,934,255**
TOTAL, OVERSEAS CONTINGENCY OPERATIONS	**75,904,961**	**–6,904,967**	**68,999,994**
GRAND TOTAL, NATIONAL DEFENSE	**741,934,262**	**–17,000,013**	**724,934,249**
Scoring adjustments			
Transfers to non-Defense budget functions already credited to 050 by OMB	–142,000		–142,000
Assumed reductions to previously enacted funding levels	–25,000		–25,000
Adjustments for revised BCA caps	10,000		10,000
Subtotal, Scoring Adjustments	**–157,000**		**–157,000**
Base National Defense Discretionary Programs that are Not In the Jurisdiction of the Armed Services Committee or Do Not Require Additional Authorization (CBO Estimates)			
Defense Production Act Purchases	34,000		34,000
Indefinite Account: Disposal Of DOD Real Property	8,000		8,000
Indefinite Account: Lease Of DOD Real Property	34,000		34,000
Subtotal, Budget Sub-Function 051	**76,000**		**76,000**
Other Discretionary Programs	8,146,000		8,146,000
Subtotal, Budget Sub-Function 054	**8,146,000**		**8,146,000**
Total Defense Discretionary Adjustments (050)	**8,222,000**		**8,222,000**
Budget Authority Implication, National Defense Discretionary			
Department of Defense--Military (051)	718,414,165	–16,452,816	701,961,348
Atomic Energy Defense Activities (053)	23,220,098	–547,197	22,672,901
Defense-Related Activities (054)	8,522,000		8,522,000
Total BA Implication, National Defense Discretionary	**749,999,263**	**–17,000,013**	**732,999,249**
National Defense Mandatory Programs, Current Law (CBO Baseline)			
Concurrent receipt accrual payments to the Military Retirement Fund	8,577,000		8,577,000
Revolving, trust and other DOD Mandatory	1,818,000		1,818,000
Offsetting receipts	–1,869,000		–1,869,000
Subtotal, Budget Sub-Function 051	**8,526,000**		**8,526,000**
Energy employees occupational illness compensation programs and other	1,495,000		1,495,000
Subtotal, Budget Sub-Function 053	**1,495,000**		**1,495,000**
Radiation exposure compensation trust fund	54,000		54,000
Payment to CIA retirement fund and other	514,000		514,000
Subtotal, Budget Sub-Function 054	**568,000**		**568,000**
Total National Defense Mandatory (050)	**10,589,000**		**10,589,000**
Budget Authority Implication, National Defense Discretionary and Mandatory			

NATIONAL DEFENSE BUDGET AUTHORITY IMPLICATION—Continued

(In Thousands of Dollars)

	FY 2020 Request	House Change	House Authorized
Department of Defense--Military (051)	726,940,165	–16,452,816	710,487,348
Atomic Energy Defense Activities (053)	24,715,098	–547,197	24,167,901
Defense-Related Activities (054)	9,090,000		9,090,000
Undistributed (050)			
Total BA Implication, National Defense Discretionary and Mandatory	**760,745,263**	**–17,000,013**	**743,745,249**
Memorandum: Military Construction Projects Authorized Without Authorizations of Appropriations			
Department of Defense--Military (051)	0	2,300,000	2,300,000

TITLE XLI—PROCUREMENT

SEC. 4101. PROCUREMENT.

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2020 Request		House Change		House Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
	AIRCRAFT PROCUREMENT, ARMY						
	FIXED WING						
002	UTILITY F/W AIRCRAFT	1	16,000	–1	–16,000		0
	Early to need			[–1]	[–16,000]		
004	RQ–11 (RAVEN)		23,510		–2,000		21,510
	Unit cost growth				[–2,000]		
	ROTARY						
005	TACTICAL UNMANNED AIRCRAFT SYSTEM (TUAS)		12,100				12,100
007	HELICOPTER, LIGHT UTILITY (LUH)				11,000		11,000
	Program increase for sustainment improvements				[11,000]		
008	AH–64 APACHE BLOCK IIIA REMAN	48	806,849		–20,840	48	786,009
	Unjustified cost growth				[–20,840]		
009	AH–64 APACHE BLOCK IIIA REMAN		190,870		–15,900		174,970
	Unjustified cost growth				[–15,900]		
012	UH–60 BLACKHAWK M MODEL (MYP)	73	1,411,540			73	1,411,540
013	UH–60 BLACKHAWK M MODEL (MYP)		79,572				79,572
014	UH–60 BLACK HAWK L AND V MODELS	25	169,290			25	169,290
015	CH–47 HELICOPTER	8	140,290		–9,000	8	131,290
	Unit cost growth				[–9,000]		
016	CH–47 HELICOPTER		18,186		28,000		46,186

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2020 Request		House Change		House Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
	Advanced procurement for CH–47F Block II				[28,000]		
	MODIFICATION OF AIRCRAFT						
019	UNIVERSAL GROUND CONTROL EQUIPMENT (UAS)		2,090				2,090
020	GRAY EAGLE MODS2		14,699				14,699
021	MULTI SENSOR ABN RECON (MIP)		35,189				35,189
022	AH–64 MODS		58,172				58,172
023	CH–47 CARGO HELICOPTER MODS (MYP)		11,785		–5,000		6,785
	Unobligated balances				[–5,000]		
024	GRCS SEMA MODS (MIP)		5,677				5,677
025	ARL SEMA MODS (MIP)		6,566				6,566
026	EMARSS SEMA MODS (MIP)		3,859				3,859
027	UTILITY/CARGO AIRPLANE MODS		15,476		–2,000		13,476
	Unit cost discrepancy				[–2,000]		
028	UTILITY HELICOPTER MODS		6,744				6,744
029	NETWORK AND MISSION PLAN		105,442		–7,000		98,442
	Cost growth				[–7,000]		
030	COMMS, NAV SURVEILLANCE		164,315				164,315
032	GATM ROLLUP		30,966				30,966
033	RQ–7 UAV MODS		8,983	2	30,000	2	38,983
	Program increase			[2]	[30,000]		
034	UAS MODS		10,205				10,205
	GROUND SUPPORT AVIONICS						
035	AIRCRAFT SURVIVABILITY EQUIPMENT		52,297				52,297
036	SURVIVABILITY CM		8,388				8,388
037	CMWS		13,999				13,999
038	COMMON INFRARED COUNTERMEASURES (CIRCM)		168,784				168,784

	OTHER SUPPORT						
039	AVIONICS SUPPORT EQUIPMENT		1,777				1,777
040	COMMON GROUND EQUIPMENT		18,624				18,624
041	AIRCREW INTEGRATED SYSTEMS		48,255				48,255
042	AIR TRAFFIC CONTROL		32,738				32,738
044	LAUNCHER, 2.75 ROCKET		2,201				2,201
045	LAUNCHER GUIDED MISSILE: LONGBOW HELLFIRE XM2	9	991			9	991
	TOTAL AIRCRAFT PROCUREMENT, ARMY	**164**	**3,696,429**	**1**	**–8,740**	**165**	**3,687,689**
	MISSILE PROCUREMENT, ARMY						
	SURFACE-TO-AIR MISSILE SYSTEM						
001	SYSTEM INTEGRATION AND TEST PROCUREMENT		113,857				113,857
002	M-SHORAD—PROCUREMENT	17	103,800		–47,000	17	56,800
	Early to need				[–47,000]		
003	MSE MISSILE	138	698,603			138	698,603
004	INDIRECT FIRE PROTECTION CAPABILITY INC 2–I		9,337				9,337
	AIR-TO-SURFACE MISSILE SYSTEM						
006	HELLFIRE SYS SUMMARY	1,870	193,284		–20,000	1,870	173,284
	Unit cost growth				[–20,000]		
007	JOINT AIR-TO-GROUND MSLS (JAGM)	609	233,353		–35,000	609	198,353
	Contract and schedule delays				[–35,000]		
	ANTI-TANK/ASSAULT MISSILE SYS						
008	JAVELIN (AAWS-M) SYSTEM SUMMARY	672	138,405			672	138,405
009	TOW 2 SYSTEM SUMMARY	1,460	114,340		–4,000	1,460	110,340
	Unit cost growth				[–4,000]		
010	TOW 2 SYSTEM SUMMARY		10,500				10,500
011	GUIDED MLRS ROCKET (GMLRS)	6,489	797,213		–30,000	6,489	767,213
	Program adjustment				[–30,000]		
012	MLRS REDUCED RANGE PRACTICE ROCKETS (RRPR)	2,982	27,555			2,982	27,555
014	ARMY TACTICAL MSL SYS (ATACMS)—SYS SUM	146	209,842		–25,000	146	184,842
	Excess to need				[–25,000]		
	MODIFICATIONS						

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2020 Request		House Change		House Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
016	PATRIOT MODS		279,464				279,464
017	ATACMS MODS		85,320		–5,000		80,320
	Unit cost growth				[–5,000]		
018	GMLRS MOD		5,094				5,094
019	STINGER MODS		81,615				81,615
020	AVENGER MODS		14,107				14,107
021	ITAS/TOW MODS		3,469				3,469
022	MLRS MODS		39,019				39,019
023	HIMARS MODIFICATIONS		12,483				12,483
	SPARES AND REPAIR PARTS						
024	SPARES AND REPAIR PARTS		26,444				26,444
	SUPPORT EQUIPMENT & FACILITIES						
025	AIR DEFENSE TARGETS		10,593				10,593
	TOTAL MISSILE PROCUREMENT, ARMY	**14,383**	**3,207,697**		**–166,000**	**14,383**	**3,041,697**
	PROCUREMENT OF W&TCV, ARMY						
	TRACKED COMBAT VEHICLES						
002	ARMORED MULTI PURPOSE VEHICLE (AMPV)	65	264,040		–5,000	65	259,040
	Unit cost discrepancy				[–5,000]		
	MODIFICATION OF TRACKED COMBAT VEHICLES						
003	STRYKER (MOD)		144,387		249,200		393,587
	Accelerate Stryker medium caliber weapon system—Army unfunded priority.				[249,200]		
004	STRYKER UPGRADE	152	550,000			152	550,000
005	BRADLEY PROGRAM (MOD)		638,781		–65,000		573,781
	Program delay				[–65,000]		

006	M109 FOV MODIFICATIONS		25,756			25,756
007	PALADIN INTEGRATED MANAGEMENT (PIM)	53	553,425		53	553,425
009	ASSAULT BRIDGE (MOD)		2,821			2,821
010	ASSAULT BREACHER VEHICLE	6	31,697		6	31,697
011	M88 FOV MODS		4,500			4,500
012	JOINT ASSAULT BRIDGE	44	205,517		44	205,517
013	M1 ABRAMS TANK (MOD)		348,800	60,000		408,800
	Vehicle protection system for one armored brigade			[60,000]		
014	ABRAMS UPGRADE PROGRAM	165	1,752,784		165	1,752,784
	WEAPONS & OTHER COMBAT VEHICLES					
016	MULTI-ROLE ANTI-ARMOR ANTI-PERSONNEL WEAPON S		19,420			19,420
017	GUN AUTOMATIC 30MM M230		20,000			20,000
019	MORTAR SYSTEMS		14,907			14,907
020	XM320 GRENADE LAUNCHER MODULE (GLM)		191			191
021	PRECISION SNIPER RIFLE		7,977			7,977
022	COMPACT SEMI-AUTOMATIC SNIPER SYSTEM		9,860			9,860
023	CARBINE		30,331			30,331
024	SMALL ARMS—FIRE CONTROL		8,060	–8,000		60
	Late contract award			[–8,000]		
025	COMMON REMOTELY OPERATED WEAPONS STATION		24,007			24,007
026	HANDGUN		6,174			6,174
	MOD OF WEAPONS AND OTHER COMBAT VEH					
028	MK–19 GRENADE MACHINE GUN MODS		3,737			3,737
029	M777 MODS		2,367			2,367
030	M4 CARBINE MODS		17,595			17,595
033	M240 MEDIUM MACHINE GUN MODS		8,000			8,000
034	SNIPER RIFLES MODIFICATIONS		2,426			2,426
035	M119 MODIFICATIONS		6,269			6,269
036	MORTAR MODIFICATION		1,693			1,693
037	MODIFICATIONS LESS THAN $5.0M (WOCV-WTCV)		4,327			4,327
	SUPPORT EQUIPMENT & FACILITIES					
038	ITEMS LESS THAN $5.0M (WOCV-WTCV)		3,066			3,066

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2020 Request		House Change		House Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
039	PRODUCTION BASE SUPPORT (WOCV-WTCV)		2,651				2,651
	TOTAL PROCUREMENT OF W&TCV, ARMY	**485**	**4,715,566**		**231,200**	**485**	**4,946,766**
	PROCUREMENT OF AMMUNITION, ARMY						
	SMALL/MEDIUM CAL AMMUNITION						
001	CTG, 5.56MM, ALL TYPES		68,949		–5,000		63,949
	Prior-year carryover				[–5,000]		
002	CTG, 7.62MM, ALL TYPES		114,228		–3,000		111,228
	Prior-year carryover				[–3,000]		
003	CTG, HANDGUN, ALL TYPES		17,807		–5,000		12,807
	Program adjustment				[–5,000]		
004	CTG, .50 CAL, ALL TYPES		63,966				63,966
005	CTG, 20MM, ALL TYPES		35,920		–8,000		27,920
	Unit cost growth				[–8,000]		
006	CTG, 25MM, ALL TYPES		8,990				8,990
007	CTG, 30MM, ALL TYPES		68,813		–11,584		57,229
	Prior-year carry over				[–1,134]		
	Program adjustment				[–10,450]		
008	CTG, 40MM, ALL TYPES		103,952				103,952
	MORTAR AMMUNITION						
009	60MM MORTAR, ALL TYPES		50,580		–1,000		49,580
	Unit cost discrepancy				[–1,000]		
010	81MM MORTAR, ALL TYPES		59,373		–14,700		44,673
	Contract delays				[–14,700]		
011	120MM MORTAR, ALL TYPES		125,452		–2,000		123,452
	Unit cost growth				[–2,000]		

	TANK AMMUNITION					
012	CARTRIDGES, TANK, 105MM AND 120MM, ALL TYPES		171,284	–58,200		113,084
	Unit cost growth			[–58,200]		
	ARTILLERY AMMUNITION					
013	ARTILLERY CARTRIDGES, 75MM & 105MM, ALL TYPES		44,675			44,675
014	ARTILLERY PROJECTILE, 155MM, ALL TYPES		266,037			266,037
015	PROJ 155MM EXTENDED RANGE M982	441	57,434		441	57,434
016	ARTILLERY PROPELLANTS, FUZES AND PRIMERS, ALL		271,602	–6,000		265,602
	Cost growth and unjustified product improvements			[–6,000]		
	MINES					
017	MINES & CLEARING CHARGES, ALL TYPES		55,433	–16,000		39,433
	Contract delay			[–16,000]		
	ROCKETS					
018	SHOULDER LAUNCHED MUNITIONS, ALL TYPES		74,878			74,878
019	ROCKET, HYDRA 70, ALL TYPES		175,994	–10,000		165,994
	Excess support costs			[–10,000]		
	OTHER AMMUNITION					
020	CAD/PAD, ALL TYPES		7,595			7,595
021	DEMOLITION MUNITIONS, ALL TYPES		51,651			51,651
022	GRENADES, ALL TYPES		40,592			40,592
023	SIGNALS, ALL TYPES		18,609			18,609
024	SIMULATORS, ALL TYPES		16,054			16,054
	MISCELLANEOUS					
025	AMMO COMPONENTS, ALL TYPES		5,261			5,261
026	NON-LETHAL AMMUNITION, ALL TYPES		715			715
027	ITEMS LESS THAN $5 MILLION (AMMO)		9,213			9,213
028	AMMUNITION PECULIAR EQUIPMENT		10,044			10,044
029	FIRST DESTINATION TRANSPORTATION (AMMO)		18,492			18,492
030	CLOSEOUT LIABILITIES		99			99
	PRODUCTION BASE SUPPORT					
031	INDUSTRIAL FACILITIES		474,511			474,511
032	CONVENTIONAL MUNITIONS DEMILITARIZATION		202,512			202,512

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2020 Request		House Change		House Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
033	ARMS INITIATIVE		3,833				3,833
	TOTAL PROCUREMENT OF AMMUNITION, ARMY	**441**	**2,694,548**		**–140,484**	**441**	**2,554,064**
	OTHER PROCUREMENT, ARMY						
	TACTICAL VEHICLES						
001	TACTICAL TRAILERS/DOLLY SETS		12,993				12,993
002	SEMITRAILERS, FLATBED:		102,386				102,386
003	AMBULANCE, 4 LITTER, 5/4 TON, 4X4		127,271				127,271
004	GROUND MOBILITY VEHICLES (GMV)		37,038		–2,000		35,038
	Unit cost growth				[–2,000]		
006	JOINT LIGHT TACTICAL VEHICLE	2,530	996,007		–19,500	2,530	976,507
	Army requested transfer to RDTE, A line 169				[–4,500]		
	Simulator delay				[–15,000]		
007	TRUCK, DUMP, 20T (CCE)		10,838				10,838
008	FAMILY OF MEDIUM TACTICAL VEH (FMTV)		72,057		66,000		138,057
	Program increase				[66,000]		
009	FIRETRUCKS & ASSOCIATED FIREFIGHTING EQUIP		28,048				28,048
010	FAMILY OF HEAVY TACTICAL VEHICLES (FHTV)		9,969				9,969
011	PLS ESP		6,280				6,280
012	HVY EXPANDED MOBILE TACTICAL TRUCK EXT SERV		30,841		101,000		131,841
	Program increase				[101,000]		
013	HMMWV RECAPITALIZATION PROGRAM		5,734				5,734
014	TACTICAL WHEELED VEHICLE PROTECTION KITS		45,113				45,113
015	MODIFICATION OF IN SVC EQUIP		58,946				58,946
	NON-TACTICAL VEHICLES						
017	HEAVY ARMORED VEHICLE		791				791

018	PASSENGER CARRYING VEHICLES	1,416		1,416
019	NONTACTICAL VEHICLES, OTHER	29,891		29,891
	COMM—JOINT COMMUNICATIONS			
021	SIGNAL MODERNIZATION PROGRAM	153,933	–5,000	148,933
	Excess funding for spares		[–5,000]	
022	TACTICAL NETWORK TECHNOLOGY MOD IN SVC	387,439	24,000	411,439
	ITN-M for one armored brigade combat team		[24,000]	
023	SITUATION INFORMATION TRANSPORT	46,693		46,693
025	JCSE EQUIPMENT (USRDECOM)	5,075		5,075
	COMM—SATELLITE COMMUNICATIONS			
028	DEFENSE ENTERPRISE WIDEBAND SATCOM SYSTEMS	101,189		101,189
029	TRANSPORTABLE TACTICAL COMMAND COMMUNICATIONS	77,141		77,141
030	SHF TERM	16,054		16,054
031	ASSURED POSITIONING, NAVIGATION AND TIMING	41,074	–16,160	24,914
	Contract delays		[–28,760]	
	Program cancellation		[–7,400]	
	Program increase		[20,000]	
032	SMART-T (SPACE)	10,515		10,515
033	GLOBAL BRDCST SVC—GBS	11,800		11,800
034	ENROUTE MISSION COMMAND (EMC)	8,609		8,609
	COMM—C3 SYSTEM			
038	COE TACTICAL SERVER INFRASTRUCTURE (TSI)	77,533		77,533
	COMM—COMBAT COMMUNICATIONS			
039	HANDHELD MANPACK SMALL FORM FIT (HMS)	468,026		468,026
	Program delay		[–25,000]	
	SFAB technology refresh		[25,000]	
040	RADIO TERMINAL SET, MIDS LVT(2)	23,778		23,778
044	SPIDER FAMILY OF NETWORKED MUNITIONS INCR	10,930		10,930
046	UNIFIED COMMAND SUITE	9,291	–1,000	8,291
	Excess program management costs		[–1,000]	
047	COTS COMMUNICATIONS EQUIPMENT	55,630		55,630
048	FAMILY OF MED COMM FOR COMBAT CASUALTY CARE	16,590		16,590

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2020 Request		House Change		House Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
049	ARMY COMMUNICATIONS & ELECTRONICS		43,457				43,457
	COMM—INTELLIGENCE COMM						
051	CI AUTOMATION ARCHITECTURE (MIP)		10,470				10,470
052	DEFENSE MILITARY DECEPTION INITIATIVE		3,704				3,704
	INFORMATION SECURITY						
053	FAMILY OF BIOMETRICS		1,000				1,000
054	INFORMATION SYSTEM SECURITY PROGRAM-ISSP		3,600				3,600
055	COMMUNICATIONS SECURITY (COMSEC)		160,899		–19,000		141,899
	Unit cost growth				[–19,000]		
056	DEFENSIVE CYBER OPERATIONS		61,962				61,962
057	INSIDER THREAT PROGRAM—UNIT ACTIVITY MONITO		756				756
058	PERSISTENT CYBER TRAINING ENVIRONMENT		3,000				3,000
	COMM—LONG HAUL COMMUNICATIONS						
059	BASE SUPPORT COMMUNICATIONS		31,770		–5,000		26,770
	Insufficient budget justification				[–5,000]		
	COMM—BASE COMMUNICATIONS						
060	INFORMATION SYSTEMS		159,009		–20,000		139,009
	Unjustified growth				[–15,000]		
	Unjustified growth in SRM HW				[–5,000]		
061	EMERGENCY MANAGEMENT MODERNIZATION PROGRAM		4,854				4,854
062	HOME STATION MISSION COMMAND CENTERS (HSMCC)		47,174				47,174
063	INSTALLATION INFO INFRASTRUCTURE MOD PROGRAM		297,994		–50,000		247,994
	Insufficient budget justification				[–50,000]		
	ELECT EQUIP—TACT INT REL ACT (TIARA)						
066	JTT/CIBS-M (MIP)		7,686				7,686
068	DCGS-A (MIP)		180,350				180,350

070	TROJAN (MIP)	17,368		17,368
071	MOD OF IN-SVC EQUIP (INTEL SPT) (MIP)	59,052		59,052
	ELECT EQUIP—ELECTRONIC WARFARE (EW)			
077	LIGHTWEIGHT COUNTER MORTAR RADAR	5,400		5,400
078	EW PLANNING & MANAGEMENT TOOLS (EWPMT)	7,568		7,568
079	AIR VIGILANCE (AV) (MIP)	8,953		8,953
081	MULTI-FUNCTION ELECTRONIC WARFARE (MFEW) SYST	6,420		6,420
083	COUNTERINTELLIGENCE/SECURITY COUNTERMEASURES	501		501
084	CI MODERNIZATION (MIP)	121		121
	ELECT EQUIP—TACTICAL SURV. (TAC SURV)			
085	SENTINEL MODS	115,210	–1,000	114,210
	Excess support costs		[–1,000]	
086	NIGHT VISION DEVICES	236,604	–76,000	160,604
	Insufficient justification (IVAS)		[–76,000]	
088	SMALL TACTICAL OPTICAL RIFLE MOUNTED MLRF	22,623		22,623
090	INDIRECT FIRE PROTECTION FAMILY OF SYSTEMS	29,127		29,127
091	FAMILY OF WEAPON SIGHTS (FWS)	120,883	–39,342	81,541
	Excess unit cost growth		[–39,342]	
094	JOINT BATTLE COMMAND—PLATFORM (JBC-P)	265,667	–25,500	240,167
	Program adjustment		[–25,500]	
095	JOINT EFFECTS TARGETING SYSTEM (JETS)	69,720	–25,000	44,720
	Program delay		[–25,000]	
096	MOD OF IN-SVC EQUIP (LLDR)	6,044		6,044
097	COMPUTER BALLISTICS: LHMBC XM32	3,268		3,268
098	MORTAR FIRE CONTROL SYSTEM	13,199		13,199
099	MORTAR FIRE CONTROL SYSTEMS MODIFICATIONS	10,000		10,000
100	COUNTERFIRE RADARS	16,416		16,416
	ELECT EQUIP—TACTICAL C2 SYSTEMS			
102	FIRE SUPPORT C2 FAMILY	13,197		13,197
103	AIR & MSL DEFENSE PLANNING & CONTROL SYS	24,730		24,730
104	IAMD BATTLE COMMAND SYSTEM	29,629		29,629
105	LIFE CYCLE SOFTWARE SUPPORT (LCSS)	6,774		6,774

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2020 Request		House Change		House Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
106	NETWORK MANAGEMENT INITIALIZATION AND SERVICE		24,448				24,448
107	MANEUVER CONTROL SYSTEM (MCS)		260				260
108	GLOBAL COMBAT SUPPORT SYSTEM-ARMY (GCSS-A)		17,962				17,962
109	INTEGRATED PERSONNEL AND PAY SYSTEM-ARMY (IPP		18,674				18,674
110	RECONNAISSANCE AND SURVEYING INSTRUMENT SET		11,000				11,000
111	MOD OF IN-SVC EQUIPMENT (ENFIRE)		7,317		8,000		15,317
	Program increase—land surveying systems				[8,000]		
	ELECT EQUIP—AUTOMATION						
112	ARMY TRAINING MODERNIZATION		14,578				14,578
113	AUTOMATED DATA PROCESSING EQUIP		139,342		–10,000		129,342
	Program decrease				[–5,000]		
	Unjustified growth				[–5,000]		
114	GENERAL FUND ENTERPRISE BUSINESS SYSTEMS FAM		15,802				15,802
115	HIGH PERF COMPUTING MOD PGM (HPCMP)		67,610				67,610
116	CONTRACT WRITING SYSTEM		15,000				15,000
117	CSS COMMUNICATIONS		24,700				24,700
118	RESERVE COMPONENT AUTOMATION SYS (RCAS)		27,879				27,879
	ELECT EQUIP—AUDIO VISUAL SYS (A/V)						
120	ITEMS LESS THAN $5M (SURVEYING EQUIPMENT)		5,000				5,000
	ELECT EQUIP—SUPPORT						
122	BCT EMERGING TECHNOLOGIES		22,302				22,302
	CLASSIFIED PROGRAMS						
122A	CLASSIFIED PROGRAMS		11,910				11,910
	CHEMICAL DEFENSIVE EQUIPMENT						
126	CBRN DEFENSE		25,828				25,828
127	SMOKE & OBSCURANT FAMILY: SOF (NON AAO ITEM)		5,050				5,050

	BRIDGING EQUIPMENT			
128	TACTICAL BRIDGING	59,821	–2,000	57,821
	Contract delays		[–2,000]	
129	TACTICAL BRIDGE, FLOAT-RIBBON	57,661		57,661
130	BRIDGE SUPPLEMENTAL SET	17,966		17,966
131	COMMON BRIDGE TRANSPORTER (CBT) RECAP	43,155		43,155
	ENGINEER (NON-CONSTRUCTION) EQUIPMENT			
132	HANDHELD STANDOFF MINEFIELD DETECTION SYS-HST	7,570		7,570
133	GRND STANDOFF MINE DETECTN SYSM (GSTAMIDS)	37,025		37,025
135	HUSKY MOUNTED DETECTION SYSTEM (HMDS)	83,082	–29,000	54,082
	Unjustified unit cost growth		[–29,000]	
136	ROBOTIC COMBAT SUPPORT SYSTEM (RCSS)	2,000		2,000
137	EOD ROBOTICS SYSTEMS RECAPITALIZATION	23,115		23,115
138	ROBOTICS AND APPLIQUE SYSTEMS	101,056		101,056
140	RENDER SAFE SETS KITS OUTFITS	18,684		18,684
142	FAMILY OF BOATS AND MOTORS	8,245	–2,000	6,245
	Unit cost growth		[–2,000]	
	COMBAT SERVICE SUPPORT EQUIPMENT			
143	HEATERS AND ECU'S	7,336		7,336
145	PERSONNEL RECOVERY SUPPORT SYSTEM (PRSS)	4,281		4,281
146	GROUND SOLDIER SYSTEM	111,955		111,955
147	MOBILE SOLDIER POWER	31,364	–2,000	29,364
	Unit cost growth		[–2,000]	
149	FIELD FEEDING EQUIPMENT	1,673		1,673
150	CARGO AERIAL DEL & PERSONNEL PARACHUTE SYSTEM	43,622		43,622
151	FAMILY OF ENGR COMBAT AND CONSTRUCTION SETS	11,451		11,451
152	ITEMS LESS THAN $5M (ENG SPT)	5,167		5,167
	PETROLEUM EQUIPMENT			
154	DISTRIBUTION SYSTEMS, PETROLEUM & WATER	74,867		74,867
	MEDICAL EQUIPMENT			
155	COMBAT SUPPORT MEDICAL	68,225		68,225
	MAINTENANCE EQUIPMENT			

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2020 Request		House Change		House Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
156	MOBILE MAINTENANCE EQUIPMENT SYSTEMS		55,053				55,053
157	ITEMS LESS THAN $5.0M (MAINT EQ)		5,608				5,608
	CONSTRUCTION EQUIPMENT						
161	HYDRAULIC EXCAVATOR		500				500
162	TRACTOR, FULL TRACKED		4,835				4,835
163	ALL TERRAIN CRANES		23,936				23,936
164	HIGH MOBILITY ENGINEER EXCAVATOR (HMEE)		27,188				27,188
166	CONST EQUIP ESP		34,790				34,790
167	ITEMS LESS THAN $5.0M (CONST EQUIP)		4,381				4,381
	RAIL FLOAT CONTAINERIZATION EQUIPMENT						
168	ARMY WATERCRAFT ESP		35,194				35,194
169	MANEUVER SUPPORT VESSEL (MSV)		14,185				14,185
170	ITEMS LESS THAN $5.0M (FLOAT/RAIL)		6,920				6,920
	GENERATORS						
171	GENERATORS AND ASSOCIATED EQUIP		58,566				58,566
172	TACTICAL ELECTRIC POWER RECAPITALIZATION		14,814				14,814
	MATERIAL HANDLING EQUIPMENT						
173	FAMILY OF FORKLIFTS		14,864				14,864
	TRAINING EQUIPMENT						
174	COMBAT TRAINING CENTERS SUPPORT		123,411				123,411
175	TRAINING DEVICES, NONSYSTEM		220,707				220,707
176	SYNTHETIC TRAINING ENVIRONMENT (STE)		20,749		–5,000		15,749
	Program adjustment				[–5,000]		
178	AVIATION COMBINED ARMS TACTICAL TRAINER		4,840				4,840
179	GAMING TECHNOLOGY IN SUPPORT OF ARMY TRAINING		15,463				15,463
	TEST MEASURE AND DIG EQUIPMENT (TMD)						

180	CALIBRATION SETS EQUIPMENT		3,030				3,030
181	INTEGRATED FAMILY OF TEST EQUIPMENT (IFTE)		76,980				76,980
182	TEST EQUIPMENT MODERNIZATION (TEMOD)		16,415		–3,000		13,415
	Historical underexecution				[–3,000]		
	OTHER SUPPORT EQUIPMENT						
184	RAPID EQUIPPING SOLDIER SUPPORT EQUIPMENT		9,877				9,877
185	PHYSICAL SECURITY SYSTEMS (OPA3)		82,158				82,158
186	BASE LEVEL COMMON EQUIPMENT		15,340				15,340
187	MODIFICATION OF IN-SVC EQUIPMENT (OPA–3)		50,458				50,458
189	BUILDING, PRE-FAB, RELOCATABLE		14,400				14,400
190	SPECIAL EQUIPMENT FOR USER TESTING		9,821				9,821
	OPA2						
192	INITIAL SPARES—C&E		9,757				9,757
	TOTAL OTHER PROCUREMENT, ARMY	**2,530**	**7,451,301**		**–158,502**	**2,530**	**7,292,799**
	AIRCRAFT PROCUREMENT, NAVY						
	COMBAT AIRCRAFT						
001	F/A–18E/F (FIGHTER) HORNET	24	1,748,934		–18,000	24	1,730,934
	ECO and ancillary equipment excess growth				[–18,000]		
002	F/A–18E/F (FIGHTER) HORNET		55,128		–4,000		51,128
	Excess engine cost growth				[–4,000]		
003	JOINT STRIKE FIGHTER CV	20	2,272,301		–110,000	20	2,162,301
	Target cost savings				[–110,000]		
004	JOINT STRIKE FIGHTER CV		339,053				339,053
005	JSF STOVL	10	1,342,035		–86,000	10	1,256,035
	Target cost savings				[–86,000]		
006	JSF STOVL		291,804				291,804
007	CH–53K (HEAVY LIFT)	6	807,876			6	807,876
008	CH–53K (HEAVY LIFT)		215,014				215,014
009	V–22 (MEDIUM LIFT)	10	966,666	4	218,100	14	1,184,766
	Program increase			[4]	[248,100]		
	Support cost growth				[–30,000]		

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2020 Request		House Change		House Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
010	V–22 (MEDIUM LIFT)		27,104				27,104
011	H–1 UPGRADES (UH–1Y/AH–1Z)		62,003				62,003
013	MH–60R (MYP)		894				894
014	P–8A POSEIDON	6	1,206,701	3	429,900	9	1,636,601
	Contract negotiations savings				[–42,900]		
	Line shutdown costs early to need				[–68,400]		
	Navy unfunded priority			[3]	[541,200]		
016	E–2D ADV HAWKEYE	4	744,484	1	152,300	5	896,784
	GFE excess cost growth				[–3,500]		
	Navy unfunded priority			[1]	[173,000]		
	NRE excess cost growth				[–17,200]		
017	E–2D ADV HAWKEYE		190,204				190,204
	TRAINER AIRCRAFT						
019	ADVANCED HELICOPTER TRAINING SYSTEM	32	261,160			32	261,160
	OTHER AIRCRAFT						
020	KC–130J	3	240,840		–19,000	3	221,840
	Unit cost growth				[–19,000]		
021	KC–130J		66,061				66,061
022	F–5	22	39,676			22	39,676
023	MQ–4 TRITON	2	473,134		–25,000	2	448,134
	PGSE excess cost growth				[–25,000]		
024	MQ–4 TRITON		20,139				20,139
025	MQ–8 UAV		44,957				44,957
026	STUASLO UAV		43,819				43,819
028	VH–92A EXECUTIVE HELO	6	658,067			6	658,067
	MODIFICATION OF AIRCRAFT						

029	AEA SYSTEMS	44,470		44,470
030	AV–8 SERIES	39,472		39,472
031	ADVERSARY	3,415		3,415
032	F–18 SERIES	1,207,089	–69,000	1,138,089
	Accelerate RWR modernization		[10,000]	
	Early to need		[–79,000]	
033	H–53 SERIES	68,385		68,385
034	MH–60 SERIES	149,797	2,500	152,297
	Demonstrate alternative low frequency active sonars		[2,500]	
035	H–1 SERIES	114,059		114,059
036	EP–3 SERIES	8,655		8,655
038	E–2 SERIES	117,059		117,059
039	TRAINER A/C SERIES	5,616		5,616
040	C–2A	15,747		15,747
041	C–130 SERIES	122,671		122,671
042	FEWSG	509		509
043	CARGO/TRANSPORT A/C SERIES	8,767		8,767
044	E–6 SERIES	169,827		169,827
045	EXECUTIVE HELICOPTERS SERIES	8,933		8,933
047	T–45 SERIES	186,022	–1,708	184,314
	NRE previously funded		[–1,708]	
048	POWER PLANT CHANGES	16,136		16,136
049	JPATS SERIES	21,824		21,824
050	AVIATION LIFE SUPPORT MODS	39,762		39,762
051	COMMON ECM EQUIPMENT	162,839	–3,274	159,565
	Program decrease		[–3,274]	
052	COMMON AVIONICS CHANGES	102,107	–27,000	75,107
	Computing and displays concurrency and equipment growth early to need.		[–27,000]	
053	COMMON DEFENSIVE WEAPON SYSTEM	2,100		2,100
054	ID SYSTEMS	41,437	–7,800	33,637
	Unjustified unit cost growth		[–7,800]	

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2020 Request		House Change		House Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
055	P–8 SERIES		107,539				107,539
056	MAGTF EW FOR AVIATION		26,536				26,536
057	MQ–8 SERIES		34,686				34,686
058	V–22 (TILT/ROTOR ACFT) OSPREY		325,367				325,367
059	NEXT GENERATION JAMMER (NGJ)		6,223				6,223
060	F–35 STOVL SERIES		65,585				65,585
061	F–35 CV SERIES		15,358				15,358
062	QRC		165,016		–18,458		146,558
	Program decrease				[–18,458]		
063	MQ–4 SERIES		27,994				27,994
064	RQ–21 SERIES		66,282				66,282
	AIRCRAFT SPARES AND REPAIR PARTS						
067	SPARES AND REPAIR PARTS		2,166,788		–64,000		2,102,788
	MQ–4 Triton spares excess growth				[–64,000]		
	AIRCRAFT SUPPORT EQUIP & FACILITIES						
068	COMMON GROUND EQUIPMENT		491,025		–21,000		470,025
	Other flight training previously funded				[–21,000]		
069	AIRCRAFT INDUSTRIAL FACILITIES		71,335				71,335
070	WAR CONSUMABLES		41,086		–9,000		32,086
	BRU–61 previously funded				[–9,000]		
072	SPECIAL SUPPORT EQUIPMENT		135,740		–20,000		115,740
	Program decrease				[–20,000]		
073	FIRST DESTINATION TRANSPORTATION		892				892
	TOTAL AIRCRAFT PROCUREMENT, NAVY	**145**	**18,522,204**	**8**	**299,560**	**153**	**18,821,764**
	WEAPONS PROCUREMENT, NAVY						

	MODIFICATION OF MISSILES					
001	TRIDENT II MODS		1,177,251	–19,600		1,157,651
	W76–2 low-yield deployment			[–19,600]		
	SUPPORT EQUIPMENT & FACILITIES					
002	MISSILE INDUSTRIAL FACILITIES		7,142			7,142
	STRATEGIC MISSILES					
003	TOMAHAWK	90	386,730		90	386,730
	TACTICAL MISSILES					
004	AMRAAM	169	224,502	–33,000	169	191,502
	Unit cost growth			[–33,000]		
005	SIDEWINDER	292	119,456		292	119,456
007	STANDARD MISSILE	125	404,523	–25,000	125	379,523
	SM–6 multi-year procurement savings			[–25,000]		
008	STANDARD MISSILE		96,085			96,085
009	SMALL DIAMETER BOMB II	750	118,466		750	118,466
010	RAM	120	106,765		120	106,765
012	HELLFIRE	29	1,525		29	1,525
015	AERIAL TARGETS		145,880			145,880
016	DRONES AND DECOYS	30	20,000		30	20,000
017	OTHER MISSILE SUPPORT		3,388			3,388
018	LRASM	48	143,200	25,000	48	168,200
	Navy unfunded priority			[25,000]		
019	LCS OTH MISSILE	18	38,137		18	38,137
	MODIFICATION OF MISSILES					
020	ESSM	60	128,059	–10,000	60	118,059
	Production support excess to need			[–10,000]		
021	HARPOON MODS		25,447			25,447
022	HARM MODS		183,740			183,740
023	STANDARD MISSILES MODS		22,500			22,500
	SUPPORT EQUIPMENT & FACILITIES					
024	WEAPONS INDUSTRIAL FACILITIES		1,958			1,958
025	FLEET SATELLITE COMM FOLLOW-ON		67,380			67,380

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2020 Request		House Change		House Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
	ORDNANCE SUPPORT EQUIPMENT						
027	ORDNANCE SUPPORT EQUIPMENT		109,427				109,427
	TORPEDOES AND RELATED EQUIP						
028	SSTD		5,561				5,561
029	MK–48 TORPEDO	58	114,000	13	16,000	71	130,000
	Program increase			[13]	[16,000]		
030	ASW TARGETS		15,095				15,095
	MOD OF TORPEDOES AND RELATED EQUIP						
031	MK–54 TORPEDO MODS		119,453		–8,000		111,453
	HAAWC cost growth				[–8,000]		
032	MK–48 TORPEDO ADCAP MODS		39,508				39,508
033	QUICKSTRIKE MINE		5,183				5,183
	SUPPORT EQUIPMENT						
034	TORPEDO SUPPORT EQUIPMENT		79,028				79,028
035	ASW RANGE SUPPORT		3,890				3,890
	DESTINATION TRANSPORTATION						
036	FIRST DESTINATION TRANSPORTATION		3,803				3,803
	GUNS AND GUN MOUNTS						
037	SMALL ARMS AND WEAPONS		14,797				14,797
	MODIFICATION OF GUNS AND GUN MOUNTS						
038	CIWS MODS		44,126		–44,126		0
	Unjustified OCO request				[–44,126]		
039	COAST GUARD WEAPONS		44,980				44,980
040	GUN MOUNT MODS		66,376				66,376
041	LCS MODULE WEAPONS	120	14,585	–120	–14,585		0
	Program decrease			[–120]	[–14,585]		

043	AIRBORNE MINE NEUTRALIZATION SYSTEMS		7,160				7,160
	SPARES AND REPAIR PARTS						
045	SPARES AND REPAIR PARTS		126,138				126,138
	TOTAL WEAPONS PROCUREMENT, NAVY	**1,909**	**4,235,244**	**–107**	**–113,311**	**1,802**	**4,121,933**
	PROCUREMENT OF AMMO, NAVY & MC						
	NAVY AMMUNITION						
001	GENERAL PURPOSE BOMBS		36,028		–16,000		20,028
	Fuze contract delay and unit cost growth				[–16,000]		
002	JDAM	2,844	70,413		–7,500	2,844	62,913
	JDAM tail kit unit cost growth				[–7,500]		
003	AIRBORNE ROCKETS, ALL TYPES		31,756		–9,500		22,256
	Unit cost growth				[–9,500]		
004	MACHINE GUN AMMUNITION		4,793				4,793
005	PRACTICE BOMBS		34,708		–7,500		27,208
	Q1300 LGTR unit cost growth				[–7,500]		
006	CARTRIDGES & CART ACTUATED DEVICES		45,738		–7,000		38,738
	Contract and schedule delays				[–7,000]		
007	AIR EXPENDABLE COUNTERMEASURES		77,301		–9,500		67,801
	Unit cost growth				[–9,500]		
008	JATOS		7,262				7,262
009	5 INCH/54 GUN AMMUNITION		22,594				22,594
010	INTERMEDIATE CALIBER GUN AMMUNITION		37,193				37,193
011	OTHER SHIP GUN AMMUNITION		39,491		–10,000		29,491
	CART 20MM contract award delay				[–10,000]		
012	SMALL ARMS & LANDING PARTY AMMO		47,896				47,896
013	PYROTECHNIC AND DEMOLITION		10,621				10,621
015	AMMUNITION LESS THAN $5 MILLION		2,386				2,386
	MARINE CORPS AMMUNITION						
016	MORTARS		55,543		–5,000		50,543
	Prior year underexecution				[–5,000]		
017	DIRECT SUPPORT MUNITIONS		131,765				131,765

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2020 Request		House Change		House Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
018	INFANTRY WEAPONS AMMUNITION		78,056		–3,500		74,556
	Underexecution and schedule delays				[–3,500]		
019	COMBAT SUPPORT MUNITIONS		40,048		–6,000		34,048
	Unit cost growth				[–6,000]		
020	AMMO MODERNIZATION		14,325				14,325
021	ARTILLERY MUNITIONS		188,876		–21,400		167,476
	DA 54 contract delay				[–21,400]		
022	ITEMS LESS THAN $5 MILLION		4,521				4,521
	TOTAL PROCUREMENT OF AMMO, NAVY & MC	**2,844**	**981,314**		**–102,900**	**2,844**	**878,414**
	SHIPBUILDING AND CONVERSION, NAVY						
	FLEET BALLISTIC MISSILE SHIPS						
001	OHIO REPLACEMENT SUBMARINE		1,698,907		125,000		1,823,907
	Submarine supplier development				[125,000]		
	OTHER WARSHIPS						
002	CARRIER REPLACEMENT PROGRAM	1	2,347,000	–1	–395,000		1,952,000
	Basic construction/conversion excess cost growth				[–302,000]		
	CVN–81 previously authorized			[–1]			
	Propulsion equipment excess cost growth				[–93,000]		
003	VIRGINIA CLASS SUBMARINE	3	7,155,946		–550,000	3	6,605,946
	Block V MYP savings redirected to fund USS Boise, USS Hartford, and USS Columbus availabilities.				[–550,000]		
004	VIRGINIA CLASS SUBMARINE		2,769,552				2,769,552
005	CVN REFUELING OVERHAULS	1	647,926		–194,000	1	453,926
	CVN–74 RCOH basic construction/conversion excess cost growth				[–165,000]		
	CVN–74 RCOH ordnance excess cost growth				[–46,000]		

	CVN–75 RCOH restoration				[17,000]		
007	DDG 1000		155,944				155,944
008	DDG–51	3	5,099,295		–86,000	3	5,013,295
	Basic ship construction excess cost growth				[–86,000]		
009	DDG–51		224,028				224,028
011	FFG-FRIGATE	1	1,281,177		–15,000	1	1,266,177
	Change order early to need				[–15,000]		
	AMPHIBIOUS SHIPS						
012	LPD FLIGHT II			1	100,000	1	100,000
	Quantity increase			[1]			
	Transfer from line 13				[100,000]		
013	LPD FLIGHT II		247,100		–100,000		147,100
	Transfer to line 12				[–100,000]		
017	EXPEDITIONARY FAST TRANSPORT (EPF)				49,000		49,000
	Medical transport modification for EPF–14 Navy unfunded priority				[49,000]		
	AUXILIARIES, CRAFT AND PRIOR YR PROGRAM COST						
018	TAO FLEET OILER	2	981,215	–1	–374,000	1	607,215
	Full funding early to need			[–1]	[–447,000]		
	Transfer from Line 19				[73,000]		
019	TAO FLEET OILER		73,000		–73,000		0
	Transfer to Line 18				[–73,000]		
020	TOWING, SALVAGE, AND RESCUE SHIP (ATS)	2	150,282			2	150,282
022	LCU 1700	4	85,670			4	85,670
023	OUTFITTING		754,679		–111,125		643,554
	ESB–9 Outfitting early to need				[–11,125]		
	Excess cost growth				[–100,000]		
024	SHIP TO SHORE CONNECTOR			1	84,800	1	84,800
	Program increase			[1]	[130,000]		
	Program decrease				[–45,200]		
025	SERVICE CRAFT		56,289				56,289
028	COMPLETION OF PY SHIPBUILDING PROGRAMS		55,700		–30,000		25,700
	ESB change order prior year carryover				[–30,000]		

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2020 Request		House Change		House Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
	TOTAL SHIPBUILDING AND CONVERSION, NAVY	**17**	**23,783,710**		**–1,569,325**	**17**	**22,214,385**
	OTHER PROCUREMENT, NAVY						
	SHIP PROPULSION EQUIPMENT						
001	SURFACE POWER EQUIPMENT		14,490				14,490
	GENERATORS						
002	SURFACE COMBATANT HM&E		31,583		–8,080		23,503
	Excess cost growth				[–8,080]		
	NAVIGATION EQUIPMENT						
003	OTHER NAVIGATION EQUIPMENT		77,404		–16,574		60,830
	Excess cost growth				[–16,574]		
	OTHER SHIPBOARD EQUIPMENT						
004	SUB PERISCOPE, IMAGING AND SUPT EQUIP PROG		160,803				160,803
005	DDG MOD		566,140				566,140
006	FIREFIGHTING EQUIPMENT		18,223				18,223
007	COMMAND AND CONTROL SWITCHBOARD		2,086				2,086
008	LHA/LHD MIDLIFE		95,651		–31,000		64,651
	Excess cost growth				[–31,000]		
009	POLLUTION CONTROL EQUIPMENT		23,910				23,910
010	SUBMARINE SUPPORT EQUIPMENT		44,895		–19,595		25,300
	Acoustic superiority early to need				[–11,855]		
	Excess cost growth				[–7,740]		
011	VIRGINIA CLASS SUPPORT EQUIPMENT		28,465				28,465
012	LCS CLASS SUPPORT EQUIPMENT		19,426				19,426
013	SUBMARINE BATTERIES		26,290				26,290
014	LPD CLASS SUPPORT EQUIPMENT		46,945				46,945

015	DDG 1000 CLASS SUPPORT EQUIPMENT	9,930		9,930
016	STRATEGIC PLATFORM SUPPORT EQUIP	14,331		14,331
017	DSSP EQUIPMENT	2,909		2,909
018	CG MODERNIZATION	193,990		193,990
019	LCAC	3,392		3,392
020	UNDERWATER EOD PROGRAMS	71,240		71,240
021	ITEMS LESS THAN $5 MILLION	102,543		102,543
022	CHEMICAL WARFARE DETECTORS	2,961		2,961
023	SUBMARINE LIFE SUPPORT SYSTEM	6,635		6,635
	REACTOR PLANT EQUIPMENT			
024	REACTOR POWER UNITS	5,340		5,340
025	REACTOR COMPONENTS	465,726		465,726
	OCEAN ENGINEERING			
026	DIVING AND SALVAGE EQUIPMENT	11,854	–1,148	10,706
	Excess cost growth		[–1,148]	
	SMALL BOATS			
027	STANDARD BOATS	79,102	–5,135	73,967
	Excess cost growth		[–5,135]	
	PRODUCTION FACILITIES EQUIPMENT			
028	OPERATING FORCES IPE	202,238		202,238
	OTHER SHIP SUPPORT			
029	LCS COMMON MISSION MODULES EQUIPMENT	51,553	–18,316	33,237
	Excess cost growth		[–18,316]	
030	LCS MCM MISSION MODULES	197,129	–120,000	77,129
	Excess cost growth		[–120,000]	
031	LCS ASW MISSION MODULES	27,754	–2,500	25,254
	Demonstrate alternate low frequency active sonar		[2,500]	
	Excess cost growth		[–5,000]	
032	LCS SUW MISSION MODULES	26,566	–12,000	14,566
	Excess cost growth		[–12,000]	
033	LCS IN-SERVICE MODERNIZATION	84,972		84,972
034	SMALL & MEDIUM UUV	40,547	–29,946	10,601

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2020 Request		House Change		House Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
	Early to need				[–29,946]		
	LOGISTIC SUPPORT						
035	LSD MIDLIFE & MODERNIZATION		40,269				40,269
	SHIP SONARS						
036	SPQ–9B RADAR		26,195				26,195
037	AN/SQQ–89 SURF ASW COMBAT SYSTEM		125,237				125,237
038	SSN ACOUSTIC EQUIPMENT		366,968		–12,000		354,968
	Low cost conformal array contract delay				[–12,000]		
039	UNDERSEA WARFARE SUPPORT EQUIPMENT		8,967				8,967
	ASW ELECTRONIC EQUIPMENT						
040	SUBMARINE ACOUSTIC WARFARE SYSTEM		23,545				23,545
041	SSTD		12,439				12,439
042	FIXED SURVEILLANCE SYSTEM		128,441				128,441
043	SURTASS		21,923				21,923
	ELECTRONIC WARFARE EQUIPMENT						
044	AN/SLQ–32		420,154				420,154
	RECONNAISSANCE EQUIPMENT						
045	SHIPBOARD IW EXPLOIT		194,758				194,758
046	AUTOMATED IDENTIFICATION SYSTEM (AIS)		5,368				5,368
	OTHER SHIP ELECTRONIC EQUIPMENT						
047	COOPERATIVE ENGAGEMENT CAPABILITY		35,128				35,128
048	NAVAL TACTICAL COMMAND SUPPORT SYSTEM (NTCSS)		15,154				15,154
049	ATDLS		52,753				52,753
050	NAVY COMMAND AND CONTROL SYSTEM (NCCS)		3,390				3,390
051	MINESWEEPING SYSTEM REPLACEMENT		19,448				19,448
052	SHALLOW WATER MCM		8,730				8,730

053	NAVSTAR GPS RECEIVERS (SPACE)	32,674		32,674
054	AMERICAN FORCES RADIO AND TV SERVICE	2,617		2,617
055	STRATEGIC PLATFORM SUPPORT EQUIP	7,973		7,973
	AVIATION ELECTRONIC EQUIPMENT			
056	ASHORE ATC EQUIPMENT	72,406		72,406
057	AFLOAT ATC EQUIPMENT	67,410		67,410
058	ID SYSTEMS	26,059	–10,595	15,464
	OE–120/UPX antenna insufficient budget justification		[–10,595]	
059	JOINT PRECISION APPROACH AND LANDING SYSTEM	92,695	–31,347	61,348
	Early to need		[–31,347]	
060	NAVAL MISSION PLANNING SYSTEMS	15,296		15,296
	OTHER SHORE ELECTRONIC EQUIPMENT			
061	TACTICAL/MOBILE C4I SYSTEMS	36,226		36,226
062	DCGS-N	21,788		21,788
063	CANES	426,654	–30,000	396,654
	Program decrease		[–30,000]	
064	RADIAC	6,450		6,450
065	CANES-INTELL	52,713		52,713
066	GPETE	13,028		13,028
067	MASF	5,193		5,193
068	INTEG COMBAT SYSTEM TEST FACILITY	6,028		6,028
069	EMI CONTROL INSTRUMENTATION	4,209		4,209
070	ITEMS LESS THAN $5 MILLION	168,436	–16,843	151,593
	Excess cost growth		[–16,843]	
	SHIPBOARD COMMUNICATIONS			
071	SHIPBOARD TACTICAL COMMUNICATIONS	55,853		55,853
072	SHIP COMMUNICATIONS AUTOMATION	137,861	–20,000	117,861
	STACC cost growth		[–20,000]	
073	COMMUNICATIONS ITEMS UNDER $5M	35,093		35,093
	SUBMARINE COMMUNICATIONS			
074	SUBMARINE BROADCAST SUPPORT	50,833		50,833
075	SUBMARINE COMMUNICATION EQUIPMENT	69,643	–9,000	60,643

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2020 Request		House Change		House Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
	Buoy shape improvement unjustified request				[–9,000]		
	SATELLITE COMMUNICATIONS						
076	SATELLITE COMMUNICATIONS SYSTEMS		45,841				45,841
077	NAVY MULTIBAND TERMINAL (NMT)		88,021				88,021
	SHORE COMMUNICATIONS						
078	JOINT COMMUNICATIONS SUPPORT ELEMENT (JCSE)		4,293				4,293
	CRYPTOGRAPHIC EQUIPMENT						
079	INFO SYSTEMS SECURITY PROGRAM (ISSP)		166,540				166,540
080	MIO INTEL EXPLOITATION TEAM		968				968
	CRYPTOLOGIC EQUIPMENT						
081	CRYPTOLOGIC COMMUNICATIONS EQUIP		13,090				13,090
	OTHER ELECTRONIC SUPPORT						
083	COAST GUARD EQUIPMENT		61,370				61,370
	SONOBUOYS						
085	SONOBUOYS—ALL TYPES		260,644		35,700		296,344
	Navy unfunded priority				[35,700]		
	AIRCRAFT SUPPORT EQUIPMENT						
086	MINOTAUR		5,000				5,000
087	WEAPONS RANGE SUPPORT EQUIPMENT		101,843		–7,000		94,843
	Excess cost growth				[–7,000]		
088	AIRCRAFT SUPPORT EQUIPMENT		145,601		–33,420		112,181
	Excess cost growth				[–20,000]		
	Program decrease				[–13,420]		
089	ADVANCED ARRESTING GEAR (AAG)		4,725				4,725
090	METEOROLOGICAL EQUIPMENT		14,687				14,687
092	LEGACY AIRBORNE MCM		19,250				19,250

093	LAMPS EQUIPMENT	792		792
094	AVIATION SUPPORT EQUIPMENT	55,415	–3,000	52,415
	Contract delay		[–3,000]	
095	UMCS-UNMAN CARRIER AVIATION(UCA)MISSION CNTRL	32,668		32,668
	SHIP GUN SYSTEM EQUIPMENT			
096	SHIP GUN SYSTEMS EQUIPMENT	5,451		5,451
	SHIP MISSILE SYSTEMS EQUIPMENT			
097	HARPOON SUPPORT EQUIPMENT	1,100		1,100
098	SHIP MISSILE SUPPORT EQUIPMENT	228,104	15,200	243,304
	Excess cost growth		[–25,000]	
	Program increase		[40,200]	
099	TOMAHAWK SUPPORT EQUIPMENT	78,593		78,593
	FBM SUPPORT EQUIPMENT			
100	STRATEGIC MISSILE SYSTEMS EQUIP	280,510		280,510
	ASW SUPPORT EQUIPMENT			
101	SSN COMBAT CONTROL SYSTEMS	148,547	–10,000	138,547
	Excess cost growth		[–10,000]	
102	ASW SUPPORT EQUIPMENT	21,130		21,130
	OTHER ORDNANCE SUPPORT EQUIPMENT			
103	EXPLOSIVE ORDNANCE DISPOSAL EQUIP	15,244		15,244
104	ITEMS LESS THAN $5 MILLION	5,071		5,071
	OTHER EXPENDABLE ORDNANCE			
105	ANTI-SHIP MISSILE DECOY SYSTEM	41,962		41,962
106	SUBMARINE TRAINING DEVICE MODS	75,057		75,057
107	SURFACE TRAINING EQUIPMENT	233,175	–43,922	189,253
	LCS trainer equipment early to need		[–43,922]	
	CIVIL ENGINEERING SUPPORT EQUIPMENT			
108	PASSENGER CARRYING VEHICLES	4,562		4,562
109	GENERAL PURPOSE TRUCKS	10,974		10,974
110	CONSTRUCTION & MAINTENANCE EQUIP	43,191		43,191
111	FIRE FIGHTING EQUIPMENT	21,142	–9,500	11,642
	Contract delays		[–9,500]	

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2020 Request		House Change		House Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
112	TACTICAL VEHICLES		33,432		–1,400		32,032
	JLTV contract delay				[–1,400]		
114	POLLUTION CONTROL EQUIPMENT		2,633				2,633
115	ITEMS UNDER $5 MILLION		53,467				53,467
116	PHYSICAL SECURITY VEHICLES		1,173				1,173
	SUPPLY SUPPORT EQUIPMENT						
117	SUPPLY EQUIPMENT		16,730				16,730
118	FIRST DESTINATION TRANSPORTATION		5,389				5,389
119	SPECIAL PURPOSE SUPPLY SYSTEMS		654,674				654,674
	TRAINING DEVICES						
120	TRAINING SUPPORT EQUIPMENT		3,633				3,633
121	TRAINING AND EDUCATION EQUIPMENT		97,636		–15,100		82,536
	Reduction in one Training Support Vessel				[–15,100]		
	COMMAND SUPPORT EQUIPMENT						
122	COMMAND SUPPORT EQUIPMENT		66,102		–16,000		50,102
	Prior year underexecution				[–16,000]		
123	MEDICAL SUPPORT EQUIPMENT		3,633				3,633
125	NAVAL MIP SUPPORT EQUIPMENT		6,097				6,097
126	OPERATING FORCES SUPPORT EQUIPMENT		16,905				16,905
127	C4ISR EQUIPMENT		30,146				30,146
128	ENVIRONMENTAL SUPPORT EQUIPMENT		21,986				21,986
129	PHYSICAL SECURITY EQUIPMENT		160,046				160,046
130	ENTERPRISE INFORMATION TECHNOLOGY		56,899				56,899
	OTHER						
133	NEXT GENERATION ENTERPRISE SERVICE		122,832				122,832
	CLASSIFIED PROGRAMS						

133A	CLASSIFIED PROGRAMS		16,346			16,346
	SPARES AND REPAIR PARTS					
134	SPARES AND REPAIR PARTS		375,608	–23,468		352,140
	JPALS spares early to need			[–8,137]		
	LCS spares early to need			[–15,331]		
	TOTAL OTHER PROCUREMENT, NAVY		**9,652,956**	**–505,989**		**9,146,967**
	PROCUREMENT, MARINE CORPS					
	TRACKED COMBAT VEHICLES					
001	AAV7A1 PIP		39,495			39,495
002	AMPHIBIOUS COMBAT VEHICLE 1.1	56	317,935	–4,800	56	313,135
	Excess engineering change orders			[–4,800]		
003	LAV PIP		60,734			60,734
	ARTILLERY AND OTHER WEAPONS					
004	155MM LIGHTWEIGHT TOWED HOWITZER		25,065			25,065
005	ARTILLERY WEAPONS SYSTEM		100,002	–10,000		90,002
	Equipment previously funded and cost growth			[–10,000]		
006	WEAPONS AND COMBAT VEHICLES UNDER $5 MILLION		31,945			31,945
	OTHER SUPPORT					
007	MODIFICATION KITS		22,760			22,760
	GUIDED MISSILES					
008	GROUND BASED AIR DEFENSE		175,998			175,998
009	ANTI-ARMOR MISSILE-JAVELIN	97	20,207		97	20,207
010	FAMILY ANTI-ARMOR WEAPON SYSTEMS (FOAAWS)		21,913			21,913
011	ANTI-ARMOR MISSILE-TOW		60,501			60,501
012	GUIDED MLRS ROCKET (GMLRS)	210	29,062	–1,000	210	28,062
	Unit cost discrepancy			[–1,000]		
	COMMAND AND CONTROL SYSTEMS					
013	COMMON AVIATION COMMAND AND CONTROL SYSTEM (C		37,203	–5,000		32,203
	AN/MRQ–13 communications subsystems upgrades unjustified growth			[–5,000]		
	REPAIR AND TEST EQUIPMENT					
014	REPAIR AND TEST EQUIPMENT		55,156			55,156

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2020 Request		House Change		House Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
	OTHER SUPPORT (TEL)						
015	MODIFICATION KITS		4,945				4,945
	COMMAND AND CONTROL SYSTEM (NON-TEL)						
016	ITEMS UNDER $5 MILLION (COMM & ELEC)		112,124		–29,000		83,124
	Unit cost growth				[–29,000]		
017	AIR OPERATIONS C2 SYSTEMS		17,408				17,408
	RADAR + EQUIPMENT (NON-TEL)						
018	RADAR SYSTEMS		329				329
019	GROUND/AIR TASK ORIENTED RADAR (G/ATOR)	8	273,022			8	273,022
	INTELL/COMM EQUIPMENT (NON-TEL)						
021	GCSS-MC		4,484				4,484
022	FIRE SUPPORT SYSTEM		35,488				35,488
023	INTELLIGENCE SUPPORT EQUIPMENT		56,896		–2,500		54,396
	Unjustified growth				[–2,500]		
025	UNMANNED AIR SYSTEMS (INTEL)		34,711				34,711
026	DCGS-MC		32,562				32,562
	OTHER SUPPORT (NON-TEL)						
030	NEXT GENERATION ENTERPRISE NETWORK (NGEN)		114,901				114,901
031	COMMON COMPUTER RESOURCES		51,094				51,094
032	COMMAND POST SYSTEMS		108,897				108,897
033	RADIO SYSTEMS		227,320		–15,000		212,320
	Cost growth and early to need				[–15,000]		
034	COMM SWITCHING & CONTROL SYSTEMS		31,685		–8,000		23,685
	ECP small form factor previously funded				[–8,000]		
035	COMM & ELEC INFRASTRUCTURE SUPPORT		21,140				21,140
036	CYBERSPACE ACTIVITIES		27,632				27,632

	CLASSIFIED PROGRAMS						
036A	CLASSIFIED PROGRAMS		5,535				5,535
	ADMINISTRATIVE VEHICLES						
037	COMMERCIAL CARGO VEHICLES		28,913				28,913
	TACTICAL VEHICLES						
038	MOTOR TRANSPORT MODIFICATIONS		19,234				19,234
039	JOINT LIGHT TACTICAL VEHICLE	1,398	558,107		–2,000	1,398	556,107
	ECP previously funded				[–2,000]		
040	FAMILY OF TACTICAL TRAILERS		2,693				2,693
	ENGINEER AND OTHER EQUIPMENT						
041	ENVIRONMENTAL CONTROL EQUIP ASSORT		495				495
042	TACTICAL FUEL SYSTEMS		52				52
043	POWER EQUIPMENT ASSORTED		22,441				22,441
044	AMPHIBIOUS SUPPORT EQUIPMENT		7,101				7,101
045	EOD SYSTEMS		44,700				44,700
	MATERIALS HANDLING EQUIPMENT						
046	PHYSICAL SECURITY EQUIPMENT		15,404				15,404
	GENERAL PROPERTY						
047	FIELD MEDICAL EQUIPMENT		2,898				2,898
048	TRAINING DEVICES		149,567		–23,000		126,567
	ODS unjustified request				[–23,000]		
049	FAMILY OF CONSTRUCTION EQUIPMENT		35,622				35,622
050	ULTRA-LIGHT TACTICAL VEHICLE (ULTV)		647				647
	OTHER SUPPORT						
051	ITEMS LESS THAN $5 MILLION		10,956				10,956
	SPARES AND REPAIR PARTS						
052	SPARES AND REPAIR PARTS		33,470				33,470
	TOTAL PROCUREMENT, MARINE CORPS	**1,769**	**3,090,449**		**–100,300**	**1,769**	**2,990,149**
	AIRCRAFT PROCUREMENT, AIR FORCE						
	TACTICAL FORCES						
001	F–35	48	4,274,359	12	852,050	60	5,126,409

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2020 Request		House Change		House Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
	Program increase			[12]	[1,042,800]		
	Target cost savings				[–190,750]		
002	F–35		655,500				655,500
003	F–15E	8	1,050,000		–109,000	8	941,000
	Unjustified non-recurring engineering				[–109,000]		
	TACTICAL AIRLIFT						
005	KC–46A MDAP	12	2,234,529		–34,824	12	2,199,705
	Excess to need				[–34,824]		
	OTHER AIRLIFT						
006	C–130J		12,156	4	392,000	4	404,156
	Program increase			[4]	[392,000]		
008	MC–130J	8	871,207			8	871,207
009	MC–130J		40,000				40,000
	HELICOPTERS						
010	COMBAT RESCUE HELICOPTER	12	884,235		–8,000	12	876,235
	Excess to need				[–8,000]		
	MISSION SUPPORT AIRCRAFT						
011	C–37A	2	161,000			2	161,000
012	CIVIL AIR PATROL A/C	4	2,767			4	2,767
	OTHER AIRCRAFT						
014	TARGET DRONES	37	130,837			37	130,837
015	COMPASS CALL	1	114,095			1	114,095
017	MQ–9	3	189,205	12	123,800	15	313,005
	Program increase			[12]	[137,800]		
	Unit cost growth				[–14,000]		
	STRATEGIC AIRCRAFT						

019	B–2A	9,582				9,582
020	B–1B	22,111				22,111
021	B–52	69,648				69,648
022	LARGE AIRCRAFT INFRARED COUNTERMEASURES	43,758				43,758
	TACTICAL AIRCRAFT					
023	A–10	132,069				132,069
024	E–11 BACN/HAG	70,027	1	20,000	1	90,027
	Aircraft increase		[1]	[20,000]		
025	F–15	481,073		–630		480,443
	F–15C MUOS ahead of need			[–630]		
026	F–16	234,782				234,782
028	F–22A	323,597				323,597
030	F–35 MODIFICATIONS	343,590				343,590
031	F–15 EPAW	149,047		–124,000		25,047
	Prior-year carryover			[–124,000]		
032	INCREMENT 3.2B	20,213				20,213
033	KC–46A MDAP	10,213		–6,574		3,639
	Excess to need			[–6,574]		
	AIRLIFT AIRCRAFT					
034	C–5	73,550				73,550
036	C–17A	60,244				60,244
037	C–21	216				216
038	C–32A	11,511				11,511
039	C–37A	435				435
	TRAINER AIRCRAFT					
040	GLIDER MODS	138				138
041	T–6	11,826				11,826
042	T–1	26,787				26,787
043	T–38	37,341		7,700		45,041
	T–38 A/B ejection seat safety			[7,700]		
	OTHER AIRCRAFT					
044	U–2 MODS	86,896		33,000		119,896

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2020 Request		House Change		House Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
	Increase for U–2 enhancements				[33,000]		
045	KC–10A (ATCA)		2,108				2,108
046	C–12		3,021				3,021
047	VC–25A MOD		48,624				48,624
048	C–40		256				256
049	C–130		52,066		134,000		186,066
	3.5 Engine Enhancement Package				[79,000]		
	NP–2000 prop blade upgrades				[55,000]		
050	C–130J MODS		141,686				141,686
051	C–135		124,491				124,491
053	COMPASS CALL		110,754				110,754
054	COMBAT FLIGHT INSPECTION—CFIN		508				508
055	RC–135		227,673				227,673
056	E–3		216,299				216,299
057	E–4		58,477				58,477
058	E–8		28,778		28,000		56,778
	Increase for re-engining				[28,000]		
059	AIRBORNE WARNING AND CNTRL SYS (AWACS) 40/45		36,000				36,000
060	FAMILY OF BEYOND LINE-OF-SIGHT TERMINALS		7,910				7,910
061	H–1		3,817				3,817
062	H–60		20,879				20,879
063	RQ–4 MODS		1,704				1,704
064	HC/MC–130 MODIFICATIONS		51,482				51,482
065	OTHER AIRCRAFT		50,098				50,098
066	MQ–9 MODS		383,594		–132,000		251,594
	Production rate adjustment of DAS–4 sensor				[–132,000]		

068	CV–22 MODS		65,348				65,348
	AIRCRAFT SPARES AND REPAIR PARTS						
069	INITIAL SPARES/REPAIR PARTS		708,230		–123,400		584,830
	Unjustified F–15C requirements				[–123,400]		
	COMMON SUPPORT EQUIPMENT						
072	AIRCRAFT REPLACEMENT SUPPORT EQUIP		84,938				84,938
	POST PRODUCTION SUPPORT						
073	B–2A		1,403				1,403
074	B–2B		42,234				42,234
075	B–52		4,641				4,641
076	C–17A		124,805				124,805
079	F–15		2,589				2,589
081	F–16		15,348		–600		14,748
	Line shutdown early to need				[–600]		
084	RQ–4 POST PRODUCTION CHARGES		47,246				47,246
	INDUSTRIAL PREPAREDNESS						
086	INDUSTRIAL RESPONSIVENESS		17,705				17,705
	WAR CONSUMABLES						
087	WAR CONSUMABLES		32,102				32,102
	OTHER PRODUCTION CHARGES						
088	OTHER PRODUCTION CHARGES		1,194,728		–88,000		1,106,728
	F–22 NGEN lab excess				[–72,000]		
	RQ–4 delayed obligations				[–16,000]		
	CLASSIFIED PROGRAMS						
090A	CLASSIFIED PROGRAMS		34,193				34,193
	TOTAL AIRCRAFT PROCUREMENT, AIR FORCE	**135**	**16,784,279**	**29**	**963,522**	**164**	**17,747,801**
	MISSILE PROCUREMENT, AIR FORCE						
	MISSILE REPLACEMENT EQUIPMENT—BALLISTIC						
001	MISSILE REPLACEMENT EQ-BALLISTIC		55,888				55,888
	TACTICAL						
002	REPLAC EQUIP & WAR CONSUMABLES		9,100				9,100

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2020 Request		House Change		House Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
003	JOINT AIR-TO-GROUND MUNITION	60	15,000		–15,000	60	0
	Unjustified requirement (JAGM-F)				[–15,000]		
004	JOINT AIR-SURFACE STANDOFF MISSILE	411	482,525			411	482,525
006	SIDEWINDER (AIM–9X)	355	160,408			355	160,408
007	AMRAAM	220	332,250			220	332,250
008	PREDATOR HELLFIRE MISSILE	1,531	118,860		–7,700	1,531	111,160
	Unit cost savings				[–7,700]		
009	SMALL DIAMETER BOMB	7,078	275,438			7,078	275,438
010	SMALL DIAMETER BOMB II	1,175	212,434		–11,000	1,175	201,434
	Unit cost growth				[–11,000]		
	INDUSTRIAL FACILITIES						
011	INDUSTR'L PREPAREDNS/POL PREVENTION		801				801
	CLASS IV						
012	ICBM FUZE MOD	6	5,000			6	5,000
013	ICBM FUZE MOD		14,497				14,497
014	MM III MODIFICATIONS		50,831				50,831
015	AGM–65D MAVERICK		294				294
016	AIR LAUNCH CRUISE MISSILE (ALCM)		77,387				77,387
	MISSILE SPARES AND REPAIR PARTS						
018	MSL SPRS/REPAIR PARTS (INITIAL)		1,910				1,910
019	REPLEN SPARES/REPAIR PARTS		82,490				82,490
	SPECIAL PROGRAMS						
023	SPECIAL UPDATE PROGRAMS		144,553				144,553
	CLASSIFIED PROGRAMS						
023A	CLASSIFIED PROGRAMS		849,521				849,521
	TOTAL MISSILE PROCUREMENT, AIR FORCE	**10,836**	**2,889,187**		**–33,700**	**10,836**	**2,855,487**

	SPACE PROCUREMENT, AIR FORCE					
	SPACE PROGRAMS					
001	ADVANCED EHF		31,894			31,894
002	AF SATELLITE COMM SYSTEM		56,298			56,298
004	COUNTERSPACE SYSTEMS		5,700			5,700
005	FAMILY OF BEYOND LINE-OF-SIGHT TERMINALS		34,020	–10,000		24,020
	Unjustified growth			[–10,000]		
007	GENERAL INFORMATION TECH—SPACE		3,244			3,244
008	GPSIII FOLLOW ON	1	414,625		1	414,625
009	GPS III SPACE SEGMENT		31,466			31,466
012	SPACEBORNE EQUIP (COMSEC)		32,031			32,031
013	MILSATCOM		11,096			11,096
015	EVOLVED EXPENDABLE LAUNCH VEH(SPACE)	4	1,237,635		4	1,237,635
016	SBIR HIGH (SPACE)		233,952	–15,940		218,012
	Unjustified growth			[–15,940]		
017	NUDET DETECTION SYSTEM		7,432			7,432
018	ROCKET SYSTEMS LAUNCH PROGRAM		11,473			11,473
019	SPACE FENCE		71,784	–21,500		50,284
	Unjustified growth			[–21,500]		
020	SPACE MODS		106,330	–20,000		86,330
	Unjustified growth			[–20,000]		
021	SPACELIFT RANGE SYSTEM SPACE		118,140			118,140
	SSPARES					
022	SPARES AND REPAIR PARTS		7,263			7,263
	TOTAL SPACE PROCUREMENT, AIR FORCE	**5**	**2,414,383**	**–67,440**	**5**	**2,346,943**
	PROCUREMENT OF AMMUNITION, AIR FORCE					
	ROCKETS					
001	ROCKETS		133,268	–18,000		115,268
	APKWS Mk 66 rocket motor price adjustment			[–18,000]		
	CARTRIDGES					

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2020 Request		House Change		House Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
002	CARTRIDGES		140,449				140,449
	BOMBS						
003	PRACTICE BOMBS		29,313				29,313
004	GENERAL PURPOSE BOMBS		85,885				85,885
006	JOINT DIRECT ATTACK MUNITION	37,000	1,066,224		–47,000	37,000	1,019,224
	LJDAM sensor cost adjustment				[–10,000]		
	Tailkit unit cost adjustment				[–37,000]		
007	B61	533	80,773			533	80,773
	OTHER ITEMS						
009	CAD/PAD		47,069				47,069
010	EXPLOSIVE ORDNANCE DISPOSAL (EOD)		6,133				6,133
011	SPARES AND REPAIR PARTS		533				533
012	MODIFICATIONS		1,291				1,291
013	ITEMS LESS THAN $5,000,000		1,677				1,677
	FLARES						
015	FLARES		36,116				36,116
	FUZES						
016	FUZES		1,734				1,734
	SMALL ARMS						
017	SMALL ARMS		37,496		–5,000		32,496
	Program decrease				[–5,000]		
	TOTAL PROCUREMENT OF AMMUNITION, AIR FORCE	**37,533**	**1,667,961**		**–70,000**	**37,533**	**1,597,961**
	OTHER PROCUREMENT, AIR FORCE						
	PASSENGER CARRYING VEHICLES						
001	PASSENGER CARRYING VEHICLES		15,238				15,238

	CARGO AND UTILITY VEHICLES			
002	MEDIUM TACTICAL VEHICLE	34,616	–5,000	29,616
	Unjustified unit cost increases		[–5,000]	
003	CAP VEHICLES	1,040	2,527	3,567
	Program increase—communications		[1,867]	
	Program increase—vehicles		[660]	
004	CARGO AND UTILITY VEHICLES	23,133	–4,545	18,588
	Program increase		[455]	
	Program reduction		[–5,000]	
	SPECIAL PURPOSE VEHICLES			
005	JOINT LIGHT TACTICAL VEHICLE	32,027	–10,000	22,027
	Program reduction		[–10,000]	
006	SECURITY AND TACTICAL VEHICLES	1,315		1,315
007	SPECIAL PURPOSE VEHICLES	14,593	–5,000	9,593
	Program reduction—prior year carryover		[–5,000]	
	FIRE FIGHTING EQUIPMENT			
008	FIRE FIGHTING/CRASH RESCUE VEHICLES	28,604		28,604
	MATERIALS HANDLING EQUIPMENT			
009	MATERIALS HANDLING VEHICLES	21,848		21,848
	BASE MAINTENANCE SUPPORT			
010	RUNWAY SNOW REMOV AND CLEANING EQU	2,925	334	3,259
	Program increase		[334]	
011	BASE MAINTENANCE SUPPORT VEHICLES	55,776	–2,900	52,876
	Program increase		[2,100]	
	Program reduction		[–5,000]	
	COMM SECURITY EQUIPMENT(COMSEC)			
013	COMSEC EQUIPMENT	91,461		91,461
	INTELLIGENCE PROGRAMS			
014	INTERNATIONAL INTEL TECH & ARCHITECTURES	11,386		11,386
015	INTELLIGENCE TRAINING EQUIPMENT	7,619		7,619
016	INTELLIGENCE COMM EQUIPMENT	35,558	–3,500	32,058
	IMAD unjustified procurement		[–3,500]	

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2020 Request		House Change		House Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
	ELECTRONICS PROGRAMS						
017	AIR TRAFFIC CONTROL & LANDING SYS		17,939				17,939
019	BATTLE CONTROL SYSTEM—FIXED		3,063				3,063
021	WEATHER OBSERVATION FORECAST		31,447				31,447
022	STRATEGIC COMMAND AND CONTROL		5,090				5,090
023	CHEYENNE MOUNTAIN COMPLEX		10,145				10,145
024	MISSION PLANNING SYSTEMS		14,508				14,508
026	INTEGRATED STRAT PLAN & ANALY NETWORK (ISPAN)		9,901				9,901
	SPCL COMM-ELECTRONICS PROJECTS						
027	GENERAL INFORMATION TECHNOLOGY		26,933				26,933
028	AF GLOBAL COMMAND & CONTROL SYS		2,756				2,756
029	BATTLEFIELD AIRBORNE CONTROL NODE (BACN)		48,478				48,478
030	MOBILITY COMMAND AND CONTROL		21,186				21,186
031	AIR FORCE PHYSICAL SECURITY SYSTEM		178,361		–20,000		158,361
	Program reduction				[–20,000]		
032	COMBAT TRAINING RANGES		233,993	2	13,600	2	247,593
	Joint threat emitter increase			[2]	[13,600]		
033	MINIMUM ESSENTIAL EMERGENCY COMM N		132,648				132,648
034	WIDE AREA SURVEILLANCE (WAS)		80,818		–32,889		47,929
	Program decrease				[–32,889]		
035	C3 COUNTERMEASURES		25,036				25,036
036	INTEGRATED PERSONNEL AND PAY SYSTEM		20,900				20,900
037	GCSS-AF FOS		11,226				11,226
038	DEFENSE ENTERPRISE ACCOUNTING & MGT SYS		1,905				1,905
039	MAINTENANCE REPAIR & OVERHAUL INITIATIVE		1,912				1,912
040	THEATER BATTLE MGT C2 SYSTEM		6,337				6,337

041	AIR & SPACE OPERATIONS CENTER (AOC)	33,243		33,243
	AIR FORCE COMMUNICATIONS			
043	BASE INFORMATION TRANSPT INFRAST (BITI) WIRED	69,530	–10,000	59,530
	Program decrease		[–10,000]	
044	AFNET	147,063		147,063
045	JOINT COMMUNICATIONS SUPPORT ELEMENT (JCSE)	6,505		6,505
046	USCENTCOM	20,190		20,190
047	USSTRATCOM	11,244		11,244
	ORGANIZATION AND BASE			
048	TACTICAL C-E EQUIPMENT	143,757		143,757
050	RADIO EQUIPMENT	15,402		15,402
051	CCTV/AUDIOVISUAL EQUIPMENT	3,211		3,211
052	BASE COMM INFRASTRUCTURE	43,123		43,123
	MODIFICATIONS			
053	COMM ELECT MODS	14,500		14,500
	PERSONAL SAFETY & RESCUE EQUIP			
054	PERSONAL SAFETY AND RESCUE EQUIPMENT	50,634	–3,000	47,634
	Unit cost increase and early to need		[–3,000]	
	DEPOT PLANT+MTRLS HANDLING EQ			
055	POWER CONDITIONING EQUIPMENT	11,000		11,000
056	MECHANIZED MATERIAL HANDLING EQUIP	11,901		11,901
	BASE SUPPORT EQUIPMENT			
057	BASE PROCURED EQUIPMENT	23,963		23,963
058	ENGINEERING AND EOD EQUIPMENT	34,124		34,124
059	MOBILITY EQUIPMENT	26,439		26,439
060	FUELS SUPPORT EQUIPMENT (FSE)	24,255		24,255
061	BASE MAINTENANCE AND SUPPORT EQUIPMENT	38,986		38,986
	SPECIAL SUPPORT PROJECTS			
063	DARP RC135	26,716		26,716
064	DCGS-AF	116,055		116,055
066	SPECIAL UPDATE PROGRAM	835,148		835,148
	CLASSIFIED PROGRAMS			

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2020 Request		House Change		House Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
066A	CLASSIFIED PROGRAMS		18,292,807				18,292,807
	SPARES AND REPAIR PARTS						
067	SPARES AND REPAIR PARTS		81,340				81,340
	TOTAL OTHER PROCUREMENT, AIR FORCE		**21,342,857**	**2**	**–80,373**	**2**	**21,262,484**
	PROCUREMENT, DEFENSE-WIDE						
	MAJOR EQUIPMENT, OSD						
022	MAJOR EQUIPMENT, DPAA	32	1,504			32	1,504
045	MAJOR EQUIPMENT, OSD		43,705				43,705
	MAJOR EQUIPMENT, NSA						
044	INFORMATION SYSTEMS SECURITY PROGRAM (ISSP)		1,533		–1,400		133
	Realignment to DISA for Sharkseer				[–1,400]		
	MAJOR EQUIPMENT, WHS						
049	MAJOR EQUIPMENT, WHS		507				507
	MAJOR EQUIPMENT, DISA						
008	INFORMATION SYSTEMS SECURITY		3,318		1,400		4,718
	Realignment for Sharkseer				[1,400]		
009	TELEPORT PROGRAM		25,103				25,103
010	ITEMS LESS THAN $5 MILLION		26,416				26,416
012	DEFENSE INFORMATION SYSTEM NETWORK		17,574				17,574
014	WHITE HOUSE COMMUNICATION AGENCY		45,079				45,079
015	SENIOR LEADERSHIP ENTERPRISE		78,669				78,669
016	JOINT REGIONAL SECURITY STACKS (JRSS)		88,000		–5,000		83,000
	Program decrease				[–5,000]		
017	JOINT SERVICE PROVIDER		107,907				107,907
	MAJOR EQUIPMENT, DLA						

019	MAJOR EQUIPMENT		8,122		8,122
	MAJOR EQUIPMENT, DSS				
023	MAJOR EQUIPMENT		496		496
	MAJOR EQUIPMENT, TJS				
046	MAJOR EQUIPMENT, TJS		6,905		6,905
047	MAJOR EQUIPMENT—TJS CYBER		1,458		1,458
	MAJOR EQUIPMENT, MISSILE DEFENSE AGENCY				
028	THAAD	37	425,863	37	425,863
029	GROUND BASED MIDCOURSE		9,471		9,471
031	AEGIS BMD	37	600,773	37	600,773
032	AEGIS BMD		96,995		96,995
033	BMDS AN/TPY–2 RADARS		10,046		10,046
034	ARROW 3 UPPER TIER SYSTEMS	1	55,000	1	55,000
035	SHORT RANGE BALLISTIC MISSILE DEFENSE (SRBMD)	1	50,000	1	50,000
036	AEGIS ASHORE PHASE III	1	25,659	1	25,659
037	IRON DOME	1	95,000	1	95,000
038	AEGIS BMD HARDWARE AND SOFTWARE	36	124,986	36	124,986
	MAJOR EQUIPMENT, DHRA				
003	PERSONNEL ADMINISTRATION		5,030		5,030
	MAJOR EQUIPMENT, DEFENSE THREAT REDUCTION AGENCY				
025	VEHICLES		211		211
026	OTHER MAJOR EQUIPMENT		11,521		11,521
	MAJOR EQUIPMENT, DODEA				
021	AUTOMATION/EDUCATIONAL SUPPORT & LOGISTICS		1,320		1,320
	MAJOR EQUIPMENT, DCMA				
002	MAJOR EQUIPMENT		2,432		2,432
	MAJOR EQUIPMENT, DMACT				
020	MAJOR EQUIPMENT		10,961		10,961
	CLASSIFIED PROGRAMS				
049A	CLASSIFIED PROGRAMS		589,366		589,366
	AVIATION PROGRAMS				
053	ROTARY WING UPGRADES AND SUSTAINMENT		172,020		172,020

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2020 Request		House Change		House Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
054	UNMANNED ISR		15,208				15,208
055	NON-STANDARD AVIATION		32,310				32,310
056	U–28		10,898				10,898
057	MH–47 CHINOOK		173,812		–3,500		170,312
	Excess growth				[–3,500]		
058	CV–22 MODIFICATION		17,256				17,256
059	MQ–9 UNMANNED AERIAL VEHICLE		5,338				5,338
060	PRECISION STRIKE PACKAGE		232,930				232,930
061	AC/MC–130J		173,419		–20,300		153,119
	Realignment for RFCM				[–8,500]		
	Realignment to Future Vertical Lift				[–8,800]		
	RFCM excess to need				[–3,000]		
062	C–130 MODIFICATIONS		15,582				15,582
	SHIPBUILDING						
063	UNDERWATER SYSTEMS		58,991				58,991
	AMMUNITION PROGRAMS						
064	ORDNANCE ITEMS <$5M		279,992				279,992
	OTHER PROCUREMENT PROGRAMS						
065	INTELLIGENCE SYSTEMS		100,641				100,641
066	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS		12,522				12,522
067	OTHER ITEMS <$5M		103,910				103,910
068	COMBATANT CRAFT SYSTEMS		33,088				33,088
069	SPECIAL PROGRAMS		63,467				63,467
070	TACTICAL VEHICLES		77,832				77,832
071	WARRIOR SYSTEMS <$5M		298,480				298,480
072	COMBAT MISSION REQUIREMENTS		19,702				19,702

073	GLOBAL VIDEO SURVEILLANCE ACTIVITIES		4,787				4,787
074	OPERATIONAL ENHANCEMENTS INTELLIGENCE		8,175				8,175
075	OPERATIONAL ENHANCEMENTS		282,532				282,532
	CBDP						
076	CHEMICAL BIOLOGICAL SITUATIONAL AWARENESS		162,406				162,406
077	CB PROTECTION & HAZARD MITIGATION		188,188				188,188
	TOTAL PROCUREMENT, DEFENSE-WIDE	**146**	**5,114,416**		**–28,800**	**146**	**5,085,616**
	JOINT URGENT OPERATIONAL NEEDS FUND						
	JOINT URGENT OPERATIONAL NEEDS FUND						
001	JOINT URGENT OPERATIONAL NEEDS FUND		99,200		–99,200		0
	Program decrease				[–99,200]		
	TOTAL JOINT URGENT OPERATIONAL NEEDS FUND		**99,200**		**–99,200**		**0**
	TOTAL PROCUREMENT	**73,342**	**132,343,701**	**–67**	**–1,750,782**	**73,275**	**130,592,919**

SEC. 4102. PROCUREMENT FOR OVERSEAS CONTINGENCY OPERATIONS.

SEC. 4102. PROCUREMENT FOR OVERSEAS CONTINGENCY OPERATIONS
(In Thousands of Dollars)

Line	Item	FY 2020 Request		House Change		House Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
	AIRCRAFT PROCUREMENT, ARMY						
	FIXED WING						
003	MQ–1 UAV	6	54,000			6	54,000
	ROTARY						
015	CH–47 HELICOPTER	1	25,000			1	25,000
	MODIFICATION OF AIRCRAFT						
021	MULTI SENSOR ABN RECON (MIP)		80,260				80,260
024	GRCS SEMA MODS (MIP)		750				750
026	EMARSS SEMA MODS (MIP)		22,180				22,180
027	UTILITY/CARGO AIRPLANE MODS		8,362				8,362
029	NETWORK AND MISSION PLAN		10				10
031	DEGRADED VISUAL ENVIRONMENT		49,450		–49,450		0
	Early to need				[–49,450]		
	GROUND SUPPORT AVIONICS						
037	CMWS		130,219				130,219
038	COMMON INFRARED COUNTERMEASURES (CIRCM)		9,310				9,310
	OTHER SUPPORT						
045	LAUNCHER GUIDED MISSILE: LONGBOW HELLFIRE XM2	12	2,000			12	2,000
	TOTAL AIRCRAFT PROCUREMENT, ARMY	**18**	**381,541**		**–49,450**	**18**	**332,091**
	MISSILE PROCUREMENT, ARMY						
	SURFACE-TO-AIR MISSILE SYSTEM						
002	M-SHORAD—PROCUREMENT	27	158,300			27	158,300
003	MSE MISSILE	9	37,938			9	37,938

	AIR-TO-SURFACE MISSILE SYSTEM					
006	HELLFIRE SYS SUMMARY	3,242	236,265		3,242	236,265
	ANTI-TANK/ASSAULT MISSILE SYS					
008	JAVELIN (AAWS-M) SYSTEM SUMMARY	25	4,389		25	4,389
011	GUIDED MLRS ROCKET (GMLRS)	3,364	431,596		3,364	431,596
014	ARMY TACTICAL MSL SYS (ATACMS)—SYS SUM	94	130,770		94	130,770
015	LETHAL MINIATURE AERIAL MISSILE SYSTEM (LMAMS	1,835	83,300		1,835	83,300
	MODIFICATIONS					
019	STINGER MODS		7,500			7,500
022	MLRS MODS		348,000	–23,000		325,000
	Excess to need			[–23,000]		
	TOTAL MISSILE PROCUREMENT, ARMY	**8,596**	**1,438,058**	**–23,000**	**8,596**	**1,415,058**
	PROCUREMENT OF W&TCV, ARMY					
	TRACKED COMBAT VEHICLES					
002	ARMORED MULTI PURPOSE VEHICLE (AMPV)	66	221,638		66	221,638
	MODIFICATION OF TRACKED COMBAT VEHICLES					
003	STRYKER (MOD)		4,100			4,100
008	IMPROVED RECOVERY VEHICLE (M88A2 HERCULES)	16	80,146		16	80,146
013	M1 ABRAMS TANK (MOD)		13,100			13,100
	WEAPONS & OTHER COMBAT VEHICLES					
015	M240 MEDIUM MACHINE GUN (7.62MM)		900			900
016	MULTI-ROLE ANTI-ARMOR ANTI-PERSONNEL WEAPON S		2,400			2,400
019	MORTAR SYSTEMS		18,941			18,941
020	XM320 GRENADE LAUNCHER MODULE (GLM)		526			526
023	CARBINE		1,183			1,183
025	COMMON REMOTELY OPERATED WEAPONS STATION		4,182			4,182
026	HANDGUN		248			248
	MOD OF WEAPONS AND OTHER COMBAT VEH					
031	M2 50 CAL MACHINE GUN MODS		6,090			6,090
	TOTAL PROCUREMENT OF W&TCV, ARMY	**82**	**353,454**		**82**	**353,454**

SEC. 4102. PROCUREMENT FOR OVERSEAS CONTINGENCY OPERATIONS
(In Thousands of Dollars)

Line	Item	FY 2020 Request		House Change		House Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
	PROCUREMENT OF AMMUNITION, ARMY						
	SMALL/MEDIUM CAL AMMUNITION						
001	CTG, 5.56MM, ALL TYPES		567				567
002	CTG, 7.62MM, ALL TYPES		40				40
003	CTG, HANDGUN, ALL TYPES		17				17
004	CTG, .50 CAL, ALL TYPES		189				189
007	CTG, 30MM, ALL TYPES		24,900				24,900
	ARTILLERY AMMUNITION						
015	PROJ 155MM EXTENDED RANGE M982	304	36,052			304	36,052
016	ARTILLERY PROPELLANTS, FUZES AND PRIMERS, ALL		7,271				7,271
	ROCKETS						
018	SHOULDER LAUNCHED MUNITIONS, ALL TYPES		176				176
019	ROCKET, HYDRA 70, ALL TYPES		79,459				79,459
	MISCELLANEOUS						
027	ITEMS LESS THAN $5 MILLION (AMMO)		11				11
	TOTAL PROCUREMENT OF AMMUNITION, ARMY	**304**	**148,682**			**304**	**148,682**
	OTHER PROCUREMENT, ARMY						
	TACTICAL VEHICLES						
010	FAMILY OF HEAVY TACTICAL VEHICLES (FHTV)		26,917				26,917
011	PLS ESP		16,941				16,941
012	HVY EXPANDED MOBILE TACTICAL TRUCK EXT SERV		62,734				62,734
014	TACTICAL WHEELED VEHICLE PROTECTION KITS		50,000				50,000
015	MODIFICATION OF IN SVC EQUIP		28,000				28,000
	COMM—JOINT COMMUNICATIONS						
022	TACTICAL NETWORK TECHNOLOGY MOD IN SVC		40,000				40,000

	COMM—SATELLITE COMMUNICATIONS			
029	TRANSPORTABLE TACTICAL COMMAND COMMUNICATIONS	6,930		6,930
031	ASSURED POSITIONING, NAVIGATION AND TIMING	11,778		11,778
032	SMART-T (SPACE)	825		825
	COMM—COMBAT COMMUNICATIONS			
040	RADIO TERMINAL SET, MIDS LVT(2)	350		350
047	COTS COMMUNICATIONS EQUIPMENT	20,400		20,400
048	FAMILY OF MED COMM FOR COMBAT CASUALTY CARE	1,231		1,231
	COMM—INTELLIGENCE COMM			
051	CI AUTOMATION ARCHITECTURE (MIP)	6,200		6,200
	COMM—LONG HAUL COMMUNICATIONS			
059	BASE SUPPORT COMMUNICATIONS	20,482	–5,000	15,482
	Insufficient budget justification		[–5,000]	
	COMM—BASE COMMUNICATIONS			
060	INFORMATION SYSTEMS	55,800	–5,000	50,800
	Unjustified growth		[–5,000]	
063	INSTALLATION INFO INFRASTRUCTURE MOD PROGRAM	75,820		75,820
	ELECT EQUIP—TACT INT REL ACT (TIARA)			
068	DCGS-A (MIP)	38,613		38,613
070	TROJAN (MIP)	1,337		1,337
071	MOD OF IN-SVC EQUIP (INTEL SPT) (MIP)	2,051		2,051
075	BIOMETRIC TACTICAL COLLECTION DEVICES (MIP)	1,800		1,800
	ELECT EQUIP—ELECTRONIC WARFARE (EW)			
082	FAMILY OF PERSISTENT SURVEILLANCE CAP. (MIP)	71,493	–40,000	31,493
	Unjustified growth		[–40,000]	
083	COUNTERINTELLIGENCE/SECURITY COUNTERMEASURES	6,917		6,917
	ELECT EQUIP—TACTICAL SURV. (TAC SURV)			
085	SENTINEL MODS	20,000		20,000
086	NIGHT VISION DEVICES	3,676		3,676
094	JOINT BATTLE COMMAND—PLATFORM (JBC-P)	25,568		25,568
097	COMPUTER BALLISTICS: LHMBC XM32	570		570
098	MORTAR FIRE CONTROL SYSTEM	15,975		15,975

SEC. 4102. PROCUREMENT FOR OVERSEAS CONTINGENCY OPERATIONS
(In Thousands of Dollars)

Line	Item	FY 2020 Request		House Change		House Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
	ELECT EQUIP—TACTICAL C2 SYSTEMS						
103	AIR & MSL DEFENSE PLANNING & CONTROL SYS		14,331				14,331
	ELECT EQUIP—AUTOMATION						
112	ARMY TRAINING MODERNIZATION		6,014				6,014
113	AUTOMATED DATA PROCESSING EQUIP		32,700				32,700
	CHEMICAL DEFENSIVE EQUIPMENT						
124	FAMILY OF NON-LETHAL EQUIPMENT (FNLE)		25,480				25,480
125	BASE DEFENSE SYSTEMS (BDS)		47,110				47,110
126	CBRN DEFENSE		18,711				18,711
	BRIDGING EQUIPMENT						
128	TACTICAL BRIDGING		4,884				4,884
	ENGINEER (NON-CONSTRUCTION) EQUIPMENT						
133	GRND STANDOFF MINE DETECTN SYSM (GSTAMIDS)		4,500				4,500
135	HUSKY MOUNTED DETECTION SYSTEM (HMDS)		34,253				34,253
136	ROBOTIC COMBAT SUPPORT SYSTEM (RCSS)		3,300				3,300
140	RENDER SAFE SETS KITS OUTFITS		84,000				84,000
	COMBAT SERVICE SUPPORT EQUIPMENT						
143	HEATERS AND ECU'S		8				8
145	PERSONNEL RECOVERY SUPPORT SYSTEM (PRSS)		5,101				5,101
146	GROUND SOLDIER SYSTEM		1,760				1,760
148	FORCE PROVIDER		56,400				56,400
150	CARGO AERIAL DEL & PERSONNEL PARACHUTE SYSTEM		2,040				2,040
	PETROLEUM EQUIPMENT						
154	DISTRIBUTION SYSTEMS, PETROLEUM & WATER		13,986				13,986
	MEDICAL EQUIPMENT						
155	COMBAT SUPPORT MEDICAL		2,735				2,735

	CONSTRUCTION EQUIPMENT					
159	SCRAPERS, EARTHMOVING		4,669			4,669
160	LOADERS		380			380
162	TRACTOR, FULL TRACKED		8,225			8,225
164	HIGH MOBILITY ENGINEER EXCAVATOR (HMEE)		3,000			3,000
166	CONST EQUIP ESP		3,870			3,870
167	ITEMS LESS THAN $5.0M (CONST EQUIP)		350			350
	GENERATORS					
171	GENERATORS AND ASSOCIATED EQUIP		2,436			2,436
	MATERIAL HANDLING EQUIPMENT					
173	FAMILY OF FORKLIFTS		5,152			5,152
	TRAINING EQUIPMENT					
175	TRAINING DEVICES, NONSYSTEM		2,106			2,106
	TEST MEASURE AND DIG EQUIPMENT (TMD)					
181	INTEGRATED FAMILY OF TEST EQUIPMENT (IFTE)		1,395			1,395
	OTHER SUPPORT EQUIPMENT					
184	RAPID EQUIPPING SOLDIER SUPPORT EQUIPMENT		24,122			24,122
185	PHYSICAL SECURITY SYSTEMS (OPA3)		10,016			10,016
187	MODIFICATION OF IN-SVC EQUIPMENT (OPA–3)		33,354			33,354
189	BUILDING, PRE-FAB, RELOCATABLE		62,654			62,654
	TOTAL OTHER PROCUREMENT, ARMY		**1,131,450**		**–50,000**	**1,081,450**
	AIRCRAFT PROCUREMENT, NAVY					
	OTHER AIRCRAFT					
026	STUASLO UAV		7,921			7,921
027	MQ–9A REAPER	3	77,000	–3	–77,000	0
	Unjustified OCO request			[–3]	[–77,000]	
	MODIFICATION OF AIRCRAFT					
036	EP–3 SERIES		5,488			5,488
046	SPECIAL PROJECT AIRCRAFT		3,498			3,498
051	COMMON ECM EQUIPMENT		3,406			3,406
053	COMMON DEFENSIVE WEAPON SYSTEM		3,274			3,274

SEC. 4102. PROCUREMENT FOR OVERSEAS CONTINGENCY OPERATIONS
(In Thousands of Dollars)

Line	Item	FY 2020 Request		House Change		House Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
062	QRC		18,458				18,458
	TOTAL AIRCRAFT PROCUREMENT, NAVY	**3**	**119,045**	**–3**	**–77,000**		**42,045**
	WEAPONS PROCUREMENT, NAVY						
	TACTICAL MISSILES						
011	JOINT AIR GROUND MISSILE (JAGM)	382	90,966			382	90,966
015	AERIAL TARGETS		6,500				6,500
	TOTAL WEAPONS PROCUREMENT, NAVY	**382**	**97,466**			**382**	**97,466**
	PROCUREMENT OF AMMO, NAVY & MC						
	NAVY AMMUNITION						
001	GENERAL PURPOSE BOMBS		26,978				26,978
002	JDAM	544	12,263			544	12,263
003	AIRBORNE ROCKETS, ALL TYPES		45,020				45,020
004	MACHINE GUN AMMUNITION		33,577				33,577
005	PRACTICE BOMBS		11,903				11,903
006	CARTRIDGES & CART ACTUATED DEVICES		15,081				15,081
007	AIR EXPENDABLE COUNTERMEASURES		16,911				16,911
011	OTHER SHIP GUN AMMUNITION		3,262				3,262
012	SMALL ARMS & LANDING PARTY AMMO		1,010				1,010
013	PYROTECHNIC AND DEMOLITION		537				537
	MARINE CORPS AMMUNITION						
016	MORTARS		1,930				1,930
017	DIRECT SUPPORT MUNITIONS		1,172				1,172
018	INFANTRY WEAPONS AMMUNITION		2,158				2,158
019	COMBAT SUPPORT MUNITIONS		965				965

021	ARTILLERY MUNITIONS		32,047		32,047
	TOTAL PROCUREMENT OF AMMO, NAVY & MC	**544**	**204,814**	**544**	**204,814**
	OTHER PROCUREMENT, NAVY				
	OTHER SHIPBOARD EQUIPMENT				
020	UNDERWATER EOD PROGRAMS		5,800		5,800
	ASW ELECTRONIC EQUIPMENT				
042	FIXED SURVEILLANCE SYSTEM		310,503		310,503
	SONOBUOYS				
085	SONOBUOYS—ALL TYPES		2,910		2,910
	AIRCRAFT SUPPORT EQUIPMENT				
088	AIRCRAFT SUPPORT EQUIPMENT		13,420		13,420
094	AVIATION SUPPORT EQUIPMENT		500		500
	OTHER ORDNANCE SUPPORT EQUIPMENT				
103	EXPLOSIVE ORDNANCE DISPOSAL EQUIP		15,307		15,307
	CIVIL ENGINEERING SUPPORT EQUIPMENT				
108	PASSENGER CARRYING VEHICLES		173		173
109	GENERAL PURPOSE TRUCKS		408		408
111	FIRE FIGHTING EQUIPMENT		785		785
	SUPPLY SUPPORT EQUIPMENT				
117	SUPPLY EQUIPMENT		100		100
118	FIRST DESTINATION TRANSPORTATION		510		510
	COMMAND SUPPORT EQUIPMENT				
122	COMMAND SUPPORT EQUIPMENT		2,800		2,800
123	MEDICAL SUPPORT EQUIPMENT		1,794		1,794
126	OPERATING FORCES SUPPORT EQUIPMENT		1,090		1,090
128	ENVIRONMENTAL SUPPORT EQUIPMENT		200		200
129	PHYSICAL SECURITY EQUIPMENT		1,300		1,300
	TOTAL OTHER PROCUREMENT, NAVY		**357,600**		**357,600**
	PROCUREMENT, MARINE CORPS				
	GUIDED MISSILES				

SEC. 4102. PROCUREMENT FOR OVERSEAS CONTINGENCY OPERATIONS
(In Thousands of Dollars)

Line	Item	FY 2020 Request		House Change		House Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
012	GUIDED MLRS ROCKET (GMLRS)	130	16,919			130	16,919
	ENGINEER AND OTHER EQUIPMENT						
045	EOD SYSTEMS		3,670				3,670
	TOTAL PROCUREMENT, MARINE CORPS	**130**	**20,589**			**130**	**20,589**
	AIRCRAFT PROCUREMENT, AIR FORCE						
	OTHER AIRCRAFT						
017	MQ–9	9	172,240			9	172,240
018	RQ–20B PUMA	18	12,150			18	12,150
	STRATEGIC AIRCRAFT						
022	LARGE AIRCRAFT INFRARED COUNTERMEASURES		53,335				53,335
	OTHER AIRCRAFT						
067	MQ–9 UAS PAYLOADS		19,800				19,800
	AIRCRAFT SPARES AND REPAIR PARTS						
069	INITIAL SPARES/REPAIR PARTS		44,560				44,560
	COMMON SUPPORT EQUIPMENT						
072	AIRCRAFT REPLACEMENT SUPPORT EQUIP		7,025				7,025
	TOTAL AIRCRAFT PROCUREMENT, AIR FORCE	**27**	**309,110**			**27**	**309,110**
	MISSILE PROCUREMENT, AIR FORCE						
	TACTICAL						
004	JOINT AIR-SURFACE STANDOFF MISSILE	19	20,900			19	20,900
008	PREDATOR HELLFIRE MISSILE	2,328	180,771			2,328	180,771
	TOTAL MISSILE PROCUREMENT, AIR FORCE	**2,347**	**201,671**			**2,347**	**201,671**
	PROCUREMENT OF AMMUNITION, AIR FORCE						

	ROCKETS		
001	ROCKETS	84,960	84,960
	CARTRIDGES		
002	CARTRIDGES	52,642	52,642
	BOMBS		
004	GENERAL PURPOSE BOMBS	545,309	545,309
	FLARES		
015	FLARES	93,272	93,272
	FUZES		
016	FUZES	157,155	157,155
	SMALL ARMS		
017	SMALL ARMS	6,095	6,095
	TOTAL PROCUREMENT OF AMMUNITION, AIR FORCE	**939,433**	**939,433**
	OTHER PROCUREMENT, AIR FORCE		
	PASSENGER CARRYING VEHICLES		
001	PASSENGER CARRYING VEHICLES	1,276	1,276
	CARGO AND UTILITY VEHICLES		
004	CARGO AND UTILITY VEHICLES	9,702	9,702
	SPECIAL PURPOSE VEHICLES		
005	JOINT LIGHT TACTICAL VEHICLE	40,999	40,999
007	SPECIAL PURPOSE VEHICLES	52,502	52,502
	FIRE FIGHTING EQUIPMENT		
008	FIRE FIGHTING/CRASH RESCUE VEHICLES	16,652	16,652
	MATERIALS HANDLING EQUIPMENT		
009	MATERIALS HANDLING VEHICLES	2,944	2,944
	BASE MAINTENANCE SUPPORT		
010	RUNWAY SNOW REMOV AND CLEANING EQU	3,753	3,753
011	BASE MAINTENANCE SUPPORT VEHICLES	11,837	11,837
	SPCL COMM-ELECTRONICS PROJECTS		
027	GENERAL INFORMATION TECHNOLOGY	5,000	5,000
031	AIR FORCE PHYSICAL SECURITY SYSTEM	106,919	106,919

SEC. 4102. PROCUREMENT FOR OVERSEAS CONTINGENCY OPERATIONS
(In Thousands of Dollars)

Line	Item	FY 2020 Request		House Change		House Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
	ORGANIZATION AND BASE						
048	TACTICAL C-E EQUIPMENT		306				306
052	BASE COMM INFRASTRUCTURE		4,300				4,300
	PERSONAL SAFETY & RESCUE EQUIP						
054	PERSONAL SAFETY AND RESCUE EQUIPMENT		22,200				22,200
	BASE SUPPORT EQUIPMENT						
059	MOBILITY EQUIPMENT		26,535				26,535
060	FUELS SUPPORT EQUIPMENT (FSE)		4,040				4,040
061	BASE MAINTENANCE AND SUPPORT EQUIPMENT		20,067				20,067
	CLASSIFIED PROGRAMS						
066A	CLASSIFIED PROGRAMS		3,209,066				3,209,066
	TOTAL OTHER PROCUREMENT, AIR FORCE		**3,538,098**				**3,538,098**
	PROCUREMENT, DEFENSE-WIDE						
	MAJOR EQUIPMENT, DISA						
009	TELEPORT PROGRAM		3,800				3,800
012	DEFENSE INFORMATION SYSTEM NETWORK		12,000				12,000
	MAJOR EQUIPMENT, DEFENSE THREAT REDUCTION AGENCY						
027	COUNTER IED & IMPROVISED THREAT TECHNOLOGIES		4,590				4,590
	CLASSIFIED PROGRAMS						
049A	CLASSIFIED PROGRAMS		51,380				51,380
	AVIATION PROGRAMS						
050	MANNED ISR		5,000				5,000
051	MC–12		5,000				5,000
052	MH–60 BLACKHAWK		28,100				28,100
054	UNMANNED ISR		8,207				8,207

056	U–28		31,500				31,500
057	MH–47 CHINOOK		37,500		–3,000		34,500
	Excess growth				[–3,000]		
059	MQ–9 UNMANNED AERIAL VEHICLE		1,900				1,900
	AMMUNITION PROGRAMS						
064	ORDNANCE ITEMS <$5M		138,252				138,252
	OTHER PROCUREMENT PROGRAMS						
065	INTELLIGENCE SYSTEMS		16,500				16,500
067	OTHER ITEMS <$5M		28				28
070	TACTICAL VEHICLES		2,990				2,990
071	WARRIOR SYSTEMS <$5M		37,512				37,512
072	COMBAT MISSION REQUIREMENTS		10,000				10,000
074	OPERATIONAL ENHANCEMENTS INTELLIGENCE		7,594				7,594
075	OPERATIONAL ENHANCEMENTS		45,194				45,194
	TOTAL PROCUREMENT, DEFENSE-WIDE		**447,047**		**–3,000**		**444,047**
	NATIONAL GUARD AND RESERVE EQUIPMENT						
	UNDISTRIBUTED						
007	UNDISTRIBUTED				415,000		0
	Program increase				[415,000]		
	TOTAL NATIONAL GUARD AND RESERVE EQUIPMENT				**415,000**		**415,000**
	TOTAL PROCUREMENT	**12,433**	**9,688,058**	**–3**	**212,550**	**12,430**	**9,900,608**

TITLE XLII—RESEARCH, DEVELOPMENT, TEST, AND EVALUATION

SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION.

SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION
(In Thousands of Dollars)

Line	Program Element	Item	FY 2020 Request	House Change	House Authorized
		RESEARCH, DEVELOPMENT, TEST & EVAL, ARMY			
		BASIC RESEARCH			
002	0601102A	DEFENSE RESEARCH SCIENCES	297,976		297,976
003	0601103A	UNIVERSITY RESEARCH INITIATIVES	65,858		65,858
004	0601104A	UNIVERSITY AND INDUSTRY RESEARCH CENTERS	86,164	12,000	98,164
		Program increase		[7,000]	
		Program increase—military medical innovation		[5,000]	
005	0601121A	CYBER COLLABORATIVE RESEARCH ALLIANCE	4,982		4,982
		SUBTOTAL BASIC RESEARCH	**454,980**	**12,000**	**466,980**
		APPLIED RESEARCH			
010	0602141A	LETHALITY TECHNOLOGY	26,961		26,961
011	0602142A	ARMY APPLIED RESEARCH	25,319		25,319
012	0602143A	SOLDIER LETHALITY TECHNOLOGY	115,274	10,000	125,274
		Expeditionary mobile base camp technology		[5,000]	
		HEROES program		[5,000]	
013	0602144A	GROUND TECHNOLOGY	35,199	10,000	45,199
		High performance polymers research		[5,000]	
		Manufacturing research technology		[5,000]	

014	0602145A	NEXT GENERATION COMBAT VEHICLE TECHNOLOGY	219,047	6,000	225,047
		Structural thermoplastics		[6,000]	
015	0602146A	NETWORK C3I TECHNOLOGY	114,516	5,500	120,016
		Assured PNT lab		[3,000]	
		Next generation SAR small sat		[2,500]	
016	0602147A	LONG RANGE PRECISION FIRES TECHNOLOGY	74,327	5,000	79,327
		NextGen propulsion cycle artillery range extension		[5,000]	
017	0602148A	FUTURE VERTICLE LIFT TECHNOLOGY	93,601	3,000	96,601
		Program increase		[3,000]	
018	0602150A	AIR AND MISSILE DEFENSE TECHNOLOGY	50,771		50,771
020	0602213A	C3I APPLIED CYBER	18,947		18,947
023	0602307A	ADVANCED WEAPONS TECHNOLOGY		5,000	5,000
		Directed energy test range workloads		[5,000]	
037	0602784A	MILITARY ENGINEERING TECHNOLOGY		5,000	5,000
		Cellulose nanocomposites research		[5,000]	
038	0602785A	MANPOWER/PERSONNEL/TRAINING TECHNOLOGY	20,873		20,873
040	0602787A	MEDICAL TECHNOLOGY	99,155	3,000	102,155
		Program increase		[3,000]	
		SUBTOTAL APPLIED RESEARCH	**893,990**	**52,500**	**946,490**
		ADVANCED TECHNOLOGY DEVELOPMENT			
041	0603001A	WARFIGHTER ADVANCED TECHNOLOGY		5,000	5,000
		Expeditionary maneuver support technologies		[5,000]	
042	0603002A	MEDICAL ADVANCED TECHNOLOGY	42,030		42,030
047	0603007A	MANPOWER, PERSONNEL AND TRAINING ADVANCED TECHNOLOGY	11,038		11,038
050	0603117A	ARMY ADVANCED TECHNOLOGY DEVELOPMENT	63,338		63,338
051	0603118A	SOLDIER LETHALITY ADVANCED TECHNOLOGY	118,468	10,000	128,468
		Microlattic technology for combat helmet improvements		[5,000]	
		Thermal mitigation technologies		[5,000]	
052	0603119A	GROUND ADVANCED TECHNOLOGY	12,593	5,000	17,593
		Ground advanced technology for cold regions		[5,000]	
059	0603457A	C3I CYBER ADVANCED DEVELOPMENT	13,769		13,769

SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION
(In Thousands of Dollars)

Line	Program Element	Item	FY 2020 Request	House Change	House Authorized
060	0603461A	HIGH PERFORMANCE COMPUTING MODERNIZATION PROGRAM	184,755	40,000	224,755
		Program increase		[40,000]	
061	0603462A	NEXT GENERATION COMBAT VEHICLE ADVANCED TECHNOLOGY	160,035	10,000	170,035
		Program increase—hydrogen fuel cells		[10,000]	
062	0603463A	NETWORK C3I ADVANCED TECHNOLOGY	106,899	–3,000	103,899
		Underexecution		[–3,000]	
063	0603464A	LONG RANGE PRECISION FIRES ADVANCED TECHNOLOGY	174,386	5,000	179,386
		Program increase missile demonstrations		[5,000]	
064	0603465A	FUTURE VERTICAL LIFT ADVANCED TECHNOLOGY	151,640	–5,000	146,640
		Excess to need		[–5,000]	
065	0603466A	AIR AND MISSILE DEFENSE ADVANCED TECHNOLOGY	60,613		60,613
		SUBTOTAL ADVANCED TECHNOLOGY DEVELOPMENT	**1,099,564**	**67,000**	**1,166,564**
		ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES			
073	0603305A	ARMY MISSLE DEFENSE SYSTEMS INTEGRATION	10,987	20,000	30,987
		Conventional mission capabilities		[10,000]	
		System lab integration improvements		[10,000]	
074	0603327A	AIR AND MISSILE DEFENSE SYSTEMS ENGINEERING	15,148		15,148
075	0603619A	LANDMINE WARFARE AND BARRIER—ADV DEV	92,915		92,915
077	0603639A	TANK AND MEDIUM CALIBER AMMUNITION	82,146		82,146
078	0603645A	ARMORED SYSTEM MODERNIZATION—ADV DEV	157,656		157,656
079	0603747A	SOLDIER SUPPORT AND SURVIVABILITY	6,514		6,514
080	0603766A	TACTICAL ELECTRONIC SURVEILLANCE SYSTEM—ADV DEV	34,890	3,000	37,890
		Mobile ground terminal		[3,000]	
081	0603774A	NIGHT VISION SYSTEMS ADVANCED DEVELOPMENT	251,011	–45,000	206,011
		IVAS insufficient justification		[–45,000]	
082	0603779A	ENVIRONMENTAL QUALITY TECHNOLOGY—DEM/VAL	15,132		15,132

083	0603790A	NATO RESEARCH AND DEVELOPMENT	5,406		5,406
084	0603801A	AVIATION—ADV DEV	459,290	–15,950	443,340
		Early to need		[–15,950]	
085	0603804A	LOGISTICS AND ENGINEER EQUIPMENT—ADV DEV	6,254		6,254
086	0603807A	MEDICAL SYSTEMS—ADV DEV	31,175		31,175
087	0603827A	SOLDIER SYSTEMS—ADVANCED DEVELOPMENT	22,113		22,113
088	0604017A	ROBOTICS DEVELOPMENT	115,222		115,222
090	0604021A	ELECTRONIC WARFARE TECHNOLOGY MATURATION (MIP)	18,043		18,043
091	0604100A	ANALYSIS OF ALTERNATIVES	10,023		10,023
092	0604113A	FUTURE TACTICAL UNMANNED AIRCRAFT SYSTEM (FTUAS)	40,745		40,745
093	0604114A	LOWER TIER AIR MISSILE DEFENSE (LTAMD) SENSOR	427,772		427,772
094	0604115A	TECHNOLOGY MATURATION INITIATIVES	196,676	–35,000	161,676
		Insufficient schedule detail		[–35,000]	
095	0604117A	MANEUVER—SHORT RANGE AIR DEFENSE (M-SHORAD)	33,100	–4,000	29,100
		Excess testing cost		[–4,000]	
097	0604119A	ARMY ADVANCED COMPONENT DEVELOPMENT & PROTOTYPING	115,116	–10,000	105,116
		Early to need		[–10,000]	
099	0604121A	SYNTHETIC TRAINING ENVIRONMENT REFINEMENT & PROTOTYPING	136,761	–25,000	111,761
		Early to need (IVAS)		[–25,000]	
100	0604182A	HYPERSONICS	228,000	31,000	259,000
		Transfer from RDTE Defense-Wide, line 124		[31,000]	
102	0604403A	FUTURE INTERCEPTOR	8,000		8,000
103	0604541A	UNIFIED NETWORK TRANSPORT	39,600	–9,000	30,600
		Early to need		[–9,000]	
104	0604644A	MOBILE MEDIUM RANGE MISSILE	20,000	–20,000	
		Program decrease		[–20,000]	
106	0305251A	CYBERSPACE OPERATIONS FORCES AND FORCE SUPPORT	52,102		52,102
107	1206120A	ASSURED POSITIONING, NAVIGATION AND TIMING (PNT)	192,562	–42,500	150,062
		Project cancellation		[–42,500]	
108	1206308A	ARMY SPACE SYSTEMS INTEGRATION	104,996	–50,000	54,996
		Program delay		[–50,000]	
		SUBTOTAL ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES	**2,929,355**	**–202,450**	**2,726,905**

SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION
(In Thousands of Dollars)

Line	Program Element	Item	FY 2020 Request	House Change	House Authorized
		SYSTEM DEVELOPMENT & DEMONSTRATION			
109	0604201A	AIRCRAFT AVIONICS	29,164		29,164
110	0604270A	ELECTRONIC WARFARE DEVELOPMENT	70,539		70,539
113	0604601A	INFANTRY SUPPORT WEAPONS	106,121	19,200	125,321
		Army unfunded priority—NGSW program increase		[19,200]	
114	0604604A	MEDIUM TACTICAL VEHICLES	2,152		2,152
115	0604611A	JAVELIN	17,897	–1,500	16,397
		Qualification testing early to need		[–1,500]	
116	0604622A	FAMILY OF HEAVY TACTICAL VEHICLES	16,745		16,745
117	0604633A	AIR TRAFFIC CONTROL	6,989		6,989
118	0604642A	LIGHT TACTICAL WHEELED VEHICLES	10,465		10,465
119	0604645A	ARMORED SYSTEMS MODERNIZATION (ASM)—ENG DEV	310,152	–15,000	295,152
		Program delay		[–15,000]	
120	0604710A	NIGHT VISION SYSTEMS—ENG DEV	181,732	–15,000	166,732
		Insufficient justification (IVAS)		[–15,000]	
121	0604713A	COMBAT FEEDING, CLOTHING, AND EQUIPMENT	2,393		2,393
122	0604715A	NON-SYSTEM TRAINING DEVICES—ENG DEV	27,412		27,412
123	0604741A	AIR DEFENSE COMMAND, CONTROL AND INTELLIGENCE—ENG DEV	43,502	–5,000	38,502
		Historical underexecution		[–5,000]	
124	0604742A	CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT	11,636		11,636
125	0604746A	AUTOMATIC TEST EQUIPMENT DEVELOPMENT	10,915		10,915
126	0604760A	DISTRIBUTIVE INTERACTIVE SIMULATIONS (DIS)—ENG DEV	7,801		7,801
127	0604768A	BRILLIANT ANTI-ARMOR SUBMUNITION (BAT)	25,000	–5,000	20,000
		PFAL excess		[–5,000]	
128	0604780A	COMBINED ARMS TACTICAL TRAINER (CATT) CORE	9,241		9,241
129	0604798A	BRIGADE ANALYSIS, INTEGRATION AND EVALUATION	42,634	–4,000	38,634

		RCO support excess		[–4,000]	
130	0604802A	WEAPONS AND MUNITIONS—ENG DEV	181,023		181,023
131	0604804A	LOGISTICS AND ENGINEER EQUIPMENT—ENG DEV	103,226		103,226
132	0604805A	COMMAND, CONTROL, COMMUNICATIONS SYSTEMS—ENG DEV	12,595		12,595
133	0604807A	MEDICAL MATERIEL/MEDICAL BIOLOGICAL DEFENSE EQUIPMENT—ENG DEV	48,264		48,264
134	0604808A	LANDMINE WARFARE/BARRIER—ENG DEV	39,208		39,208
135	0604818A	ARMY TACTICAL COMMAND & CONTROL HARDWARE & SOFTWARE	140,637	–2,500	138,137
		CPI2 testing previously funded		[–2,500]	
136	0604820A	RADAR DEVELOPMENT	105,243		105,243
137	0604822A	GENERAL FUND ENTERPRISE BUSINESS SYSTEM (GFEBS)	46,683	–5,000	41,683
		Program decrease		[–5,000]	
138	0604823A	FIREFINDER	17,294		17,294
139	0604827A	SOLDIER SYSTEMS—WARRIOR DEM/VAL	5,803	–1,000	4,803
		Historical underexecution		[–1,000]	
140	0604852A	SUITE OF SURVIVABILITY ENHANCEMENT SYSTEMS—EMD	98,698	30,000	128,698
		Program increase for vehicle protection evaluation		[30,000]	
141	0604854A	ARTILLERY SYSTEMS—EMD	15,832	–5,000	10,832
		Mobile howitzer testing early to need		[–5,000]	
142	0605013A	INFORMATION TECHNOLOGY DEVELOPMENT	126,537		126,537
143	0605018A	INTEGRATED PERSONNEL AND PAY SYSTEM-ARMY (IPPS-A)	142,773	–43,000	99,773
		Program decrease		[–43,000]	
144	0605028A	ARMORED MULTI-PURPOSE VEHICLE (AMPV)	96,730		96,730
145	0605029A	INTEGRATED GROUND SECURITY SURVEILLANCE RESPONSE CAPABILITY (IGSSR-C)	6,699		6,699
146	0605030A	JOINT TACTICAL NETWORK CENTER (JTNC)	15,882		15,882
147	0605031A	JOINT TACTICAL NETWORK (JTN)	40,808		40,808
149	0605033A	GROUND-BASED OPERATIONAL SURVEILLANCE SYSTEM—EXPEDITIONARY (GBOSS-E)	3,847		3,847
150	0605034A	TACTICAL SECURITY SYSTEM (TSS)	6,928		6,928
151	0605035A	COMMON INFRARED COUNTERMEASURES (CIRCM)	34,488		34,488
152	0605036A	COMBATING WEAPONS OF MASS DESTRUCTION (CWMD)	10,000		10,000
154	0605038A	NUCLEAR BIOLOGICAL CHEMICAL RECONNAISSANCE VEHICLE (NBCRV) SENSOR SUITE	6,054		6,054
155	0605041A	DEFENSIVE CYBER TOOL DEVELOPMENT	62,262		62,262
156	0605042A	TACTICAL NETWORK RADIO SYSTEMS (LOW-TIER)	35,654	–7,000	28,654

SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION
(In Thousands of Dollars)

Line	Program Element	Item	FY 2020 Request	House Change	House Authorized
		Excess growth		[–7,000]	
157	0605047A	CONTRACT WRITING SYSTEM	19,682		19,682
158	0605049A	MISSILE WARNING SYSTEM MODERNIZATION (MWSM)	1,539		1,539
159	0605051A	AIRCRAFT SURVIVABILITY DEVELOPMENT	64,557		64,557
160	0605052A	INDIRECT FIRE PROTECTION CAPABILITY INC 2—BLOCK 1	243,228		243,228
161	0605053A	GROUND ROBOTICS	41,308		41,308
162	0605054A	EMERGING TECHNOLOGY INITIATIVES	45,896	–4,000	41,896
		Testing and evaluation excess growth		[–4,000]	
163	0605203A	ARMY SYSTEM DEVELOPMENT & DEMONSTRATION	164,883		164,883
165	0605450A	JOINT AIR-TO-GROUND MISSILE (JAGM)	9,500		9,500
166	0605457A	ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)	208,938	–5,000	203,938
		Testing and evaluation excess growth		[–5,000]	
167	0605625A	MANNED GROUND VEHICLE	378,400		378,400
168	0605766A	NATIONAL CAPABILITIES INTEGRATION (MIP)	7,835	2,000	9,835
		Mobile ground terminal		[2,000]	
169	0605812A	JOINT LIGHT TACTICAL VEHICLE (JLTV) ENGINEERING AND MANUFACTURING DEVELOPMENT PH	2,732	4,500	7,232
		Army requested realignment from OPA 7		[4,500]	
170	0605830A	AVIATION GROUND SUPPORT EQUIPMENT	1,664		1,664
172	0303032A	TROJAN—RH12	3,936		3,936
174	0304270A	ELECTRONIC WARFARE DEVELOPMENT	19,675		19,675
		SUBTOTAL SYSTEM DEVELOPMENT & DEMONSTRATION	**3,549,431**	**–62,300**	**3,487,131**
		RDT&E MANAGEMENT SUPPORT			
176	0604256A	THREAT SIMULATOR DEVELOPMENT	14,117		14,117
177	0604258A	TARGET SYSTEMS DEVELOPMENT	8,327		8,327
178	0604759A	MAJOR T&E INVESTMENT	136,565		136,565
179	0605103A	RAND ARROYO CENTER	13,113		13,113

180	0605301A	ARMY KWAJALEIN ATOLL	238,691	–12,000	226,691
		Program decrease		[–12,000]	
181	0605326A	CONCEPTS EXPERIMENTATION PROGRAM	42,922		42,922
183	0605601A	ARMY TEST RANGES AND FACILITIES	334,468		334,468
184	0605602A	ARMY TECHNICAL TEST INSTRUMENTATION AND TARGETS	46,974	5,000	51,974
		Program increase—space and missile cybersecurity		[5,000]	
185	0605604A	SURVIVABILITY/LETHALITY ANALYSIS	35,075		35,075
186	0605606A	AIRCRAFT CERTIFICATION	3,461		3,461
187	0605702A	METEOROLOGICAL SUPPORT TO RDT&E ACTIVITIES	6,233		6,233
188	0605706A	MATERIEL SYSTEMS ANALYSIS	21,342		21,342
189	0605709A	EXPLOITATION OF FOREIGN ITEMS	11,168		11,168
190	0605712A	SUPPORT OF OPERATIONAL TESTING	52,723		52,723
191	0605716A	ARMY EVALUATION CENTER	60,815		60,815
192	0605718A	ARMY MODELING & SIM X-CMD COLLABORATION & INTEG	2,527		2,527
193	0605801A	PROGRAMWIDE ACTIVITIES	58,175	3,000	61,175
		Program increase for transition costs		[3,000]	
194	0605803A	TECHNICAL INFORMATION ACTIVITIES	25,060		25,060
195	0605805A	MUNITIONS STANDARDIZATION, EFFECTIVENESS AND SAFETY	44,458	5,000	49,458
		Advanced lightweight small arms and medium caliber ammunition		[5,000]	
196	0605857A	ENVIRONMENTAL QUALITY TECHNOLOGY MGMT SUPPORT	4,681		4,681
197	0605898A	ARMY DIRECT REPORT HEADQUARTERS—R&D - MHA	53,820		53,820
198	0606001A	MILITARY GROUND-BASED CREW TECHNOLOGY	4,291		4,291
199	0606002A	RONALD REAGAN BALLISTIC MISSILE DEFENSE TEST SITE	62,069		62,069
200	0606003A	COUNTERINTEL AND HUMAN INTEL MODERNIZATION	1,050		1,050
201	0606942A	ASSESSMENTS AND EVALUATIONS CYBER VULNERABILITIES	4,500		4,500
		SUBTOTAL RDT&E MANAGEMENT SUPPORT	**1,286,625**	**1,000**	**1,287,625**
		OPERATIONAL SYSTEMS DEVELOPMENT			
204	0603778A	MLRS PRODUCT IMPROVEMENT PROGRAM	22,877	–5,000	17,877
		HIMARS excess growth		[–5,000]	
206	0605024A	ANTI-TAMPER TECHNOLOGY SUPPORT	8,491		8,491
207	0607131A	WEAPONS AND MUNITIONS PRODUCT IMPROVEMENT PROGRAMS	15,645		15,645

SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION
(In Thousands of Dollars)

Line	Program Element	Item	FY 2020 Request	House Change	House Authorized
209	0607134A	LONG RANGE PRECISION FIRES (LRPF)	164,182		164,182
211	0607136A	BLACKHAWK PRODUCT IMPROVEMENT PROGRAM	13,039		13,039
212	0607137A	CHINOOK PRODUCT IMPROVEMENT PROGRAM	174,371		174,371
213	0607138A	FIXED WING PRODUCT IMPROVEMENT PROGRAM	4,545		4,545
214	0607139A	IMPROVED TURBINE ENGINE PROGRAM	206,434		206,434
216	0607142A	AVIATION ROCKET SYSTEM PRODUCT IMPROVEMENT AND DEVELOPMENT	24,221	–10,000	14,221
		Integrated munitions launcher early to need		[–10,000]	
217	0607143A	UNMANNED AIRCRAFT SYSTEM UNIVERSAL PRODUCTS	32,016		32,016
218	0607145A	APACHE FUTURE DEVELOPMENT	5,448	–5,000	448
		Unjustified request		[–5,000]	
219	0607312A	ARMY OPERATIONAL SYSTEMS DEVELOPMENT	49,526		49,526
220	0607665A	FAMILY OF BIOMETRICS	1,702		1,702
221	0607865A	PATRIOT PRODUCT IMPROVEMENT	96,430		96,430
222	0203728A	JOINT AUTOMATED DEEP OPERATION COORDINATION SYSTEM (JADOCS)	47,398		47,398
223	0203735A	COMBAT VEHICLE IMPROVEMENT PROGRAMS	334,463	–10,000	324,463
		Early to need		[–10,000]	
225	0203743A	155MM SELF-PROPELLED HOWITZER IMPROVEMENTS	214,246		214,246
226	0203744A	AIRCRAFT MODIFICATIONS/PRODUCT IMPROVEMENT PROGRAMS	16,486	–4,500	11,986
		Excess to need		[–4,500]	
227	0203752A	AIRCRAFT ENGINE COMPONENT IMPROVEMENT PROGRAM	144		144
228	0203758A	DIGITIZATION	5,270		5,270
229	0203801A	MISSILE/AIR DEFENSE PRODUCT IMPROVEMENT PROGRAM	1,287		1,287
234	0205412A	ENVIRONMENTAL QUALITY TECHNOLOGY—OPERATIONAL SYSTEM DEV	732		732
235	0205456A	LOWER TIER AIR AND MISSILE DEFENSE (AMD) SYSTEM	107,746		107,746
236	0205778A	GUIDED MULTIPLE-LAUNCH ROCKET SYSTEM (GMLRS)	138,594	–10,000	128,594
		Testing excess to need		[–10,000]	
238	0303028A	SECURITY AND INTELLIGENCE ACTIVITIES	13,845		13,845

239	0303140A	INFORMATION SYSTEMS SECURITY PROGRAM	29,185		29,185
240	0303141A	GLOBAL COMBAT SUPPORT SYSTEM	68,976	–10,000	58,976
		Program decrease		[–10,000]	
241	0303150A	WWMCCS/GLOBAL COMMAND AND CONTROL SYSTEM	2,073		2,073
245	0305179A	INTEGRATED BROADCAST SERVICE (IBS)	459		459
246	0305204A	TACTICAL UNMANNED AERIAL VEHICLES	5,097		5,097
247	0305206A	AIRBORNE RECONNAISSANCE SYSTEMS	11,177		11,177
248	0305208A	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	38,121		38,121
250	0305232A	RQ–11 UAV	3,218		3,218
251	0305233A	RQ–7 UAV	7,817		7,817
252	0307665A	BIOMETRICS ENABLED INTELLIGENCE	2,000		2,000
253	0708045A	END ITEM INDUSTRIAL PREPAREDNESS ACTIVITIES	59,848	5,000	64,848
		Program increase—additive manufacturing technology insertion		[5,000]	
254	1203142A	SATCOM GROUND ENVIRONMENT (SPACE)	34,169		34,169
255	1208053A	JOINT TACTICAL GROUND SYSTEM	10,275		10,275
255A	9999999999	CLASSIFIED PROGRAMS	7,273		7,273
		SUBTOTAL OPERATIONAL SYSTEMS DEVELOPMENT	**1,978,826**	**–49,500**	**1,929,326**
		TOTAL RESEARCH, DEVELOPMENT, TEST & EVAL, ARMY	**12,192,771**	**–181,750**	**12,011,021**
		RESEARCH, DEVELOPMENT, TEST & EVAL, NAVY			
		BASIC RESEARCH			
001	0601103N	UNIVERSITY RESEARCH INITIATIVES	116,850	10,000	126,850
		Advanced radar research		[5,000]	
		Defense University research initiatives		[5,000]	
002	0601152N	IN-HOUSE LABORATORY INDEPENDENT RESEARCH	19,121		19,121
003	0601153N	DEFENSE RESEARCH SCIENCES	470,007		470,007
		SUBTOTAL BASIC RESEARCH	**605,978**	**10,000**	**615,978**
		APPLIED RESEARCH			
004	0602114N	POWER PROJECTION APPLIED RESEARCH	18,546	7,000	25,546
		Hypersonic testing facilities		[7,000]	

SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION
(In Thousands of Dollars)

Line	Program Element	Item	FY 2020 Request	House Change	House Authorized
005	0602123N	FORCE PROTECTION APPLIED RESEARCH	119,517	43,000	162,517
		Autonomous vehicle collaboration across maritime domains		[10,000]	
		Cyber-physical research		[8,000]	
		Energy resilience		[5,000]	
		Hybrid composite struct. res. enhanced mobility		[5,000]	
		Navy power and energy systems technology		[5,000]	
		Program increase—direct air capture and blue carbon research		[10,000]	
006	0602131M	MARINE CORPS LANDING FORCE TECHNOLOGY	56,604	5,000	61,604
		Interdisciplinary expeditionary cybersecurity research		[5,000]	
007	0602235N	COMMON PICTURE APPLIED RESEARCH	49,297		49,297
008	0602236N	WARFIGHTER SUSTAINMENT APPLIED RESEARCH	63,825	5,000	68,825
		Warfighter safety and performance		[5,000]	
009	0602271N	ELECTROMAGNETIC SYSTEMS APPLIED RESEARCH	83,497		83,497
010	0602435N	OCEAN WARFIGHTING ENVIRONMENT APPLIED RESEARCH	63,894		63,894
011	0602651M	JOINT NON-LETHAL WEAPONS APPLIED RESEARCH	6,346		6,346
012	0602747N	UNDERSEA WARFARE APPLIED RESEARCH	57,075	20,000	77,075
		Academic partnerships for undersea vehicle research		[10,000]	
		Resident autonomous undersea robotics		[10,000]	
013	0602750N	FUTURE NAVAL CAPABILITIES APPLIED RESEARCH	154,755		154,755
014	0602782N	MINE AND EXPEDITIONARY WARFARE APPLIED RESEARCH	36,074		36,074
015	0602792N	INNOVATIVE NAVAL PROTOTYPES (INP) APPLIED RESEARCH	153,062		153,062
016	0602861N	SCIENCE AND TECHNOLOGY MANAGEMENT—ONR FIELD ACITIVITIES	73,961		73,961
		SUBTOTAL APPLIED RESEARCH	**936,453**	**80,000**	**1,016,453**
		ADVANCED TECHNOLOGY DEVELOPMENT			
017	0603123N	FORCE PROTECTION ADVANCED TECHNOLOGY	35,286		35,286
018	0603271N	ELECTROMAGNETIC SYSTEMS ADVANCED TECHNOLOGY	9,499		9,499

019	0603640M	USMC ADVANCED TECHNOLOGY DEMONSTRATION (ATD)	172,847	5,000	177,847
		Program increase—modular advanced armed robotic system		[5,000]	
020	0603651M	JOINT NON-LETHAL WEAPONS TECHNOLOGY DEVELOPMENT	13,307		13,307
021	0603673N	FUTURE NAVAL CAPABILITIES ADVANCED TECHNOLOGY DEVELOPMENT	231,907		231,907
022	0603680N	MANUFACTURING TECHNOLOGY PROGRAM	60,138	20,000	80,138
		Program increase		[20,000]	
023	0603729N	WARFIGHTER PROTECTION ADVANCED TECHNOLOGY	4,849		4,849
025	0603758N	NAVY WARFIGHTING EXPERIMENTS AND DEMONSTRATIONS	67,739		67,739
026	0603782N	MINE AND EXPEDITIONARY WARFARE ADVANCED TECHNOLOGY	13,335		13,335
027	0603801N	INNOVATIVE NAVAL PROTOTYPES (INP) ADVANCED TECHNOLOGY DEVELOPMENT	133,303	43,000	176,303
		Electromagnetic railgun		[20,350]	
		Program increase		[22,650]	
		SUBTOTAL ADVANCED TECHNOLOGY DEVELOPMENT	**742,210**	**68,000**	**810,210**
		ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES			
028	0603207N	AIR/OCEAN TACTICAL APPLICATIONS	32,643		32,643
029	0603216N	AVIATION SURVIVABILITY	11,919		11,919
030	0603251N	AIRCRAFT SYSTEMS	1,473		1,473
031	0603254N	ASW SYSTEMS DEVELOPMENT	7,172		7,172
032	0603261N	TACTICAL AIRBORNE RECONNAISSANCE	3,419		3,419
033	0603382N	ADVANCED COMBAT SYSTEMS TECHNOLOGY	64,694		64,694
034	0603502N	SURFACE AND SHALLOW WATER MINE COUNTERMEASURES	507,000	–194,800	312,200
		LUSV Design Contracts early to need		[–29,100]	
		LUSV GFE early to need		[–79,200]	
		LUSV program decrease		[–43,000]	
		MUSV program increase		[43,000]	
		Reduce one LUSV		[–86,500]	
035	0603506N	SURFACE SHIP TORPEDO DEFENSE	15,800		15,800
036	0603512N	CARRIER SYSTEMS DEVELOPMENT	4,997		4,997
037	0603525N	PILOT FISH	291,148		291,148
038	0603527N	RETRACT LARCH	11,980		11,980
039	0603536N	RETRACT JUNIPER	129,163		129,163

SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION
(In Thousands of Dollars)

Line	Program Element	Item	FY 2020 Request	House Change	House Authorized
040	0603542N	RADIOLOGICAL CONTROL	689		689
041	0603553N	SURFACE ASW	1,137		1,137
042	0603561N	ADVANCED SUBMARINE SYSTEM DEVELOPMENT	148,756		148,756
043	0603562N	SUBMARINE TACTICAL WARFARE SYSTEMS	11,192		11,192
044	0603563N	SHIP CONCEPT ADVANCED DESIGN	81,846	–14,000	67,846
		Future surface combatant concept development concurrency		[–24,000]	
		Program increase		[5,000]	
		Program increase—moving target defense		[5,000]	
045	0603564N	SHIP PRELIMINARY DESIGN & FEASIBILITY STUDIES	69,084	–10,000	59,084
		Program decrease		[–10,000]	
046	0603570N	ADVANCED NUCLEAR POWER SYSTEMS	181,652		181,652
047	0603573N	ADVANCED SURFACE MACHINERY SYSTEMS	25,408	5,000	30,408
		Program increase		[5,000]	
048	0603576N	CHALK EAGLE	64,877		64,877
049	0603581N	LITTORAL COMBAT SHIP (LCS)	9,934		9,934
050	0603582N	COMBAT SYSTEM INTEGRATION	17,251		17,251
051	0603595N	OHIO REPLACEMENT	419,051		419,051
052	0603596N	LCS MISSION MODULES	108,505		108,505
053	0603597N	AUTOMATED TEST AND ANALYSIS	7,653		7,653
054	0603599N	FRIGATE DEVELOPMENT	59,007		59,007
055	0603609N	CONVENTIONAL MUNITIONS	9,988		9,988
056	0603635M	MARINE CORPS GROUND COMBAT/SUPPORT SYSTEM	86,464	–75,000	11,464
		Insufficient justification and contract delay		[–75,000]	
057	0603654N	JOINT SERVICE EXPLOSIVE ORDNANCE DEVELOPMENT	33,478		33,478
058	0603713N	OCEAN ENGINEERING TECHNOLOGY DEVELOPMENT	5,619		5,619
059	0603721N	ENVIRONMENTAL PROTECTION	20,564		20,564
060	0603724N	NAVY ENERGY PROGRAM	26,514	23,000	49,514

		Battery development and safety enterprise		[13,000]	
		Marine energy systems for sensors and microgrids		[10,000]	
061	0603725N	FACILITIES IMPROVEMENT	3,440		3,440
062	0603734N	CHALK CORAL	346,800		346,800
063	0603739N	NAVY LOGISTIC PRODUCTIVITY	3,857		3,857
064	0603746N	RETRACT MAPLE	258,519		258,519
065	0603748N	LINK PLUMERIA	403,909		403,909
066	0603751N	RETRACT ELM	63,434		63,434
067	0603764N	LINK EVERGREEN	184,110		184,110
068	0603790N	NATO RESEARCH AND DEVELOPMENT	7,697		7,697
069	0603795N	LAND ATTACK TECHNOLOGY	9,086		9,086
070	0603851M	JOINT NON-LETHAL WEAPONS TESTING	28,466		28,466
071	0603860N	JOINT PRECISION APPROACH AND LANDING SYSTEMS—DEM/VAL	51,341		51,341
072	0603925N	DIRECTED ENERGY AND ELECTRIC WEAPON SYSTEMS	118,169		118,169
073	0604014N	F/A –18 INFRARED SEARCH AND TRACK (IRST)	113,456	–1,000	112,456
		Program delay		[–1,000]	
074	0604027N	DIGITAL WARFARE OFFICE	50,120		50,120
075	0604028N	SMALL AND MEDIUM UNMANNED UNDERSEA VEHICLES	32,527		32,527
076	0604029N	UNMANNED UNDERSEA VEHICLE CORE TECHNOLOGIES	54,376		54,376
077	0604030N	RAPID PROTOTYPING, EXPERIMENTATION AND DEMONSTRATION.	36,197		36,197
078	0604031N	LARGE UNMANNED UNDERSEA VEHICLES	68,310	–8,500	59,810
		Early to need		[–8,500]	
079	0604112N	GERALD R. FORD CLASS NUCLEAR AIRCRAFT CARRIER (CVN 78—80)	121,310		121,310
080	0604126N	LITTORAL AIRBORNE MCM	17,248		17,248
081	0604127N	SURFACE MINE COUNTERMEASURES	18,735		18,735
082	0604272N	TACTICAL AIR DIRECTIONAL INFRARED COUNTERMEASURES (TADIRCM)	68,346	–10,000	58,346
		Excess to need		[–10,000]	
084	0604289M	NEXT GENERATION LOGISTICS	4,420		4,420
085	0604320M	RAPID TECHNOLOGY CAPABILITY PROTOTYPE	4,558		4,558
086	0604454N	LX (R)	12,500		12,500
087	0604536N	ADVANCED UNDERSEA PROTOTYPING	181,967	–7,530	174,437
		ORCA XLUUV prior year carryover		[–7,530]	

SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION
(In Thousands of Dollars)

Line	Program Element	Item	FY 2020 Request	House Change	House Authorized
088	0604636N	COUNTER UNMANNED AIRCRAFT SYSTEMS (C-UAS)	5,500		5,500
089	0604659N	PRECISION STRIKE WEAPONS DEVELOPMENT PROGRAM	718,148	–80,000	638,148
		Excess growth		[–80,000]	
090	0604707N	SPACE AND ELECTRONIC WARFARE (SEW) ARCHITECTURE/ENGINEERING SUPPORT	5,263		5,263
091	0604786N	OFFENSIVE ANTI-SURFACE WARFARE WEAPON DEVELOPMENT	65,419		65,419
092	0303354N	ASW SYSTEMS DEVELOPMENT—MIP	9,991		9,991
093	0304240M	ADVANCED TACTICAL UNMANNED AIRCRAFT SYSTEM	21,157	18,500	39,657
		KMAX Large Unmanned Logistics System USMC unfunded priority		[18,500]	
095	0304270N	ELECTRONIC WARFARE DEVELOPMENT—MIP	609		609
		SUBTOTAL ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES	**5,559,062**	**–354,330**	**5,204,732**
		SYSTEM DEVELOPMENT & DEMONSTRATION			
096	0603208N	TRAINING SYSTEM AIRCRAFT	15,514		15,514
097	0604212N	OTHER HELO DEVELOPMENT	28,835		28,835
098	0604214M	AV–8B AIRCRAFT—ENG DEV	27,441		27,441
100	0604215N	STANDARDS DEVELOPMENT	3,642		3,642
101	0604216N	MULTI-MISSION HELICOPTER UPGRADE DEVELOPMENT	19,196		19,196
104	0604230N	WARFARE SUPPORT SYSTEM	8,601		8,601
105	0604231N	TACTICAL COMMAND SYSTEM	77,232		77,232
106	0604234N	ADVANCED HAWKEYE	232,752		232,752
107	0604245M	H–1 UPGRADES	65,359	–500	64,859
		Support cost growth		[–500]	
109	0604261N	ACOUSTIC SEARCH SENSORS	47,013		47,013
110	0604262N	V–22A	185,105	–13,000	172,105
		Excess to need		[–13,000]	
111	0604264N	AIR CREW SYSTEMS DEVELOPMENT	21,172		21,172
112	0604269N	EA–18	143,585	–20,000	123,585

		Unjustified cost growth		[–20,000]	
113	0604270N	ELECTRONIC WARFARE DEVELOPMENT	116,811	–7,160	109,651
		Unjustified request		[–7,160]	
114	0604273M	EXECUTIVE HELO DEVELOPMENT	187,436		187,436
116	0604274N	NEXT GENERATION JAMMER (NGJ)	524,261	–81,000	443,261
		Underexecution		[–81,000]	
117	0604280N	JOINT TACTICAL RADIO SYSTEM—NAVY (JTRS-NAVY)	192,345	–1,500	190,845
		Early to need		[–1,500]	
118	0604282N	NEXT GENERATION JAMMER (NGJ) INCREMENT II	111,068		111,068
119	0604307N	SURFACE COMBATANT COMBAT SYSTEM ENGINEERING	415,625		415,625
120	0604311N	LPD–17 CLASS SYSTEMS INTEGRATION	640		640
121	0604329N	SMALL DIAMETER BOMB (SDB)	50,096		50,096
122	0604366N	STANDARD MISSILE IMPROVEMENTS	232,391		232,391
123	0604373N	AIRBORNE MCM	10,916		10,916
124	0604378N	NAVAL INTEGRATED FIRE CONTROL—COUNTER AIR SYSTEMS ENGINEERING	33,379		33,379
125	0604501N	ADVANCED ABOVE WATER SENSORS	34,554		34,554
126	0604503N	SSN–688 AND TRIDENT MODERNIZATION	84,663		84,663
127	0604504N	AIR CONTROL	44,923		44,923
128	0604512N	SHIPBOARD AVIATION SYSTEMS	10,632		10,632
129	0604518N	COMBAT INFORMATION CENTER CONVERSION	16,094		16,094
130	0604522N	AIR AND MISSILE DEFENSE RADAR (AMDR) SYSTEM	55,349		55,349
131	0604530N	ADVANCED ARRESTING GEAR (AAG)	123,490		123,490
132	0604558N	NEW DESIGN SSN	121,010		121,010
133	0604562N	SUBMARINE TACTICAL WARFARE SYSTEM	62,426		62,426
134	0604567N	SHIP CONTRACT DESIGN/ LIVE FIRE T&E	46,809	10,000	56,809
		Program increase—DDG–51 advanced degaussing		[10,000]	
135	0604574N	NAVY TACTICAL COMPUTER RESOURCES	3,692		3,692
137	0604601N	MINE DEVELOPMENT	28,964		28,964
138	0604610N	LIGHTWEIGHT TORPEDO DEVELOPMENT	148,349	–21,000	127,349
		Excess to need		[–21,000]	
139	0604654N	JOINT SERVICE EXPLOSIVE ORDNANCE DEVELOPMENT	8,237		8,237
140	0604657M	USMC GROUND COMBAT/SUPPORTING ARMS SYSTEMS—ENG DEV	22,000		22,000

SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION
(In Thousands of Dollars)

Line	Program Element	Item	FY 2020 Request	House Change	House Authorized
141	0604703N	PERSONNEL, TRAINING, SIMULATION, AND HUMAN FACTORS	5,500		5,500
142	0604727N	JOINT STANDOFF WEAPON SYSTEMS	18,725	–2,500	16,225
		Excess to need		[–2,500]	
143	0604755N	SHIP SELF DEFENSE (DETECT & CONTROL)	192,603		192,603
144	0604756N	SHIP SELF DEFENSE (ENGAGE: HARD KILL)	137,268		137,268
145	0604757N	SHIP SELF DEFENSE (ENGAGE: SOFT KILL/EW)	97,363		97,363
146	0604761N	INTELLIGENCE ENGINEERING	26,710		26,710
147	0604771N	MEDICAL DEVELOPMENT	8,181	5,000	13,181
		Enterotoxigenic escherichia coli research		[5,000]	
148	0604777N	NAVIGATION/ID SYSTEM	40,755		40,755
149	0604800M	JOINT STRIKE FIGHTER (JSF)—EMD	1,710		1,710
150	0604800N	JOINT STRIKE FIGHTER (JSF)—EMD	1,490		1,490
153	0605013M	INFORMATION TECHNOLOGY DEVELOPMENT	1,494		1,494
154	0605013N	INFORMATION TECHNOLOGY DEVELOPMENT	384,162	–13,500	370,662
		Unjustified growth over FY19 projection		[–13,500]	
155	0605024N	ANTI-TAMPER TECHNOLOGY SUPPORT	4,882		4,882
156	0605212M	CH–53K RDTE	516,955	–20,000	496,955
		Excess to need		[–20,000]	
158	0605215N	MISSION PLANNING	75,886		75,886
159	0605217N	COMMON AVIONICS	43,187		43,187
160	0605220N	SHIP TO SHORE CONNECTOR (SSC)	4,909		4,909
161	0605327N	T-AO 205 CLASS	1,682		1,682
162	0605414N	UNMANNED CARRIER AVIATION (UCA)	671,258		671,258
163	0605450M	JOINT AIR-TO-GROUND MISSILE (JAGM)	18,393	–6,000	12,393
		Schedule delays		[–6,000]	
165	0605500N	MULTI-MISSION MARITIME AIRCRAFT (MMA)	21,472		21,472
166	0605504N	MULTI-MISSION MARITIME (MMA) INCREMENT III	177,234		177,234

167	0605611M	MARINE CORPS ASSAULT VEHICLES SYSTEM DEVELOPMENT & DEMONSTRATION	77,322	–8,201	69,121
		Early to need		[–2,201]	
		Excess growth		[–6,000]	
168	0605813M	JOINT LIGHT TACTICAL VEHICLE (JLTV) SYSTEM DEVELOPMENT & DEMONSTRATION	2,105		2,105
169	0204202N	DDG–1000	111,435		111,435
172	0304785N	TACTICAL CRYPTOLOGIC SYSTEMS	101,339		101,339
173	0306250M	CYBER OPERATIONS TECHNOLOGY DEVELOPMENT	26,406		26,406
		SUBTOTAL SYSTEM DEVELOPMENT & DEMONSTRATION	**6,332,033**	**–179,361**	**6,152,672**
		MANAGEMENT SUPPORT			
174	0604256N	THREAT SIMULATOR DEVELOPMENT	66,678		66,678
175	0604258N	TARGET SYSTEMS DEVELOPMENT	12,027		12,027
176	0604759N	MAJOR T&E INVESTMENT	85,348		85,348
178	0605152N	STUDIES AND ANALYSIS SUPPORT—NAVY	3,908		3,908
179	0605154N	CENTER FOR NAVAL ANALYSES	47,669		47,669
180	0605285N	NEXT GENERATION FIGHTER	20,698		20,698
182	0605804N	TECHNICAL INFORMATION SERVICES	988		988
183	0605853N	MANAGEMENT, TECHNICAL & INTERNATIONAL SUPPORT	102,401		102,401
184	0605856N	STRATEGIC TECHNICAL SUPPORT	3,742		3,742
186	0605863N	RDT&E SHIP AND AIRCRAFT SUPPORT	93,872		93,872
187	0605864N	TEST AND EVALUATION SUPPORT	394,020		394,020
188	0605865N	OPERATIONAL TEST AND EVALUATION CAPABILITY	25,145		25,145
189	0605866N	NAVY SPACE AND ELECTRONIC WARFARE (SEW) SUPPORT	15,773		15,773
190	0605867N	SEW SURVEILLANCE/RECONNAISSANCE SUPPORT	8,402		8,402
191	0605873M	MARINE CORPS PROGRAM WIDE SUPPORT	37,265	–8,000	29,265
		Unjustified growth		[–8,000]	
192	0605898N	MANAGEMENT HQ—R&D	39,673		39,673
193	0606355N	WARFARE INNOVATION MANAGEMENT	28,750		28,750
196	0305327N	INSIDER THREAT	2,645		2,645
197	0902498N	MANAGEMENT HEADQUARTERS (DEPARTMENTAL SUPPORT ACTIVITIES)	1,460		1,460
		SUBTOTAL MANAGEMENT SUPPORT	**990,464**	**–8,000**	**982,464**

SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION
(In Thousands of Dollars)

Line	Program Element	Item	FY 2020 Request	House Change	House Authorized
		OPERATIONAL SYSTEMS DEVELOPMENT			
202	0604227N	HARPOON MODIFICATIONS	2,302		2,302
203	0604840M	F–35 C2D2	422,881		422,881
204	0604840N	F–35 C2D2	383,741		383,741
205	0607658N	COOPERATIVE ENGAGEMENT CAPABILITY (CEC)	127,924		127,924
207	0101221N	STRATEGIC SUB & WEAPONS SYSTEM SUPPORT	157,676		157,676
208	0101224N	SSBN SECURITY TECHNOLOGY PROGRAM	43,354		43,354
209	0101226N	SUBMARINE ACOUSTIC WARFARE DEVELOPMENT	6,815		6,815
210	0101402N	NAVY STRATEGIC COMMUNICATIONS	31,174		31,174
211	0204136N	F/A–18 SQUADRONS	213,715	2,500	216,215
		Block III support prior year carryover		[–7,500]	
		Jet noise reduction research		[10,000]	
213	0204228N	SURFACE SUPPORT	36,389	9,000	45,389
		WSN–12 Technology Insertion		[9,000]	
214	0204229N	TOMAHAWK AND TOMAHAWK MISSION PLANNING CENTER (TMPC)	320,134		320,134
215	0204311N	INTEGRATED SURVEILLANCE SYSTEM	88,382		88,382
216	0204313N	SHIP-TOWED ARRAY SURVEILLANCE SYSTEMS	14,449		14,449
217	0204413N	AMPHIBIOUS TACTICAL SUPPORT UNITS (DISPLACEMENT CRAFT)	6,931		6,931
218	0204460M	GROUND/AIR TASK ORIENTED RADAR (G/ATOR)	23,891		23,891
219	0204571N	CONSOLIDATED TRAINING SYSTEMS DEVELOPMENT	129,873		129,873
221	0204575N	ELECTRONIC WARFARE (EW) READINESS SUPPORT	82,325	–20,000	62,325
		Prior year carryover		[–20,000]	
222	0205601N	HARM IMPROVEMENT	138,431	–6,000	132,431
		AARGM ER test schedule discrepancy		[–6,000]	
224	0205620N	SURFACE ASW COMBAT SYSTEM INTEGRATION	29,572		29,572
225	0205632N	MK–48 ADCAP	85,973		85,973
226	0205633N	AVIATION IMPROVEMENTS	125,461		125,461

227	0205675N	OPERATIONAL NUCLEAR POWER SYSTEMS	106,192		106,192
228	0206313M	MARINE CORPS COMMUNICATIONS SYSTEMS	143,317	–9,000	134,317
		Program delay		[–9,000]	
229	0206335M	COMMON AVIATION COMMAND AND CONTROL SYSTEM (CAC2S)	4,489		4,489
230	0206623M	MARINE CORPS GROUND COMBAT/SUPPORTING ARMS SYSTEMS	51,788		51,788
231	0206624M	MARINE CORPS COMBAT SERVICES SUPPORT	37,761		37,761
232	0206625M	USMC INTELLIGENCE/ELECTRONIC WARFARE SYSTEMS (MIP)	21,458		21,458
233	0206629M	AMPHIBIOUS ASSAULT VEHICLE	5,476		5,476
234	0207161N	TACTICAL AIM MISSILES	19,488		19,488
235	0207163N	ADVANCED MEDIUM RANGE AIR-TO-AIR MISSILE (AMRAAM)	39,029	–4,500	34,529
		Prior year carryover		[–4,500]	
239	0303109N	SATELLITE COMMUNICATIONS (SPACE)	34,344		34,344
240	0303138N	CONSOLIDATED AFLOAT NETWORK ENTERPRISE SERVICES (CANES)	22,873		22,873
241	0303140N	INFORMATION SYSTEMS SECURITY PROGRAM	41,853		41,853
243	0305192N	MILITARY INTELLIGENCE PROGRAM (MIP) ACTIVITIES	8,913		8,913
244	0305204N	TACTICAL UNMANNED AERIAL VEHICLES	9,451		9,451
245	0305205N	UAS INTEGRATION AND INTEROPERABILITY	42,315		42,315
246	0305208M	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	22,042		22,042
248	0305220N	MQ–4C TRITON	11,784		11,784
249	0305231N	MQ–8 UAV	29,618		29,618
250	0305232M	RQ–11 UAV	509		509
251	0305234N	SMALL (LEVEL 0) TACTICAL UAS (STUASL0)	11,545		11,545
252	0305239M	RQ–21A	10,914		10,914
253	0305241N	MULTI-INTELLIGENCE SENSOR DEVELOPMENT	70,612		70,612
254	0305242M	UNMANNED AERIAL SYSTEMS (UAS) PAYLOADS (MIP)	3,704		3,704
255	0305421N	RQ–4 MODERNIZATION	202,346		202,346
256	0308601N	MODELING AND SIMULATION SUPPORT	7,119		7,119
257	0702207N	DEPOT MAINTENANCE (NON-IF)	38,182		38,182
258	0708730N	MARITIME TECHNOLOGY (MARITECH)	6,779		6,779
259	1203109N	SATELLITE COMMUNICATIONS (SPACE)	15,868		15,868
259A	9999999999	CLASSIFIED PROGRAMS	1,613,137		1,613,137
		SUBTOTAL OPERATIONAL SYSTEMS DEVELOPMENT	**5,104,299**	**–28,000**	**5,076,299**

SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION
(In Thousands of Dollars)

Line	Program Element	Item	FY 2020 Request	House Change	House Authorized
		TOTAL RESEARCH, DEVELOPMENT, TEST & EVAL, NAVY	**20,270,499**	**–411,691**	**19,858,808**
		RESEARCH, DEVELOPMENT, TEST & EVAL, AF			
		BASIC RESEARCH			
001	0601102F	DEFENSE RESEARCH SCIENCES	356,107		356,107
002	0601103F	UNIVERSITY RESEARCH INITIATIVES	158,859		158,859
003	0601108F	HIGH ENERGY LASER RESEARCH INITIATIVES	14,795		14,795
		SUBTOTAL BASIC RESEARCH	**529,761**		**529,761**
		APPLIED RESEARCH			
004	0602102F	MATERIALS	128,851	15,000	143,851
		Advanced thermal protection systems		[10,000]	
		Program increase—flexible biosensors		[5,000]	
005	0602201F	AEROSPACE VEHICLE TECHNOLOGIES	147,724		147,724
006	0602202F	HUMAN EFFECTIVENESS APPLIED RESEARCH	131,795		131,795
007	0602203F	AEROSPACE PROPULSION	198,775	15,000	213,775
		Educational partnership agreements for aerospace propulsion		[10,000]	
		Electrical power/thermal management systems		[5,000]	
008	0602204F	AEROSPACE SENSORS	202,912		202,912
010	0602298F	SCIENCE AND TECHNOLOGY MANAGEMENT— MAJOR HEADQUARTERS ACTIVITIES	7,968		7,968
012	0602602F	CONVENTIONAL MUNITIONS	142,772		142,772
013	0602605F	DIRECTED ENERGY TECHNOLOGY	124,379		124,379
014	0602788F	DOMINANT INFORMATION SCIENCES AND METHODS	181,562	5,000	186,562
		Detection and countering of adversarial UAS		[5,000]	
015	0602890F	HIGH ENERGY LASER RESEARCH	44,221		44,221
016	1206601F	SPACE TECHNOLOGY	124,667		124,667

		SUBTOTAL APPLIED RESEARCH	**1,435,626**	**35,000**	**1,470,626**
		ADVANCED TECHNOLOGY DEVELOPMENT			
017	0603112F	ADVANCED MATERIALS FOR WEAPON SYSTEMS	36,586	5,000	41,586
		Metals affordability initiative		[5,000]	
018	0603199F	SUSTAINMENT SCIENCE AND TECHNOLOGY (S&T)	16,249		16,249
019	0603203F	ADVANCED AEROSPACE SENSORS	38,292		38,292
020	0603211F	AEROSPACE TECHNOLOGY DEV/DEMO	102,949	20,000	122,949
		High speed vertical lift demonstration		[5,000]	
		Low cost attritable aircraft technology		[15,000]	
021	0603216F	AEROSPACE PROPULSION AND POWER TECHNOLOGY	113,973	5,000	118,973
		Electrical power systems		[5,000]	
022	0603270F	ELECTRONIC COMBAT TECHNOLOGY	48,408		48,408
023	0603401F	ADVANCED SPACECRAFT TECHNOLOGY	70,525		70,525
024	0603444F	MAUI SPACE SURVEILLANCE SYSTEM (MSSS)	11,878		11,878
025	0603456F	HUMAN EFFECTIVENESS ADVANCED TECHNOLOGY DEVELOPMENT	37,542		37,542
026	0603601F	CONVENTIONAL WEAPONS TECHNOLOGY	225,817		225,817
027	0603605F	ADVANCED WEAPONS TECHNOLOGY	37,404		37,404
028	0603680F	MANUFACTURING TECHNOLOGY PROGRAM	43,116	16,000	59,116
		Aerospace composites manufacturing		[10,000]	
		Program increase		[6,000]	
029	0603788F	BATTLESPACE KNOWLEDGE DEVELOPMENT AND DEMONSTRATION	56,414		56,414
		SUBTOTAL ADVANCED TECHNOLOGY DEVELOPMENT	**839,153**	**46,000**	**885,153**
		ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES			
031	0603260F	INTELLIGENCE ADVANCED DEVELOPMENT	5,672		5,672
032	0603742F	COMBAT IDENTIFICATION TECHNOLOGY	27,085		27,085
033	0603790F	NATO RESEARCH AND DEVELOPMENT	4,955		4,955
034	0603851F	INTERCONTINENTAL BALLISTIC MISSILE—DEM/VAL	44,109		44,109
036	0604002F	AIR FORCE WEATHER SERVICES RESEARCH	772		772
037	0604004F	ADVANCED ENGINE DEVELOPMENT	878,442	–29,000	849,442
		Unjustified budget growth		[–29,000]	

SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION
(In Thousands of Dollars)

Line	Program Element	Item	FY 2020 Request	House Change	House Authorized
038	0604015F	LONG RANGE STRIKE—BOMBER	3,003,899		3,003,899
039	0604032F	DIRECTED ENERGY PROTOTYPING	10,000	10,000	20,000
		High-value airborne asset protection		[10,000]	
040	0604033F	HYPERSONICS PROTOTYPING	576,000	–40,000	536,000
		Program concurrency		[–40,000]	
041	0604201F	PNT RESILIENCY, MODS, AND IMPROVEMENTS	92,600	32,000	124,600
		Program increase		[32,000]	
042	0604257F	ADVANCED TECHNOLOGY AND SENSORS	23,145		23,145
043	0604288F	NATIONAL AIRBORNE OPS CENTER (NAOC) RECAP	16,669		16,669
044	0604317F	TECHNOLOGY TRANSFER	23,614		23,614
045	0604327F	HARD AND DEEPLY BURIED TARGET DEFEAT SYSTEM (HDBTDS) PROGRAM	113,121		113,121
046	0604414F	CYBER RESILIENCY OF WEAPON SYSTEMS-ACS	56,325		56,325
047	0604776F	DEPLOYMENT & DISTRIBUTION ENTERPRISE R&D	28,034		28,034
048	0604858F	TECH TRANSITION PROGRAM	128,476		128,476
049	0605230F	GROUND BASED STRATEGIC DETERRENT	570,373	–80,978	489,395
		Program reduction		[–103,000]	
		Technical adjustment for NC3		[22,022]	
050	0207100F	LIGHT ATTACK ARMED RECONNAISSANCE (LAAR) SQUADRONS	35,000		35,000
051	0207110F	NEXT GENERATION AIR DOMINANCE	1,000,000	–500,000	500,000
		Cost-risk associated with development profile		[–500,000]	
052	0207455F	THREE DIMENSIONAL LONG-RANGE RADAR (3DELRR)	37,290		37,290
053	0208099F	UNIFIED PLATFORM (UP)	10,000		10,000
054	0305236F	COMMON DATA LINK EXECUTIVE AGENT (CDL EA)	36,910		36,910
055	0305251F	CYBERSPACE OPERATIONS FORCES AND FORCE SUPPORT	35,000		35,000
056	0305601F	MISSION PARTNER ENVIRONMENTS	8,550		8,550
057	0306250F	CYBER OPERATIONS TECHNOLOGY DEVELOPMENT	198,864		198,864
058	0306415F	ENABLED CYBER ACTIVITIES	16,632		16,632

060	0901410F	CONTRACTING INFORMATION TECHNOLOGY SYSTEM	20,830		20,830
061	1203164F	NAVSTAR GLOBAL POSITIONING SYSTEM (USER EQUIPMENT) (SPACE)	329,948		329,948
062	1203710F	EO/IR WEATHER SYSTEMS	101,222		101,222
063	1206422F	WEATHER SYSTEM FOLLOW-ON	225,660	–20,000	205,660
		Unjustified growth		[–20,000]	
064	1206425F	SPACE SITUATION AWARENESS SYSTEMS	29,776		29,776
065	1206427F	SPACE SYSTEMS PROTOTYPE TRANSITIONS (SSPT)	142,045	20,000	162,045
		Accelerate Blackjack prototype demonstration and tech maturation		[20,000]	
067	1206438F	SPACE CONTROL TECHNOLOGY	64,231	–6,000	58,231
		Unjustified growth		[–6,000]	
068	1206730F	SPACE SECURITY AND DEFENSE PROGRAM	56,385		56,385
069	1206760F	PROTECTED TACTICAL ENTERPRISE SERVICE (PTES)	105,003		105,003
070	1206761F	PROTECTED TACTICAL SERVICE (PTS)	173,694	–7,500	166,194
		Unjustified growth		[–7,500]	
071	1206855F	EVOLVED STRATEGIC SATCOM (ESS)	172,206		172,206
072	1206857F	SPACE RAPID CAPABILITIES OFFICE	33,742	–3,000	30,742
		Program decrease		[–3,000]	
		SUBTOTAL ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES	**8,436,279**	**–624,478**	**7,811,801**
		SYSTEM DEVELOPMENT & DEMONSTRATION			
073	0604200F	FUTURE ADVANCED WEAPON ANALYSIS & PROGRAMS	246,200	–246,000	200
		Unjustified requirement		[–246,000]	
074	0604201F	PNT RESILIENCY, MODS, AND IMPROVEMENTS	67,782		67,782
075	0604222F	NUCLEAR WEAPONS SUPPORT	4,406		4,406
076	0604270F	ELECTRONIC WARFARE DEVELOPMENT	2,066		2,066
077	0604281F	TACTICAL DATA NETWORKS ENTERPRISE	229,631	–19,300	210,331
		Prior-year carryover		[–19,300]	
078	0604287F	PHYSICAL SECURITY EQUIPMENT	9,700		9,700
079	0604329F	SMALL DIAMETER BOMB (SDB)—EMD	31,241	10,000	41,241
		Program efficiency initiative		[10,000]	
080	0604429F	AIRBORNE ELECTRONIC ATTACK	2		2
081	0604602F	ARMAMENT/ORDNANCE DEVELOPMENT	28,043	–5,500	22,543

SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION
(In Thousands of Dollars)

Line	Program Element	Item	FY 2020 Request	House Change	House Authorized
		Unjustified requirement (JAGM-F)		[–5,500]	
082	0604604F	SUBMUNITIONS	3,045		3,045
083	0604617F	AGILE COMBAT SUPPORT	19,944		19,944
084	0604706F	LIFE SUPPORT SYSTEMS	8,624	8,000	16,624
		Next-gen ejection seat qualification		[8,000]	
085	0604735F	COMBAT TRAINING RANGES	37,365		37,365
086	0604800F	F–35—EMD	7,628		7,628
087	0604932F	LONG RANGE STANDOFF WEAPON	712,539		712,539
088	0604933F	ICBM FUZE MODERNIZATION	161,199		161,199
089	0605030F	JOINT TACTICAL NETWORK CENTER (JTNC)	2,414		2,414
091	0605056F	OPEN ARCHITECTURE MANAGEMENT	30,000		30,000
093	0605221F	KC–46	59,561		59,561
094	0605223F	ADVANCED PILOT TRAINING	348,473		348,473
095	0605229F	COMBAT RESCUE HELICOPTER	247,047	–1,000	246,047
		Support cost growth		[–1,000]	
098	0605931F	B–2 DEFENSIVE MANAGEMENT SYSTEM	294,400		294,400
099	0101125F	NUCLEAR WEAPONS MODERNIZATION	27,564		27,564
101	0207171F	F–15 EPAWSS	47,322		47,322
102	0207328F	STAND IN ATTACK WEAPON	162,840	–35,000	127,840
		Unjustified program growth		[–35,000]	
103	0207701F	FULL COMBAT MISSION TRAINING	9,797		9,797
106	0401310F	C–32 EXECUTIVE TRANSPORT RECAPITALIZATION	9,930		9,930
107	0401319F	VC–25B	757,923		757,923
108	0701212F	AUTOMATED TEST SYSTEMS	2,787		2,787
109	1203176F	COMBAT SURVIVOR EVADER LOCATOR	2,000		2,000
110	1203269F	GPS III FOLLOW-ON (GPS IIIF)	462,875	–10,000	452,875
		Unjustified growth		[–10,000]	

111	1203940F	SPACE SITUATION AWARENESS OPERATIONS	76,829	–20,000	56,829
		GBOSS unjustified growth		[–20,000]	
112	1206421F	COUNTERSPACE SYSTEMS	29,037	5,000	34,037
		Counterspace communications systems pre-planned product improvement		[5,000]	
113	1206422F	WEATHER SYSTEM FOLLOW-ON	2,237		2,237
114	1206425F	SPACE SITUATION AWARENESS SYSTEMS	412,894	–50,000	362,894
		Unexecutable growth		[–50,000]	
116	1206431F	ADVANCED EHF MILSATCOM (SPACE)	117,290		117,290
117	1206432F	POLAR MILSATCOM (SPACE)	427,400		427,400
118	1206433F	WIDEBAND GLOBAL SATCOM (SPACE)	1,920		1,920
119	1206441F	SPACE BASED INFRARED SYSTEM (SBIRS) HIGH EMD	1		1
120	1206442F	NEXT GENERATION OPIR	1,395,278	–376,400	1,018,878
		Unexecutable funding profile		[–293,100]	
		Unexecutable funding profile (ground)		[–83,300]	
121	1206445F	COMMERCIAL SATCOM (COMSATCOM) INTEGRATION		10,000	10,000
		Accelerate integration of COMSATCOM capabilities		[10,000]	
122	1206853F	NATIONAL SECURITY SPACE LAUNCH PROGRAM (SPACE)—EMD	432,009		432,009
		SUBTOTAL SYSTEM DEVELOPMENT & DEMONSTRATION	**6,929,243**	**–730,200**	**6,199,043**
		MANAGEMENT SUPPORT			
123	0604256F	THREAT SIMULATOR DEVELOPMENT	59,693		59,693
124	0604759F	MAJOR T&E INVESTMENT	181,663	2,000	183,663
		Telemetry extension SATCOM relay		[2,000]	
125	0605101F	RAND PROJECT AIR FORCE	35,258		35,258
127	0605712F	INITIAL OPERATIONAL TEST & EVALUATION	13,793		13,793
128	0605807F	TEST AND EVALUATION SUPPORT	717,895	25,500	743,395
		Overwater range telemetry improvements		[25,500]	
129	0605826F	ACQ WORKFORCE- GLOBAL POWER	258,667		258,667
130	0605827F	ACQ WORKFORCE- GLOBAL VIG & COMBAT SYS	251,992		251,992
131	0605828F	ACQ WORKFORCE- GLOBAL REACH	149,191		149,191
132	0605829F	ACQ WORKFORCE- CYBER, NETWORK, & BUS SYS	235,360		235,360
133	0605830F	ACQ WORKFORCE- GLOBAL BATTLE MGMT	160,196		160,196

SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION
(In Thousands of Dollars)

Line	Program Element	Item	FY 2020 Request	House Change	House Authorized
134	0605831F	ACQ WORKFORCE- CAPABILITY INTEGRATION	220,255		220,255
135	0605832F	ACQ WORKFORCE- ADVANCED PRGM TECHNOLOGY	42,392		42,392
136	0605833F	ACQ WORKFORCE- NUCLEAR SYSTEMS	133,231		133,231
137	0605898F	MANAGEMENT HQ—R&D	5,590		5,590
138	0605976F	FACILITIES RESTORATION AND MODERNIZATION—TEST AND EVALUATION SUPPORT	88,445		88,445
139	0605978F	FACILITIES SUSTAINMENT—TEST AND EVALUATION SUPPORT	29,424		29,424
140	0606017F	REQUIREMENTS ANALYSIS AND MATURATION	62,715		62,715
141	0606398F	MANAGEMENT HQ—T&E	5,013		5,013
142	0308602F	ENTEPRISE INFORMATION SERVICES (EIS)	17,128		17,128
143	0702806F	ACQUISITION AND MANAGEMENT SUPPORT	5,913		5,913
144	0804731F	GENERAL SKILL TRAINING	1,475		1,475
146	1001004F	INTERNATIONAL ACTIVITIES	4,071		4,071
147	1206116F	SPACE TEST AND TRAINING RANGE DEVELOPMENT	19,942	–5,000	14,942
		Unjustified growth		[–5,000]	
148	1206392F	SPACE AND MISSILE CENTER (SMC) CIVILIAN WORKFORCE	167,810		167,810
149	1206398F	SPACE & MISSILE SYSTEMS CENTER—MHA	10,170		10,170
150	1206860F	ROCKET SYSTEMS LAUNCH PROGRAM (SPACE)	13,192	10,000	23,192
		Small rockets launch services		[10,000]	
151	1206864F	SPACE TEST PROGRAM (STP)	26,097	3,000	29,097
		Small launch		[3,000]	
		SUBTOTAL MANAGEMENT SUPPORT	**2,916,571**	**35,500**	**2,952,071**
		OPERATIONAL SYSTEMS DEVELOPMENT			
152	0604003F	ADVANCED BATTLE MANAGEMENT SYSTEM (ABMS)	35,611	–15,600	20,011
		Program increase—sensor fusion and artificial intelligence technology		[10,000]	
		Unjustified request		[–25,600]	
154	0604233F	SPECIALIZED UNDERGRADUATE FLIGHT TRAINING	2,584		2,584

155	0604445F	WIDE AREA SURVEILLANCE	0	20,000	20,000
		Program increase		[20,000]	
156	0604776F	DEPLOYMENT & DISTRIBUTION ENTERPRISE R&D	903		903
157	0604840F	F–35 C2D2	694,455		694,455
158	0605018F	AF INTEGRATED PERSONNEL AND PAY SYSTEM (AF-IPPS)	40,567		40,567
159	0605024F	ANTI-TAMPER TECHNOLOGY EXECUTIVE AGENCY	47,193		47,193
160	0605117F	FOREIGN MATERIEL ACQUISITION AND EXPLOITATION	70,083		70,083
161	0605278F	HC/MC–130 RECAP RDT&E	17,218		17,218
162	0606018F	NC3 INTEGRATION	25,917		25,917
164	0101113F	B–52 SQUADRONS	325,974		325,974
165	0101122F	AIR-LAUNCHED CRUISE MISSILE (ALCM)	10,217		10,217
166	0101126F	B–1B SQUADRONS	1,000		1,000
167	0101127F	B–2 SQUADRONS	97,276		97,276
168	0101213F	MINUTEMAN SQUADRONS	128,961	–22,022	106,939
		Technical adjustment for NC3		[–22,022]	
170	0101316F	WORLDWIDE JOINT STRATEGIC COMMUNICATIONS	18,177		18,177
171	0101324F	INTEGRATED STRATEGIC PLANNING & ANALYSIS NETWORK	24,261		24,261
172	0101328F	ICBM REENTRY VEHICLES	75,571		75,571
174	0102110F	UH–1N REPLACEMENT PROGRAM	170,975		170,975
176	0205219F	MQ–9 UAV	154,996		154,996
178	0207131F	A–10 SQUADRONS	36,816		36,816
179	0207133F	F–16 SQUADRONS	193,013		193,013
180	0207134F	F–15E SQUADRONS	336,079	–18,300	317,779
		Unjustified F–15C requirements		[–18,300]	
181	0207136F	MANNED DESTRUCTIVE SUPPRESSION	15,521		15,521
182	0207138F	F–22A SQUADRONS	496,298	–53,800	442,498
		Excess to requirements		[–23,800]	
		Prior-year carryover		[–30,000]	
183	0207142F	F–35 SQUADRONS	99,943		99,943
184	0207161F	TACTICAL AIM MISSILES	10,314		10,314
185	0207163F	ADVANCED MEDIUM RANGE AIR-TO-AIR MISSILE (AMRAAM)	55,384		55,384
186	0207227F	COMBAT RESCUE—PARARESCUE	281		281

SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION
(In Thousands of Dollars)

Line	Program Element	Item	FY 2020 Request	House Change	House Authorized
187	0207247F	AF TENCAP	21,365		21,365
188	0207249F	PRECISION ATTACK SYSTEMS PROCUREMENT	10,696		10,696
189	0207253F	COMPASS CALL	15,888		15,888
190	0207268F	AIRCRAFT ENGINE COMPONENT IMPROVEMENT PROGRAM	112,505	–5,000	107,505
		Prior-year carryover (F–35)		[–5,000]	
191	0207325F	JOINT AIR-TO-SURFACE STANDOFF MISSILE (JASSM)	78,498		78,498
192	0207410F	AIR & SPACE OPERATIONS CENTER (AOC)	114,864	–10,000	104,864
		Unjustified request		[–10,000]	
193	0207412F	CONTROL AND REPORTING CENTER (CRC)	8,109		8,109
194	0207417F	AIRBORNE WARNING AND CONTROL SYSTEM (AWACS)	67,996	–6,787	61,209
		Excess to need		[–6,787]	
195	0207418F	TACTICAL AIRBORNE CONTROL SYSTEMS	2,462		2,462
197	0207431F	COMBAT AIR INTELLIGENCE SYSTEM ACTIVITIES	13,668		13,668
198	0207444F	TACTICAL AIR CONTROL PARTY-MOD	6,217		6,217
200	0207452F	DCAPES	19,910		19,910
201	0207573F	NATIONAL TECHNICAL NUCLEAR FORENSICS	1,788		1,788
202	0207590F	SEEK EAGLE	28,237		28,237
203	0207601F	USAF MODELING AND SIMULATION	15,725		15,725
204	0207605F	WARGAMING AND SIMULATION CENTERS	4,316		4,316
205	0207610F	BATTLEFIELD ABN COMM NODE (BACN)	26,946		26,946
206	0207697F	DISTRIBUTED TRAINING AND EXERCISES	4,303		4,303
207	0208006F	MISSION PLANNING SYSTEMS	71,465		71,465
208	0208007F	TACTICAL DECEPTION	7,446		7,446
209	0208064F	OPERATIONAL HQ—CYBER	7,602		7,602
210	0208087F	DISTRIBUTED CYBER WARFARE OPERATIONS	35,178		35,178
211	0208088F	AF DEFENSIVE CYBERSPACE OPERATIONS	16,609		16,609
212	0208097F	JOINT CYBER COMMAND AND CONTROL (JCC2)	11,603		11,603

213	0208099F	UNIFIED PLATFORM (UP)	84,702		84,702
219	0301025F	GEOBASE	2,723		2,723
220	0301112F	NUCLEAR PLANNING AND EXECUTION SYSTEM (NPES)	44,190		44,190
226	0301401F	AIR FORCE SPACE AND CYBER NON-TRADITIONAL ISR FOR BATTLESPACE AWARENESS	3,575		3,575
227	0302015F	E–4B NATIONAL AIRBORNE OPERATIONS CENTER (NAOC)	70,173		70,173
228	0303131F	MINIMUM ESSENTIAL EMERGENCY COMMUNICATIONS NETWORK (MEECN)	13,543	15,000	28,543
		Advanced concept development—NC3 demonstration and evaluation		[15,000]	
229	0303133F	HIGH FREQUENCY RADIO SYSTEMS	15,881	–14,000	1,881
		Prior-year carryover		[–14,000]	
230	0303140F	INFORMATION SYSTEMS SECURITY PROGRAM	27,726		27,726
232	0303142F	GLOBAL FORCE MANAGEMENT—DATA INITIATIVE	2,210		2,210
234	0304115F	MULTI DOMAIN COMMAND AND CONTROL (MDC2)	150,880	–50,000	100,880
		Unjustified growth		[–50,000]	
235	0304260F	AIRBORNE SIGINT ENTERPRISE	102,667	–8,500	94,167
		Common development ahead of need		[–8,500]	
236	0304310F	COMMERCIAL ECONOMIC ANALYSIS	3,431		3,431
239	0305015F	C2 AIR OPERATIONS SUITE—C2 INFO SERVICES	9,313		9,313
240	0305020F	CCMD INTELLIGENCE INFORMATION TECHNOLOGY	1,121		1,121
241	0305022F	ISR MODERNIZATION & AUTOMATION DVMT (IMAD)	19,000	–16,000	3,000
		Unjustified request		[–16,000]	
242	0305099F	GLOBAL AIR TRAFFIC MANAGEMENT (GATM)	4,544		4,544
243	0305111F	WEATHER SERVICE	25,461	2,000	27,461
		Commercial weather data pilot		[2,000]	
244	0305114F	AIR TRAFFIC CONTROL, APPROACH, AND LANDING SYSTEM (ATCALS)	5,651		5,651
245	0305116F	AERIAL TARGETS	7,448		7,448
248	0305128F	SECURITY AND INVESTIGATIVE ACTIVITIES	425		425
249	0305145F	ARMS CONTROL IMPLEMENTATION	54,546		54,546
250	0305146F	DEFENSE JOINT COUNTERINTELLIGENCE ACTIVITIES	6,858		6,858
252	0305179F	INTEGRATED BROADCAST SERVICE (IBS)	8,728		8,728
253	0305202F	DRAGON U–2	38,939		38,939
255	0305206F	AIRBORNE RECONNAISSANCE SYSTEMS	122,909	10,000	132,909
		Program increase for Gorgon Stare sensor enhancements		[10,000]	

SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION
(In Thousands of Dollars)

Line	Program Element	Item	FY 2020 Request	House Change	House Authorized
256	0305207F	MANNED RECONNAISSANCE SYSTEMS	11,787		11,787
257	0305208F	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	25,009		25,009
258	0305220F	RQ–4 UAV	191,733	–17,850	173,883
		Unjustified request		[–17,850]	
259	0305221F	NETWORK-CENTRIC COLLABORATIVE TARGETING	10,757		10,757
260	0305238F	NATO AGS	32,567		32,567
261	0305240F	SUPPORT TO DCGS ENTERPRISE	37,774		37,774
262	0305600F	INTERNATIONAL INTELLIGENCE TECHNOLOGY AND ARCHITECTURES	13,515		13,515
263	0305881F	RAPID CYBER ACQUISITION	4,383		4,383
264	0305984F	PERSONNEL RECOVERY COMMAND & CTRL (PRC2)	2,133		2,133
265	0307577F	INTELLIGENCE MISSION DATA (IMD)	8,614		8,614
266	0401115F	C–130 AIRLIFT SQUADRON	140,425		140,425
267	0401119F	C–5 AIRLIFT SQUADRONS (IF)	10,223		10,223
268	0401130F	C–17 AIRCRAFT (IF)	25,101		25,101
269	0401132F	C–130J PROGRAM	8,640		8,640
270	0401134F	LARGE AIRCRAFT IR COUNTERMEASURES (LAIRCM)	5,424		5,424
272	0401219F	KC–10S	20		20
274	0401318F	CV–22	17,906		17,906
276	0408011F	SPECIAL TACTICS / COMBAT CONTROL	3,629		3,629
277	0702207F	DEPOT MAINTENANCE (NON-IF)	1,890		1,890
278	0708055F	MAINTENANCE, REPAIR & OVERHAUL SYSTEM	10,311		10,311
279	0708610F	LOGISTICS INFORMATION TECHNOLOGY (LOGIT)	16,065		16,065
280	0708611F	SUPPORT SYSTEMS DEVELOPMENT	539		539
281	0804743F	OTHER FLIGHT TRAINING	2,057		2,057
282	0808716F	OTHER PERSONNEL ACTIVITIES	10		10
283	0901202F	JOINT PERSONNEL RECOVERY AGENCY	2,060		2,060
284	0901218F	CIVILIAN COMPENSATION PROGRAM	3,809		3,809

285	0901220F	PERSONNEL ADMINISTRATION	6,476		6,476
286	0901226F	AIR FORCE STUDIES AND ANALYSIS AGENCY	1,443		1,443
287	0901538F	FINANCIAL MANAGEMENT INFORMATION SYSTEMS DEVELOPMENT	9,323		9,323
288	0901554F	DEFENSE ENTERPRISE ACNTNG AND MGT SYS (DEAMS)	46,789		46,789
289	1201017F	GLOBAL SENSOR INTEGRATED ON NETWORK (GSIN)	3,647		3,647
290	1201921F	SERVICE SUPPORT TO STRATCOM—SPACE ACTIVITIES	988		988
291	1202140F	SERVICE SUPPORT TO SPACECOM ACTIVITIES	11,863		11,863
293	1203001F	FAMILY OF ADVANCED BLOS TERMINALS (FAB-T)	197,388	–5,000	192,388
		Unjustified growth		[–5,000]	
294	1203110F	SATELLITE CONTROL NETWORK (SPACE)	61,891	–7,600	54,291
		Underexecution of funds and unjustified growth		[–7,600]	
297	1203173F	SPACE AND MISSILE TEST AND EVALUATION CENTER	4,566		4,566
298	1203174F	SPACE INNOVATION, INTEGRATION AND RAPID TECHNOLOGY DEVELOPMENT	43,292		43,292
300	1203182F	SPACELIFT RANGE SYSTEM (SPACE)	10,837		10,837
301	1203265F	GPS III SPACE SEGMENT	42,440		42,440
302	1203400F	SPACE SUPERIORITY INTELLIGENCE	14,428		14,428
303	1203614F	JSPOC MISSION SYSTEM	72,762	–21,500	51,262
		Unjustified growth		[–21,500]	
304	1203620F	NATIONAL SPACE DEFENSE CENTER	2,653		2,653
306	1203873F	BALLISTIC MISSILE DEFENSE RADARS	15,881		15,881
308	1203913F	NUDET DETECTION SYSTEM (SPACE)	49,300		49,300
309	1203940F	SPACE SITUATION AWARENESS OPERATIONS	17,834		17,834
310	1206423F	GLOBAL POSITIONING SYSTEM III—OPERATIONAL CONTROL SEGMENT	445,302		445,302
311	1206770F	ENTERPRISE GROUND SERVICES	138,870	–10,200	128,670
		Unjustified growth		[–10,200]	
311A	9999999999	CLASSIFIED PROGRAMS	18,351,506	–353,000	17,998,506
		Classified reduction		[–353,000]	
		SUBTOTAL OPERATIONAL SYSTEMS DEVELOPMENT	**24,851,488**	**–588,159**	**24,263,329**
		TOTAL RESEARCH, DEVELOPMENT, TEST & EVAL, AF	**45,938,121**	**–1,826,337**	**44,111,784**
		RESEARCH, DEVELOPMENT, TEST & EVAL, DW			

SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION
(In Thousands of Dollars)

Line	Program Element	Item	FY 2020 Request	House Change	House Authorized
		BASIC RESEARCH			
001	0601000BR	DTRA BASIC RESEARCH	26,000		26,000
002	0601101E	DEFENSE RESEARCH SCIENCES	432,284		432,284
003	0601110D8Z	BASIC RESEARCH INITIATIVES	48,874	10,000	58,874
		Program increase		[10,000]	
004	0601117E	BASIC OPERATIONAL MEDICAL RESEARCH SCIENCE	54,122		54,122
005	0601120D8Z	NATIONAL DEFENSE EDUCATION PROGRAM	92,074	20,000	112,074
		Civics education grant program		[20,000]	
006	0601228D8Z	HISTORICALLY BLACK COLLEGES AND UNIVERSITIES/MINORITY INSTITUTIONS	30,708	20,000	50,708
		Program decrease		[–5,000]	
		Program increase		[25,000]	
007	0601384BP	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM	45,238		45,238
		SUBTOTAL BASIC RESEARCH	**729,300**	**50,000**	**779,300**
		APPLIED RESEARCH			
008	0602000D8Z	JOINT MUNITIONS TECHNOLOGY	19,306		19,306
009	0602115E	BIOMEDICAL TECHNOLOGY	97,771		97,771
011	0602234D8Z	LINCOLN LABORATORY RESEARCH PROGRAM	52,317		52,317
012	0602251D8Z	APPLIED RESEARCH FOR THE ADVANCEMENT OF S&T PRIORITIES	62,200		62,200
013	0602303E	INFORMATION & COMMUNICATIONS TECHNOLOGY	442,556		442,556
014	0602383E	BIOLOGICAL WARFARE DEFENSE	34,588		34,588
015	0602384BP	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM	202,587	12,500	215,087
		Program increase		[12,500]	
016	0602668D8Z	CYBER SECURITY RESEARCH	15,118		15,118
017	0602702E	TACTICAL TECHNOLOGY	337,602		337,602
018	0602715E	MATERIALS AND BIOLOGICAL TECHNOLOGY	223,976		223,976
019	0602716E	ELECTRONICS TECHNOLOGY	332,192		332,192

020	0602718BR	COUNTER WEAPONS OF MASS DESTRUCTION APPLIED RESEARCH	179,096		179,096
021	0602751D8Z	SOFTWARE ENGINEERING INSTITUTE (SEI) APPLIED RESEARCH	9,580		9,580
022	1160401BB	SOF TECHNOLOGY DEVELOPMENT	40,569		40,569
		SUBTOTAL APPLIED RESEARCH	**2,049,458**	**12,500**	**2,061,958**
		ADVANCED TECHNOLOGY DEVELOPMENT			
023	0603000D8Z	JOINT MUNITIONS ADVANCED TECHNOLOGY	25,779		25,779
024	0603121D8Z	SO/LIC ADVANCED DEVELOPMENT	5,000		5,000
025	0603122D8Z	COMBATING TERRORISM TECHNOLOGY SUPPORT	70,517	9,000	79,517
		Counterterrorism detection technologies		[3,000]	
		Study of Terrorism and Responses to Terrorism (START)		[6,000]	
026	0603133D8Z	FOREIGN COMPARATIVE TESTING	24,970		24,970
028	0603160BR	COUNTER WEAPONS OF MASS DESTRUCTION ADVANCED TECHNOLOGY DEVELOPMENT	340,065		340,065
029	0603176C	ADVANCED CONCEPTS AND PERFORMANCE ASSESSMENT	14,208		14,208
030	0603178C	WEAPONS TECHNOLOGY	10,000		10,000
031	0603180C	ADVANCED RESEARCH	20,674	7,000	27,674
		Advanced carbon-carbon composites manufacturing		[7,000]	
032	0603225D8Z	JOINT DOD-DOE MUNITIONS TECHNOLOGY DEVELOPMENT	18,773		18,773
033	0603286E	ADVANCED AEROSPACE SYSTEMS	279,741		279,741
034	0603287E	SPACE PROGRAMS AND TECHNOLOGY	202,606		202,606
035	0603288D8Z	ANALYTIC ASSESSMENTS	19,429		19,429
036	0603289D8Z	ADVANCED INNOVATIVE ANALYSIS AND CONCEPTS	37,645		37,645
037	0603291D8Z	ADVANCED INNOVATIVE ANALYSIS AND CONCEPTS—MHA	14,668		14,668
038	0603294C	COMMON KILL VEHICLE TECHNOLOGY	13,600		13,600
040	0603342D8Z	DEFENSE INNOVATION UNIT (DIU)	29,398		29,398
041	0603375D8Z	TECHNOLOGY INNOVATION	60,000	–16,000	44,000
		Program decrease		[–16,000]	
042	0603384BP	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM—ADVANCED DEVELOPMENT	172,486		172,486
043	0603527D8Z	RETRACT LARCH	159,688		159,688
044	0603618D8Z	JOINT ELECTRONIC ADVANCED TECHNOLOGY	12,063	5,000	17,063
		Joint electromagnetic spectrum operations		[5,000]	
045	0603648D8Z	JOINT CAPABILITY TECHNOLOGY DEMONSTRATIONS	107,359		107,359

SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION
(In Thousands of Dollars)

Line	Program Element	Item	FY 2020 Request	House Change	House Authorized
046	0603662D8Z	NETWORKED COMMUNICATIONS CAPABILITIES	2,858		2,858
047	0603680D8Z	DEFENSE-WIDE MANUFACTURING SCIENCE AND TECHNOLOGY PROGRAM	96,397	20,000	116,397
		Additive manufacturing		[10,000]	
		Integrated silicon based lasers		[5,000]	
		Program increase		[5,000]	
048	0603680S	MANUFACTURING TECHNOLOGY PROGRAM	42,834		42,834
049	0603699D8Z	EMERGING CAPABILITIES TECHNOLOGY DEVELOPMENT	80,911		80,911
050	0603712S	GENERIC LOGISTICS R&D TECHNOLOGY DEMONSTRATIONS	10,817		10,817
051	0603716D8Z	STRATEGIC ENVIRONMENTAL RESEARCH PROGRAM	66,157		66,157
052	0603720S	MICROELECTRONICS TECHNOLOGY DEVELOPMENT AND SUPPORT	171,771		171,771
053	0603727D8Z	JOINT WARFIGHTING PROGRAM	4,846		4,846
054	0603739E	ADVANCED ELECTRONICS TECHNOLOGIES	128,616		128,616
055	0603760E	COMMAND, CONTROL AND COMMUNICATIONS SYSTEMS	232,134		232,134
056	0603766E	NETWORK-CENTRIC WARFARE TECHNOLOGY	512,424		512,424
057	0603767E	SENSOR TECHNOLOGY	163,903		163,903
058	0603769D8Z	DISTRIBUTED LEARNING ADVANCED TECHNOLOGY DEVELOPMENT	13,723		13,723
059	0603781D8Z	SOFTWARE ENGINEERING INSTITUTE	15,111		15,111
060	0603826D8Z	QUICK REACTION SPECIAL PROJECTS	47,147		47,147
061	0603833D8Z	ENGINEERING SCIENCE & TECHNOLOGY	19,376		19,376
062	0603924D8Z	HIGH ENERGY LASER ADVANCED TECHNOLOGY PROGRAM	85,223		85,223
063	0603941D8Z	TEST & EVALUATION SCIENCE & TECHNOLOGY	175,574	5,000	180,574
		UAV hypersonic test range		[5,000]	
064	0603950D8Z	NATIONAL SECURITY INNOVATION NETWORK	25,000	5,000	30,000
		Hacking for defense		[5,000]	
065	0604055D8Z	OPERATIONAL ENERGY CAPABILITY IMPROVEMENT	70,536		70,536
066	0303310D8Z	CWMD SYSTEMS	28,907		28,907
068	1160402BB	SOF ADVANCED TECHNOLOGY DEVELOPMENT	89,154		89,154

069	1206310SDA	SPACE SCIENCE AND TECHNOLOGY RESEARCH AND DEVELOPMENT	20,000	21,500	41,500
		Program increase for commercial SSA; funds transferred from JSPOC Mission System		[21,500]	
		SUBTOTAL ADVANCED TECHNOLOGY DEVELOPMENT	**3,742,088**	**56,500**	**3,798,588**
		ADVANCED COMPONENT DEVELOPMENT AND PROTOTYPES			
070	0603161D8Z	NUCLEAR AND CONVENTIONAL PHYSICAL SECURITY EQUIPMENT RDT&E ADC&P	42,695		42,695
071	0603600D8Z	WALKOFF	92,791		92,791
072	0603821D8Z	ACQUISITION ENTERPRISE DATA & INFORMATION SERVICES	5,659		5,659
073	0603851D8Z	ENVIRONMENTAL SECURITY TECHNICAL CERTIFICATION PROGRAM	66,572		66,572
074	0603881C	BALLISTIC MISSILE DEFENSE TERMINAL DEFENSE SEGMENT	302,761		302,761
075	0603882C	BALLISTIC MISSILE DEFENSE MIDCOURSE DEFENSE SEGMENT	1,156,506	–196,000	960,506
		GBSD booster engineering		[–15,000]	
		Unjustified program growth		[–181,000]	
076	0603884BP	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM—DEM/VAL	83,662		83,662
077	0603884C	BALLISTIC MISSILE DEFENSE SENSORS	283,487		283,487
078	0603890C	BMD ENABLING PROGRAMS	571,507	–1,031	570,476
		Rescope FTM–44—Conduct IRBM test		[–1,031]	
079	0603891C	SPECIAL PROGRAMS—MDA	377,098	127,000	504,098
		Classified reduction		[–8,000]	
		Classified unfunded priority		[135,000]	
080	0603892C	AEGIS BMD	727,479	–25,000	702,479
		Unjustified cost growth		[–25,000]	
081	0603896C	BALLISTIC MISSILE DEFENSE COMMAND AND CONTROL, BATTLE MANAGEMENT AND COMMUNICATI	564,206	–2,500	561,706
		IBCS integration delays		[–1,500]	
		Rescope FTM–44—Conduct IRBM test		[–1,000]	
082	0603898C	BALLISTIC MISSILE DEFENSE JOINT WARFIGHTER SUPPORT	51,532		51,532
083	0603904C	MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)	56,161		56,161
084	0603906C	REGARDING TRENCH	22,424		22,424
085	0603907C	SEA BASED X-BAND RADAR (SBX)	128,156		128,156
086	0603913C	ISRAELI COOPERATIVE PROGRAMS	300,000		300,000
087	0603914C	BALLISTIC MISSILE DEFENSE TEST	395,924	–2,568	393,356
		Rescope FTM–44—Conduct IRBM test		[–2,568]	

SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION
(In Thousands of Dollars)

Line	Program Element	Item	FY 2020 Request	House Change	House Authorized
088	0603915C	BALLISTIC MISSILE DEFENSE TARGETS	554,171		554,171
089	0603920D8Z	HUMANITARIAN DEMINING	10,820	5,000	15,820
		Program increase		[5,000]	
090	0603923D8Z	COALITION WARFARE	11,316		11,316
091	0604016D8Z	DEPARTMENT OF DEFENSE CORROSION PROGRAM	3,365		3,365
092	0604115C	TECHNOLOGY MATURATION INITIATIVES	303,458	–2,336	301,122
		Cancel Neutral Particle Beam		[–34,000]	
		Increase to low power laser demonstrator		[35,000]	
		Rescope FTM–44—Conduct IRBM test		[–3,336]	
093	0604132D8Z	MISSILE DEFEAT PROJECT	17,816	–10,000	7,816
		Lack of justification—program transitioned to military services		[–10,000]	
095	0604181C	HYPERSONIC DEFENSE	157,425		157,425
096	0604250D8Z	ADVANCED INNOVATIVE TECHNOLOGIES	1,312,735	–208,150	1,104,585
		Program decrease		[–58,150]	
		Realign to 0604011D8Z, Next Generation Information Technology		[–50,000]	
		Undistributed		[–100,000]	
097	0604294D8Z	TRUSTED & ASSURED MICROELECTRONICS	542,421		542,421
098	0604331D8Z	RAPID PROTOTYPING PROGRAM	100,957		100,957
099	0604341D8Z	DEFENSE INNOVATION UNIT (DIU) PROTOTYPING	92,000	–75,000	17,000
		Insufficient budget justification for national security innovation capital		[–75,000]	
100	0604400D8Z	DEPARTMENT OF DEFENSE (DOD) UNMANNED SYSTEM COMMON DEVELOPMENT	3,021		3,021
102	0604672C	HOMELAND DEFENSE RADAR—HAWAII (HDR-H)	274,714		274,714
103	0604673C	PACIFIC DISCRIMINATING RADAR	6,711		6,711
104	0604682D8Z	WARGAMING AND SUPPORT FOR STRATEGIC ANALYSIS (SSA)	3,751		3,751
105	0604775BR	DEFENSE RAPID INNOVATION PROGRAM	14,021		14,021
107	0604826J	JOINT C5 CAPABILITY DEVELOPMENT, INTEGRATION AND INTEROPERABILITY ASSESSMENTS	20,062		20,062
108	0604873C	LONG RANGE DISCRIMINATION RADAR (LRDR)	136,423		136,423

109	0604874C	IMPROVED HOMELAND DEFENSE INTERCEPTORS	412,363	–150,000	262,363
		Program delays		[–150,000]	
110	0604876C	BALLISTIC MISSILE DEFENSE TERMINAL DEFENSE SEGMENT TEST	25,137		25,137
111	0604878C	AEGIS BMD TEST	169,822	–21,082	148,740
		Rescope FTM–44—Conduct IRBM test		[–21,082]	
112	0604879C	BALLISTIC MISSILE DEFENSE SENSOR TEST	105,530	–10,964	94,566
		Rescope FTM–44—Conduct IRBM test		[–10,964]	
113	0604880C	LAND-BASED SM–3 (LBSM3)	38,352		38,352
115	0604887C	BALLISTIC MISSILE DEFENSE MIDCOURSE SEGMENT TEST	98,139	–1,693	96,446
		Rescope FTM–44—Conduct IRBM test		[–1,693]	
117	0300206R	ENTERPRISE INFORMATION TECHNOLOGY SYSTEMS	1,600		1,600
118	0303191D8Z	JOINT ELECTROMAGNETIC TECHNOLOGY (JET) PROGRAM	3,191		3,191
119	0305103C	CYBER SECURITY INITIATIVE	1,138		1,138
120	1206410SDA	SPACE TECHNOLOGY DEVELOPMENT AND PROTOTYPING	85,000	–10,000	75,000
		Increase to SDA for multi-GNSS receiver capability development		[20,000]	
		Space-based discrimination study		[–15,000]	
		Space-based interceptor study		[–15,000]	
121	1206893C	SPACE TRACKING & SURVEILLANCE SYSTEM	35,849		35,849
122	1206895C	BALLISTIC MISSILE DEFENSE SYSTEM SPACE PROGRAMS	27,565	108,000	135,565
		Hypersonic and Ballistic Tracking Space Sensor		[108,000]	
122A	0604011D8Z	NEXT GENERATION INFORMATION COMMUNICATIONS TECHNOLOGY (5G)		175,000	175,000
		Program increase		[175,000]	
		SUBTOTAL ADVANCED COMPONENT DEVELOPMENT AND PROTOTYPES	**9,797,493**	**–301,324**	**9,496,169**
		SYSTEM DEVELOPMENT AND DEMONSTRATION			
123	0604161D8Z	NUCLEAR AND CONVENTIONAL PHYSICAL SECURITY EQUIPMENT RDT&E SDD	11,276		11,276
124	0604165D8Z	PROMPT GLOBAL STRIKE CAPABILITY DEVELOPMENT	107,000	–107,000	
		Lack of justification—awaiting policy		[–76,000]	
		Transfer to RDTE, Army Line 100		[–31,000]	
125	0604384BP	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM—EMD	384,047		384,047
126	0604771D8Z	JOINT TACTICAL INFORMATION DISTRIBUTION SYSTEM (JTIDS)	40,102	3,000	43,102
		Cyber maturity model certification program		[3,000]	

SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION
(In Thousands of Dollars)

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127	0605000BR	COUNTER WEAPONS OF MASS DESTRUCTION SYSTEMS DEVELOPMENT	13,100		13,100
128	0605013BL	INFORMATION TECHNOLOGY DEVELOPMENT	3,070		3,070
129	0605021SE	HOMELAND PERSONNEL SECURITY INITIATIVE	7,295		7,295
130	0605022D8Z	DEFENSE EXPORTABILITY PROGRAM	17,615	–10,000	7,615
		Unjustified growth		[–10,000]	
131	0605027D8Z	OUSD(C) IT DEVELOPMENT INITIATIVES	15,653		15,653
132	0605070S	DOD ENTERPRISE SYSTEMS DEVELOPMENT AND DEMONSTRATION	2,378		2,378
133	0605075D8Z	CMO POLICY AND INTEGRATION	1,618		1,618
134	0605080S	DEFENSE AGENCY INITIATIVES (DAI)—FINANCIAL SYSTEM	27,944		27,944
135	0605090S	DEFENSE RETIRED AND ANNUITANT PAY SYSTEM (DRAS)	6,609		6,609
136	0605210D8Z	DEFENSE-WIDE ELECTRONIC PROCUREMENT CAPABILITIES	9,619		9,619
137	0605294D8Z	TRUSTED & ASSURED MICROELECTRONICS	175,032		175,032
138	0303140BL	INFORMATION SYSTEMS SECURITY PROGRAM	425		425
139	0303141K	GLOBAL COMBAT SUPPORT SYSTEM	1,578		1,578
140	0305304D8Z	DOD ENTERPRISE ENERGY INFORMATION MANAGEMENT (EEIM)	4,373		4,373
141	0305310D8Z	CWMD SYSTEMS: SYSTEM DEVELOPMENT AND DEMONSTRATION	12,854		12,854
		SUBTOTAL SYSTEM DEVELOPMENT AND DEMONSTRATION	**841,588**	**–114,000**	**727,588**
		MANAGEMENT SUPPORT			
142	0603829J	JOINT CAPABILITY EXPERIMENTATION	13,000		13,000
143	0604774D8Z	DEFENSE READINESS REPORTING SYSTEM (DRRS)	9,724		9,724
144	0604875D8Z	JOINT SYSTEMS ARCHITECTURE DEVELOPMENT	9,593		9,593
145	0604940D8Z	CENTRAL TEST AND EVALUATION INVESTMENT DEVELOPMENT (CTEIP)	260,267	–20,000	240,267
		Undistributed		[–20,000]	
146	0604942D8Z	ASSESSMENTS AND EVALUATIONS	30,834		30,834
147	0605001E	MISSION SUPPORT	68,498		68,498
148	0605100D8Z	JOINT MISSION ENVIRONMENT TEST CAPABILITY (JMETC)	83,091		83,091

149	0605104D8Z	TECHNICAL STUDIES, SUPPORT AND ANALYSIS	18,079		18,079
150	0605126J	JOINT INTEGRATED AIR AND MISSILE DEFENSE ORGANIZATION (JIAMDO)	70,038		70,038
152	0605142D8Z	SYSTEMS ENGINEERING	37,140		37,140
153	0605151D8Z	STUDIES AND ANALYSIS SUPPORT—OSD	4,759		4,759
154	0605161D8Z	NUCLEAR MATTERS-PHYSICAL SECURITY	8,307		8,307
155	0605170D8Z	SUPPORT TO NETWORKS AND INFORMATION INTEGRATION	9,441		9,441
156	0605200D8Z	GENERAL SUPPORT TO USD (INTELLIGENCE)	1,700		1,700
157	0605384BP	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM	110,363		110,363
166	0605790D8Z	SMALL BUSINESS INNOVATION RESEARCH (SBIR)/ SMALL BUSINESS TECHNOLOGY TRANSFER	3,568		3,568
167	0605797D8Z	MAINTAINING TECHNOLOGY ADVANTAGE	19,936		19,936
168	0605798D8Z	DEFENSE TECHNOLOGY ANALYSIS	16,875	3,000	19,875
		National Science, Technology, and Security Roundtable with Academia		[3,000]	
169	0605801KA	DEFENSE TECHNICAL INFORMATION CENTER (DTIC)	57,716		57,716
170	0605803SE	R&D IN SUPPORT OF DOD ENLISTMENT, TESTING AND EVALUATION	34,448		34,448
171	0605804D8Z	DEVELOPMENT TEST AND EVALUATION	22,203		22,203
172	0605898E	MANAGEMENT HQ—R&D	13,208		13,208
173	0605998KA	MANAGEMENT HQ—DEFENSE TECHNICAL INFORMATION CENTER (DTIC)	3,027		3,027
174	0606100D8Z	BUDGET AND PROGRAM ASSESSMENTS	8,017		8,017
175	0606225D8Z	ODNA TECHNOLOGY AND RESOURCE ANALYSIS	3,194		3,194
176	0606589D8W	DEFENSE DIGITAL SERVICE (DDS) DEVELOPMENT SUPPORT	1,000		1,000
179	0203345D8Z	DEFENSE OPERATIONS SECURITY INITIATIVE (DOSI)	3,037		3,037
180	0204571J	JOINT STAFF ANALYTICAL SUPPORT	9,216		9,216
183	0303166J	SUPPORT TO INFORMATION OPERATIONS (IO) CAPABILITIES	553		553
184	0303260D8Z	DEFENSE MILITARY DECEPTION PROGRAM OFFICE (DMDPO)	1,014		1,014
185	0305172K	COMBINED ADVANCED APPLICATIONS	58,667		58,667
187	0305245D8Z	INTELLIGENCE CAPABILITIES AND INNOVATION INVESTMENTS	21,081		21,081
189	0307588D8Z	ALGORITHMIC WARFARE CROSS FUNCTIONAL TEAMS	221,235		221,235
191	0804768J	COCOM EXERCISE ENGAGEMENT AND TRAINING TRANSFORMATION (CE2T2)—NON-MHA	40,073		40,073
192	0808709SE	DEFENSE EQUAL OPPORTUNITY MANAGEMENT INSTITUTE (DEOMI)	100		100
193	0901598C	MANAGEMENT HQ—MDA	27,065		27,065
194	0903235K	JOINT SERVICE PROVIDER (JSP)	3,090		3,090
194A	9999999999	CLASSIFIED PROGRAMS	51,471		51,471

SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION
(In Thousands of Dollars)

Line	Program Element	Item	FY 2020 Request	House Change	House Authorized
		SUBTOTAL MANAGEMENT SUPPORT	**1,354,628**	**–17,000**	**1,337,628**
		OPERATIONAL SYSTEM DEVELOPMENT			
		UNDISTRIBUTED			
195	0604130V	ENTERPRISE SECURITY SYSTEM (ESS)	7,945		7,945
196	0604532K	JOINT ARTIFICIAL INTELLIGENCE	208,834	–42,000	166,834
		Early to need		[–42,000]	
197	0605127T	REGIONAL INTERNATIONAL OUTREACH (RIO) AND PARTNERSHIP FOR PEACE INFORMATION MANA	1,947		1,947
198	0605147T	OVERSEAS HUMANITARIAN ASSISTANCE SHARED INFORMATION SYSTEM (OHASIS)	310		310
199	0607210D8Z	INDUSTRIAL BASE ANALYSIS AND SUSTAINMENT SUPPORT	10,051	9,000	19,051
		Composite manufacturing technology		[5,000]	
		Lithium ion batteries		[4,000]	
200	0607310D8Z	CWMD SYSTEMS: OPERATIONAL SYSTEMS DEVELOPMENT	12,734		12,734
201	0607327T	GLOBAL THEATER SECURITY COOPERATION MANAGEMENT INFORMATION SYSTEMS (G-TSCMIS)	14,800		14,800
202	0607384BP	CHEMICAL AND BIOLOGICAL DEFENSE (OPERATIONAL SYSTEMS DEVELOPMENT)	54,023		54,023
203	0208043J	PLANNING AND DECISION AID SYSTEM (PDAS)	4,537		4,537
204	0208045K	C4I INTEROPERABILITY	64,122		64,122
210	0302019K	DEFENSE INFO INFRASTRUCTURE ENGINEERING AND INTEGRATION	15,798		15,798
211	0303126K	LONG-HAUL COMMUNICATIONS—DCS	11,166		11,166
212	0303131K	MINIMUM ESSENTIAL EMERGENCY COMMUNICATIONS NETWORK (MEECN)	17,383		17,383
214	0303136G	KEY MANAGEMENT INFRASTRUCTURE (KMI)	54,516		54,516
215	0303140D8Z	INFORMATION SYSTEMS SECURITY PROGRAM	67,631	22,000	89,631
		Cyber institutes for senior military colleges		[12,000]	
		Implementation of Cyber Excepted Service		[10,000]	
216	0303140G	INFORMATION SYSTEMS SECURITY PROGRAM	289,080	–1,882	287,198
		Realignment to DISA for Sharkseer		[–1,882]	
217	0303140K	INFORMATION SYSTEMS SECURITY PROGRAM	42,796	1,882	44,678

		Realignment for Sharkseer		[1,882]	
218	0303150K	GLOBAL COMMAND AND CONTROL SYSTEM	25,218		25,218
219	0303153K	DEFENSE SPECTRUM ORGANIZATION	21,698		21,698
220	0303228K	JOINT REGIONAL SECURITY STACKS (JRSS)	18,077		18,077
222	0303430K	FEDERAL INVESTIGATIVE SERVICES INFORMATION TECHNOLOGY	44,001		44,001
228	0305128V	SECURITY AND INVESTIGATIVE ACTIVITIES	2,400		2,400
232	0305186D8Z	POLICY R&D PROGRAMS	6,301		6,301
233	0305199D8Z	NET CENTRICITY	21,384		21,384
235	0305208BB	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	6,359		6,359
238	0305208K	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	2,981		2,981
241	0305327V	INSIDER THREAT	1,964		1,964
242	0305387D8Z	HOMELAND DEFENSE TECHNOLOGY TRANSFER PROGRAM	2,221		2,221
250	0708012K	LOGISTICS SUPPORT ACTIVITIES	1,361		1,361
251	0708012S	PACIFIC DISASTER CENTERS	1,770		1,770
252	0708047S	DEFENSE PROPERTY ACCOUNTABILITY SYSTEM	3,679		3,679
254	1105219BB	MQ–9 UAV	20,697		20,697
256	1160403BB	AVIATION SYSTEMS	245,795	17,226	263,021
		Program increase—Future Vertical Lift		[8,800]	
		Program increase—RFCM		[8,426]	
257	1160405BB	INTELLIGENCE SYSTEMS DEVELOPMENT	15,484		15,484
258	1160408BB	OPERATIONAL ENHANCEMENTS	166,922		166,922
259	1160431BB	WARRIOR SYSTEMS	62,332		62,332
260	1160432BB	SPECIAL PROGRAMS	21,805		21,805
261	1160434BB	UNMANNED ISR	37,377		37,377
262	1160480BB	SOF TACTICAL VEHICLES	11,150		11,150
263	1160483BB	MARITIME SYSTEMS	72,626		72,626
264	1160489BB	GLOBAL VIDEO SURVEILLANCE ACTIVITIES	5,363		5,363
265	1160490BB	OPERATIONAL ENHANCEMENTS INTELLIGENCE	12,962		12,962
266	1203610K	TELEPORT PROGRAM	6,158		6,158
266A	9999999999	CLASSIFIED PROGRAMS	4,542,640		4,542,640
		SUBTOTAL OPERATIONAL SYSTEM DEVELOPMENT	**6,258,398**	**125,226**	**6,383,624**
267A	9999999999	UNDISTRIBUTED		119,000	119,000

SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION
(In Thousands of Dollars)

Line	Program Element	Item	FY 2020 Request	House Change	House Authorized
		Transfer to NRO for weather satellite procurement to mitigate weather capability gaps risk in 2022–2023.		[119,000]	
		SUBTOTAL UNDISTRIBUTED		**125,226**	**125,226**
		TOTAL RESEARCH, DEVELOPMENT, TEST & EVAL, DW	**24,772,953**	**–188,098**	**24,584,855**
		OPERATIONAL TEST & EVAL, DEFENSE			
		MANAGEMENT SUPPORT			
001	0605118OTE	OPERATIONAL TEST AND EVALUATION	93,291		93,291
002	0605131OTE	LIVE FIRE TEST AND EVALUATION	69,172		69,172
003	0605814OTE	OPERATIONAL TEST ACTIVITIES AND ANALYSES	58,737		58,737
		SUBTOTAL MANAGEMENT SUPPORT	**221,200**		**221,200**
		TOTAL OPERATIONAL TEST & EVAL, DEFENSE	**221,200**		**221,200**
		TOTAL RDT&E	**103,395,544**	**–2,607,876**	**100,787,668**

SEC. 4202. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION FOR OVERSEAS CONTINGENCY OPERATIONS.

SEC. 4202. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION FOR OVERSEAS CONTINGENCY OPERATIONS
(In Thousands of Dollars)

Line	Program Element	Item	FY 2020 Request	House Change	House Authorized
		RESEARCH, DEVELOPMENT, TEST & EVAL, ARMY			
		ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES			
074	0603327A	AIR AND MISSILE DEFENSE SYSTEMS ENGINEERING	500		500
079	0603747A	SOLDIER SUPPORT AND SURVIVABILITY	3,000		3,000
085	0603804A	LOGISTICS AND ENGINEER EQUIPMENT—ADV DEV	1,085		1,085
095	0604117A	MANEUVER—SHORT RANGE AIR DEFENSE (M-SHORAD)	6,000	–6,000	
		Unjustified request		[–6,000]	
097	0604119A	ARMY ADVANCED COMPONENT DEVELOPMENT & PROTOTYPING	4,529		4,529
105	0604785A	INTEGRATED BASE DEFENSE (BUDGET ACTIVITY 4)	2,000	–2,000	
		Unjustified request		[–2,000]	
		SUBTOTAL ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES	**17,114**	**–8,000**	**9,114**
		SYSTEM DEVELOPMENT & DEMONSTRATION			
151	0605035A	COMMON INFRARED COUNTERMEASURES (CIRCM)	11,770		11,770
159	0605051A	AIRCRAFT SURVIVABILITY DEVELOPMENT	77,420		77,420
163	0605203A	ARMY SYSTEM DEVELOPMENT & DEMONSTRATION	19,527		19,527
174	0304270A	ELECTRONIC WARFARE DEVELOPMENT	3,200		3,200
		SUBTOTAL SYSTEM DEVELOPMENT & DEMONSTRATION	**111,917**		**111,917**
		RDT&E MANAGEMENT SUPPORT			
200	0606003A	COUNTERINTEL AND HUMAN INTEL MODERNIZATION	1,875		1,875
		SUBTOTAL RDT&E MANAGEMENT SUPPORT	**1,875**		**1,875**
		OPERATIONAL SYSTEMS DEVELOPMENT			

SEC. 4202. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION FOR OVERSEAS CONTINGENCY OPERATIONS
(In Thousands of Dollars)

Line	Program Element	Item	FY 2020 Request	House Change	House Authorized
238	0303028A	SECURITY AND INTELLIGENCE ACTIVITIES	22,904		22,904
246	0305204A	TACTICAL UNMANNED AERIAL VEHICLES	34,100		34,100
247	0305206A	AIRBORNE RECONNAISSANCE SYSTEMS	14,000		14,000
252	0307665A	BIOMETRICS ENABLED INTELLIGENCE	2,214		2,214
		SUBTOTAL OPERATIONAL SYSTEMS DEVELOPMENT	**73,218**		**73,218**
		TOTAL RESEARCH, DEVELOPMENT, TEST & EVAL, ARMY	**204,124**	**–8,000**	**196,124**
		RESEARCH, DEVELOPMENT, TEST & EVAL, NAVY			
		ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES			
028	0603207N	AIR/OCEAN TACTICAL APPLICATIONS	2,400		2,400
038	0603527N	RETRACT LARCH	22,000		22,000
057	0603654N	JOINT SERVICE EXPLOSIVE ORDNANCE DEVELOPMENT	14,178		14,178
069	0603795N	LAND ATTACK TECHNOLOGY	1,428		1,428
		SUBTOTAL ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES	**40,006**		**40,006**
		SYSTEM DEVELOPMENT & DEMONSTRATION			
143	0604755N	SHIP SELF DEFENSE (DETECT & CONTROL)	1,122		1,122
		SUBTOTAL SYSTEM DEVELOPMENT & DEMONSTRATION	**1,122**		**1,122**
		OPERATIONAL SYSTEMS DEVELOPMENT			
228	0206313M	MARINE CORPS COMMUNICATIONS SYSTEMS	15,000		15,000
259A	9999999999	CLASSIFIED PROGRAMS	108,282		108,282
		SUBTOTAL OPERATIONAL SYSTEMS DEVELOPMENT	**123,282**		**123,282**
		TOTAL RESEARCH, DEVELOPMENT, TEST & EVAL, NAVY	**164,410**		**164,410**

		RESEARCH, DEVELOPMENT, TEST & EVAL, AF		
		ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES		
048	0604858F	TECH TRANSITION PROGRAM	26,450	26,450
072	1206857F	SPACE RAPID CAPABILITIES OFFICE	17,885	17,885
		SUBTOTAL ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES	**44,335**	**44,335**
		OPERATIONAL SYSTEMS DEVELOPMENT		
177	0205671F	JOINT COUNTER RCIED ELECTRONIC WARFARE	4,000	4,000
217	0208288F	INTEL DATA APPLICATIONS	1,200	1,200
311A	9999999999	CLASSIFIED PROGRAMS	78,713	78,713
		SUBTOTAL OPERATIONAL SYSTEMS DEVELOPMENT	**83,913**	**83,913**
		TOTAL RESEARCH, DEVELOPMENT, TEST & EVAL, AF	**128,248**	**128,248**
		RESEARCH, DEVELOPMENT, TEST & EVAL, DW		
		APPLIED RESEARCH		
010	0602134BR	COUNTER IMPROVISED-THREAT ADVANCED STUDIES	1,677	1,677
		SUBTOTAL APPLIED RESEARCH	**1,677**	**1,677**
		ADVANCED TECHNOLOGY DEVELOPMENT		
025	0603122D8Z	COMBATING TERRORISM TECHNOLOGY SUPPORT	25,230	25,230
027	0603134BR	COUNTER IMPROVISED-THREAT SIMULATION	49,528	49,528
		SUBTOTAL ADVANCED TECHNOLOGY DEVELOPMENT	**74,758**	**74,758**
		ADVANCED COMPONENT DEVELOPMENT AND PROTOTYPES		
094	0604134BR	COUNTER IMPROVISED-THREAT DEMONSTRATION, PROTOTYPE DEVELOPMENT, AND TESTING	113,590	113,590
		SUBTOTAL ADVANCED COMPONENT DEVELOPMENT AND PROTOTYPES	**113,590**	**113,590**
		OPERATIONAL SYSTEM DEVELOPMENT		
		UNDISTRIBUTED		
258	1160408BB	OPERATIONAL ENHANCEMENTS	726	726
259	1160431BB	WARRIOR SYSTEMS	6,000	6,000

SEC. 4202. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION FOR OVERSEAS CONTINGENCY OPERATIONS
(In Thousands of Dollars)

Line	Program Element	Item	FY 2020 Request	House Change	House Authorized
261	1160434BB	UNMANNED ISR	5,000		5,000
266A	9999999999	CLASSIFIED PROGRAMS	200,199		200,199
		SUBTOTAL OPERATIONAL SYSTEM DEVELOPMENT	**211,925**		**211,925**
		TOTAL RESEARCH, DEVELOPMENT, TEST & EVAL, DW	**401,950**		**401,950**
		TOTAL RDT&E	**898,732**	**–8,000**	**890,732**

TITLE XLIII—OPERATION AND MAINTENANCE

SEC. 4301. OPERATION AND MAINTENANCE.

SEC. 4301. OPERATION AND MAINTENANCE
(In Thousands of Dollars)

Line	Item	FY 2020 Request	House Change	House Authorized
	OPERATION & MAINTENANCE, ARMY			
	OPERATING FORCES			
010	MANEUVER UNITS	1,735,922	–76,700	1,659,222
	Unjustified growth		[–76,700]	
020	MODULAR SUPPORT BRIGADES	127,815	–1,300	126,515
	Unjustified growth		[–1,300]	
030	ECHELONS ABOVE BRIGADE	716,356	–7,000	709,356
	Unjustified growth		[–7,000]	
040	THEATER LEVEL ASSETS	890,891	–8,900	881,991
	Unjustified growth		[–8,900]	
050	LAND FORCES OPERATIONS SUPPORT	1,232,477	–2,000	1,230,477
	Unjustified growth		[–2,000]	
060	AVIATION ASSETS	1,355,606	–73,500	1,282,106
	Excess to need		[–73,500]	
070	FORCE READINESS OPERATIONS SUPPORT	3,882,315	–1,223,000	2,659,315
	Excess FTE request		[–38,000]	
	Female Personal Protective Equipment		[2,000]	
	Realignment to OCO		[–1,100,000]	
	Unjustified growth		[–12,000]	
	Unjustified transfer		[–75,000]	
080	LAND FORCES SYSTEMS READINESS	417,069		417,069

SEC. 4301. OPERATION AND MAINTENANCE
(In Thousands of Dollars)

Line	Item	FY 2020 Request	House Change	House Authorized
090	LAND FORCES DEPOT MAINTENANCE	1,633,327		1,633,327
100	BASE OPERATIONS SUPPORT	8,047,933	–45,000	8,002,933
	Unjustified growth		[–45,000]	
110	FACILITIES SUSTAINMENT, RESTORATION & MODERNIZATION	4,326,840	–275,000	4,051,840
	Unexecutable growth		[–275,000]	
120	MANAGEMENT AND OPERATIONAL HEADQUARTERS	405,612		405,612
160	US AFRICA COMMAND	251,511		251,511
170	US EUROPEAN COMMAND	146,358		146,358
180	US SOUTHERN COMMAND	191,840	26,500	218,340
	Multi-Mission Support Vessel		[18,000]	
	Overland airborne ISR operations		[8,500]	
190	US FORCES KOREA	57,603		57,603
200	CYBERSPACE ACTIVITIES—CYBERSPACE OPERATIONS	423,156		423,156
210	CYBERSPACE ACTIVITIES—CYBERSECURITY	551,185		551,185
	SUBTOTAL OPERATING FORCES	**26,393,816**	**–1,685,900**	**24,707,916**
	MOBILIZATION			
220	STRATEGIC MOBILITY	380,577		380,577
230	ARMY PREPOSITIONED STOCKS	362,942		362,942
240	INDUSTRIAL PREPAREDNESS	4,637		4,637
	SUBTOTAL MOBILIZATION	**748,156**		**748,156**
	TRAINING AND RECRUITING			
250	OFFICER ACQUISITION	157,175		157,175
260	RECRUIT TRAINING	55,739		55,739
270	ONE STATION UNIT TRAINING	62,300		62,300
280	SENIOR RESERVE OFFICERS TRAINING CORPS	538,357		538,357

290	SPECIALIZED SKILL TRAINING	969,813		969,813
300	FLIGHT TRAINING	1,234,049	–25,000	1,209,049
	Changes to AH–64E Program		[–25,000]	
310	PROFESSIONAL DEVELOPMENT EDUCATION	218,338		218,338
320	TRAINING SUPPORT	554,659	–4,000	550,659
	Excess travel request		[–4,000]	
330	RECRUITING AND ADVERTISING	716,056		716,056
340	EXAMINING	185,034		185,034
350	OFF-DUTY AND VOLUNTARY EDUCATION	214,275		214,275
360	CIVILIAN EDUCATION AND TRAINING	147,647		147,647
370	JUNIOR RESERVE OFFICER TRAINING CORPS	173,812		173,812
	SUBTOTAL TRAINING AND RECRUITING	**5,227,254**	**–29,000**	**5,198,254**
	ADMIN & SRVWIDE ACTIVITIES			
390	SERVICEWIDE TRANSPORTATION	559,229		559,229
400	CENTRAL SUPPLY ACTIVITIES	929,944	–2,000	927,944
	Excess personnel		[–2,000]	
410	LOGISTIC SUPPORT ACTIVITIES	629,981		629,981
420	AMMUNITION MANAGEMENT	458,771		458,771
430	ADMINISTRATION	428,768		428,768
440	SERVICEWIDE COMMUNICATIONS	1,512,736		1,512,736
450	MANPOWER MANAGEMENT	272,738		272,738
460	OTHER PERSONNEL SUPPORT	391,869	–10,000	381,869
	Unjustified growth		[–10,000]	
470	OTHER SERVICE SUPPORT	1,901,165	–5,085	1,896,080
	Unjustified headquarters growth		[–5,085]	
480	ARMY CLAIMS ACTIVITIES	198,765		198,765
490	REAL ESTATE MANAGEMENT	226,248		226,248
500	FINANCIAL MANAGEMENT AND AUDIT READINESS	315,489	–5,000	310,489
	Unjustified growth to General Fund Enterprise Business System		[–5,000]	
510	INTERNATIONAL MILITARY HEADQUARTERS	427,254		427,254
520	MISC. SUPPORT OF OTHER NATIONS	43,248		43,248

SEC. 4301. OPERATION AND MAINTENANCE
(In Thousands of Dollars)

Line	Item	FY 2020 Request	House Change	House Authorized
565	CLASSIFIED PROGRAMS	1,347,053		1,347,053
	SUBTOTAL ADMIN & SRVWIDE ACTIVITIES	**9,643,258**	**–22,085**	**9,621,173**
	UNDISTRIBUTED			
570	UNDISTRIBUTED		–110,000	–110,000
	Overestimation of Civilian FTE Targets		[–110,000]	
	SUBTOTAL UNDISTRIBUTED		**–110,000**	**–110,000**
	TOTAL OPERATION & MAINTENANCE, ARMY	**42,012,484**	**–1,846,985**	**40,165,499**
	OPERATION & MAINTENANCE, ARMY RES			
	OPERATING FORCES			
010	MODULAR SUPPORT BRIGADES	11,927		11,927
020	ECHELONS ABOVE BRIGADE	533,015		533,015
030	THEATER LEVEL ASSETS	119,517	–1,416	118,101
	Insufficient justification		[–1,416]	
040	LAND FORCES OPERATIONS SUPPORT	550,468	–2,200	548,268
	Insufficient justification		[–2,200]	
050	AVIATION ASSETS	86,670	–1,500	85,170
	Unjustified growth		[–1,500]	
060	FORCE READINESS OPERATIONS SUPPORT	390,061	–1,400	388,661
	Excess civilian increase		[–400]	
	Excess travel increase		[–1,000]	
070	LAND FORCES SYSTEMS READINESS	101,890		101,890
080	LAND FORCES DEPOT MAINTENANCE	48,503		48,503
090	BASE OPERATIONS SUPPORT	598,907		598,907
100	FACILITIES SUSTAINMENT, RESTORATION & MODERNIZATION	444,376		444,376

110	MANAGEMENT AND OPERATIONAL HEADQUARTERS	22,095		22,095
120	CYBERSPACE ACTIVITIES—CYBERSPACE OPERATIONS	3,288		3,288
130	CYBERSPACE ACTIVITIES—CYBERSECURITY	7,655		7,655
	SUBTOTAL OPERATING FORCES	**2,918,372**	**–6,516**	**2,911,856**
	ADMIN & SRVWD ACTIVITIES			
140	SERVICEWIDE TRANSPORTATION	14,533		14,533
150	ADMINISTRATION	17,231		17,231
160	SERVICEWIDE COMMUNICATIONS	14,304		14,304
170	MANPOWER MANAGEMENT	6,129		6,129
180	RECRUITING AND ADVERTISING	58,541		58,541
	SUBTOTAL ADMIN & SRVWD ACTIVITIES	**110,738**		**110,738**
	TOTAL OPERATION & MAINTENANCE, ARMY RES	**3,029,110**	**–6,516**	**3,022,594**
	OPERATION & MAINTENANCE, ARNG			
	OPERATING FORCES			
010	MANEUVER UNITS	805,671	–8,000	797,671
	Excess growth		[–8,000]	
020	MODULAR SUPPORT BRIGADES	195,334	–2,000	193,334
	Excess growth		[–2,000]	
030	ECHELONS ABOVE BRIGADE	771,048	–500	770,548
	Excess growth		[–500]	
040	THEATER LEVEL ASSETS	94,726	–2,900	91,826
	Excess growth		[–2,900]	
050	LAND FORCES OPERATIONS SUPPORT	33,696		33,696
060	AVIATION ASSETS	981,819	–8,000	973,819
	Insufficient justification		[–8,000]	
070	FORCE READINESS OPERATIONS SUPPORT	743,206		743,206
080	LAND FORCES SYSTEMS READINESS	50,963		50,963
090	LAND FORCES DEPOT MAINTENANCE	258,278	–8,500	249,778
	Insufficient justification		[–8,500]	

SEC. 4301. OPERATION AND MAINTENANCE
(In Thousands of Dollars)

Line	Item	FY 2020 Request	House Change	House Authorized
100	BASE OPERATIONS SUPPORT	1,153,076	–31,500	1,121,576
	Insufficient justification		[–31,500]	
110	FACILITIES SUSTAINMENT, RESTORATION & MODERNIZATION	1,113,475	–80,000	1,033,475
	Insufficient justification		[–80,000]	
120	MANAGEMENT AND OPERATIONAL HEADQUARTERS	1,001,042	–14,000	987,042
	Insufficient justification		[–14,000]	
130	CYBERSPACE ACTIVITIES—CYBERSPACE OPERATIONS	8,448		8,448
140	CYBERSPACE ACTIVITIES—CYBERSECURITY	7,768		7,768
	SUBTOTAL OPERATING FORCES	**7,218,550**	**–155,400**	**7,063,150**
	ADMIN & SRVWD ACTIVITIES			
150	SERVICEWIDE TRANSPORTATION	9,890		9,890
160	ADMINISTRATION	71,070		71,070
170	SERVICEWIDE COMMUNICATIONS	68,213		68,213
180	MANPOWER MANAGEMENT	8,628		8,628
190	OTHER PERSONNEL SUPPORT	250,376		250,376
200	REAL ESTATE MANAGEMENT	2,676		2,676
	SUBTOTAL ADMIN & SRVWD ACTIVITIES	**410,853**		**410,853**
	TOTAL OPERATION & MAINTENANCE, ARNG	**7,629,403**	**–155,400**	**7,474,003**
	OPERATION & MAINTENANCE, NAVY			
	OPERATING FORCES			
010	MISSION AND OTHER FLIGHT OPERATIONS	5,309,109	–279,375	5,029,734
	Excess growth		[–15,000]	
	Projected underexecution		[–50,000]	
	Realignment to OCO		[–214,375]	

020	FLEET AIR TRAINING	2,284,828	–50,000	2,234,828
	Projected underexecution		[–50,000]	
030	AVIATION TECHNICAL DATA & ENGINEERING SERVICES	59,299		59,299
040	AIR OPERATIONS AND SAFETY SUPPORT	155,896		155,896
050	AIR SYSTEMS SUPPORT	719,107		719,107
060	AIRCRAFT DEPOT MAINTENANCE	1,154,181		1,154,181
070	AIRCRAFT DEPOT OPERATIONS SUPPORT	60,402	–1,200	59,202
	Excess growth		[–1,200]	
080	AVIATION LOGISTICS	1,241,421	–22,000	1,219,421
	Projected underexecution		[–22,000]	
090	MISSION AND OTHER SHIP OPERATIONS	4,097,262	–501,000	3,596,262
	Realignment to OCO		[–450,000]	
	Unjustified growth		[–51,000]	
100	SHIP OPERATIONS SUPPORT & TRAINING	1,031,792	–2,000	1,029,792
	Excess civilian growth		[–2,000]	
110	SHIP DEPOT MAINTENANCE	8,061,298	834,000	8,895,298
	Surface ship maintenance		[161,000]	
	USS Boise		[310,000]	
	USS Columbus		[57,000]	
	USS Hartford		[306,000]	
120	SHIP DEPOT OPERATIONS SUPPORT	2,073,641	–7,500	2,066,141
	Insufficient justification		[–7,500]	
130	COMBAT COMMUNICATIONS AND ELECTRONIC WARFARE	1,378,856		1,378,856
140	SPACE SYSTEMS AND SURVEILLANCE	276,245	–2,500	273,745
	Unjustified growth		[–2,500]	
150	WARFARE TACTICS	675,209		675,209
160	OPERATIONAL METEOROLOGY AND OCEANOGRAPHY	389,516		389,516
170	COMBAT SUPPORT FORCES	1,536,310	–10,000	1,526,310
	Unjustified growth		[–10,000]	
180	EQUIPMENT MAINTENANCE AND DEPOT OPERATIONS SUPPORT	161,579		161,579
190	COMBATANT COMMANDERS CORE OPERATIONS	59,521		59,521
200	COMBATANT COMMANDERS DIRECT MISSION SUPPORT	93,978		93,978

SEC. 4301. OPERATION AND MAINTENANCE
(In Thousands of Dollars)

Line	Item	FY 2020 Request	House Change	House Authorized
210	MILITARY INFORMATION SUPPORT OPERATIONS	8,641		8,641
220	CYBERSPACE ACTIVITIES	496,385		496,385
230	FLEET BALLISTIC MISSILE	1,423,339		1,423,339
240	WEAPONS MAINTENANCE	924,069	–29,037	895,032
	Insufficient justification		[–29,037]	
250	OTHER WEAPON SYSTEMS SUPPORT	540,210		540,210
260	ENTERPRISE INFORMATION	1,131,627	–50,000	1,081,627
	Unjustified growth		[–50,000]	
270	SUSTAINMENT, RESTORATION AND MODERNIZATION	3,029,634	–100,000	2,929,634
	Unexecutable growth		[–100,000]	
280	BASE OPERATING SUPPORT	4,414,943		4,414,943
	SUBTOTAL OPERATING FORCES	**42,788,298**	**–220,612**	**42,567,686**
	MOBILIZATION			
290	SHIP PREPOSITIONING AND SURGE	942,902	–274,341	668,561
	Realignment to NDSF (DoD mobilization alterations)		[–9,590]	
	Realignment to NDSF (LSMR maintenance)		[–264,751]	
300	READY RESERVE FORCE	352,044	–352,044	
	Realignment to NDSF		[–352,044]	
310	SHIP ACTIVATIONS/INACTIVATIONS	427,555		427,555
320	EXPEDITIONARY HEALTH SERVICES SYSTEMS	137,597	–96,867	40,730
	Realignment to NDSF (TAH maintenance)		[–96,867]	
330	COAST GUARD SUPPORT	24,604		24,604
	SUBTOTAL MOBILIZATION	**1,884,702**	**–723,252**	**1,161,450**
	TRAINING AND RECRUITING			
340	OFFICER ACQUISITION	150,765		150,765

350	RECRUIT TRAINING	11,584		11,584
360	RESERVE OFFICERS TRAINING CORPS	159,133		159,133
370	SPECIALIZED SKILL TRAINING	911,316	–20,000	891,316
	Insufficient justification		[–20,000]	
380	PROFESSIONAL DEVELOPMENT EDUCATION	185,211	1,050	186,261
	Program Increase: Sea Cadets		[1,050]	
390	TRAINING SUPPORT	267,224		267,224
400	RECRUITING AND ADVERTISING	209,252		209,252
410	OFF-DUTY AND VOLUNTARY EDUCATION	88,902		88,902
420	CIVILIAN EDUCATION AND TRAINING	67,492		67,492
430	JUNIOR ROTC	55,164		55,164
	SUBTOTAL TRAINING AND RECRUITING	**2,106,043**	**–18,950**	**2,087,093**
	ADMIN & SRVWD ACTIVITIES			
440	ADMINISTRATION	1,143,358	–46,625	1,096,733
	Excess civilian growth		[–14,375]	
	Insufficient justification—MHA Transfer		[–25,500]	
	Unjustified growth		[–6,750]	
450	CIVILIAN MANPOWER AND PERSONNEL MANAGEMENT	178,342	–3,000	175,342
	Excess civilian growth		[–3,000]	
460	MILITARY MANPOWER AND PERSONNEL MANAGEMENT	418,413		418,413
490	SERVICEWIDE TRANSPORTATION	157,465		157,465
510	PLANNING, ENGINEERING, AND PROGRAM SUPPORT	485,397		485,397
520	ACQUISITION, LOGISTICS, AND OVERSIGHT	654,137		654,137
530	INVESTIGATIVE AND SECURITY SERVICES	718,061		718,061
645	CLASSIFIED PROGRAMS	591,535		591,535
	SUBTOTAL ADMIN & SRVWD ACTIVITIES	**4,346,708**	**–49,625**	**4,297,083**
	UNDISTRIBUTED			
650	UNDISTRIBUTED		–30,000	–30,000
	Overestimation of Civilian FTE Targets		[–30,000]	
	SUBTOTAL UNDISTRIBUTED		**–30,000**	**–30,000**

SEC. 4301. OPERATION AND MAINTENANCE
(In Thousands of Dollars)

Line	Item	FY 2020 Request	House Change	House Authorized
	TOTAL OPERATION & MAINTENANCE, NAVY	**51,125,751**	**–1,042,439**	**50,083,312**
	OPERATION & MAINTENANCE, MARINE CORPS			
	OPERATING FORCES			
010	OPERATIONAL FORCES	968,224	–41,000	927,224
	Excess civilian growth		[–1,000]	
	Unjustified growth		[–40,000]	
020	FIELD LOGISTICS	1,278,533	–9,000	1,269,533
	Excess civilian growth		[–2,000]	
	Unjustified growth		[–7,000]	
030	DEPOT MAINTENANCE	232,991		232,991
040	MARITIME PREPOSITIONING	100,396		100,396
050	CYBERSPACE ACTIVITIES	203,580	–2,000	201,580
	Excess civilian growth		[–2,000]	
060	SUSTAINMENT, RESTORATION & MODERNIZATION	1,559,034		1,559,034
070	BASE OPERATING SUPPORT	2,253,776	–40,000	2,213,776
	Excess civilian growth		[–6,000]	
	Unjustified growth		[–34,000]	
	SUBTOTAL OPERATING FORCES	**6,596,534**	**–92,000**	**6,504,534**
	TRAINING AND RECRUITING			
080	RECRUIT TRAINING	21,240		21,240
090	OFFICER ACQUISITION	1,168		1,168
100	SPECIALIZED SKILL TRAINING	106,601		106,601
110	PROFESSIONAL DEVELOPMENT EDUCATION	49,095		49,095
120	TRAINING SUPPORT	407,315	–3,600	403,715

	Excess civilian growth		[–1,300]	
	Unjustified growth		[–2,300]	
130	RECRUITING AND ADVERTISING	210,475		210,475
140	OFF-DUTY AND VOLUNTARY EDUCATION	42,810		42,810
150	JUNIOR ROTC	25,183		25,183
	SUBTOTAL TRAINING AND RECRUITING	**863,887**	**–3,600**	**860,287**
	ADMIN & SRVWD ACTIVITIES			
160	SERVICEWIDE TRANSPORTATION	29,894		29,894
170	ADMINISTRATION	384,352	–1,350	383,002
	Excess civilian growth		[–750]	
	Unjustified growth		[–600]	
225	CLASSIFIED PROGRAMS	52,057		52,057
	SUBTOTAL ADMIN & SRVWD ACTIVITIES	**466,303**	**–1,350**	**464,953**
	TOTAL OPERATION & MAINTENANCE, MARINE CORPS	**7,926,724**	**–96,950**	**7,829,774**
	OPERATION & MAINTENANCE, NAVY RES			
	OPERATING FORCES			
010	MISSION AND OTHER FLIGHT OPERATIONS	654,220	–15,000	639,220
	Unjustified growth		[–15,000]	
020	INTERMEDIATE MAINTENANCE	8,767		8,767
030	AIRCRAFT DEPOT MAINTENANCE	108,236		108,236
040	AIRCRAFT DEPOT OPERATIONS SUPPORT	463		463
050	AVIATION LOGISTICS	26,014		26,014
060	SHIP OPERATIONS SUPPORT & TRAINING	583		583
070	COMBAT COMMUNICATIONS	17,883		17,883
080	COMBAT SUPPORT FORCES	128,079		128,079
090	CYBERSPACE ACTIVITIES	356		356
100	ENTERPRISE INFORMATION	26,133		26,133
110	SUSTAINMENT, RESTORATION AND MODERNIZATION	35,397		35,397
120	BASE OPERATING SUPPORT	101,376		101,376

SEC. 4301. OPERATION AND MAINTENANCE
(In Thousands of Dollars)

Line	Item	FY 2020 Request	House Change	House Authorized
	SUBTOTAL OPERATING FORCES	**1,107,507**	**–15,000**	**1,092,507**
	ADMIN & SRVWD ACTIVITIES			
130	ADMINISTRATION	1,888		1,888
140	MILITARY MANPOWER AND PERSONNEL MANAGEMENT	12,778		12,778
150	ACQUISITION AND PROGRAM MANAGEMENT	2,943		2,943
	SUBTOTAL ADMIN & SRVWD ACTIVITIES	**17,609**		**17,609**
	TOTAL OPERATION & MAINTENANCE, NAVY RES	**1,125,116**	**–15,000**	**1,110,116**
	OPERATION & MAINTENANCE, MC RESERVE			
	OPERATING FORCES			
010	OPERATING FORCES	106,484		106,484
020	DEPOT MAINTENANCE	18,429		18,429
030	SUSTAINMENT, RESTORATION AND MODERNIZATION	47,516		47,516
040	BASE OPERATING SUPPORT	106,073		106,073
	SUBTOTAL OPERATING FORCES	**278,502**		**278,502**
	ADMIN & SRVWD ACTIVITIES			
050	ADMINISTRATION	13,574		13,574
	SUBTOTAL ADMIN & SRVWD ACTIVITIES	**13,574**		**13,574**
	TOTAL OPERATION & MAINTENANCE, MC RESERVE	**292,076**		**292,076**
	OPERATION & MAINTENANCE, AIR FORCE			
	OPERATING FORCES			
010	PRIMARY COMBAT FORCES	729,127	–1,650	727,477

	Excess travel costs		[–1,650]	
020	COMBAT ENHANCEMENT FORCES	1,318,770		1,318,770
030	AIR OPERATIONS TRAINING (OJT, MAINTAIN SKILLS)	1,486,790	–40,000	1,446,790
	Unjustified growth		[–40,000]	
040	DEPOT PURCHASE EQUIPMENT MAINTENANCE	3,334,792	200,000	3,534,792
	Readiness restoration		[200,000]	
050	FACILITIES SUSTAINMENT, RESTORATION & MODERNIZATION	4,142,435		4,142,435
060	CYBERSPACE SUSTAINMENT	228,811		228,811
070	CONTRACTOR LOGISTICS SUPPORT AND SYSTEM SUPPORT	8,329,364	109,000	8,438,364
	Expansion of Conditions Based Maintenance Plus (CBM+)		[18,000]	
	Readiness restoration		[91,000]	
080	FLYING HOUR PROGRAM	4,048,773	–550,000	3,498,773
	Realignment to OCO		[–550,000]	
090	BASE SUPPORT	7,223,982	–150,000	7,073,982
	Insufficient justification		[–150,000]	
100	GLOBAL C3I AND EARLY WARNING	964,553		964,553
110	OTHER COMBAT OPS SPT PROGRAMS	1,032,307	–6,146	1,026,161
	Unjustified growth		[–6,146]	
120	CYBERSPACE ACTIVITIES	670,076		670,076
140	LAUNCH FACILITIES	179,980		179,980
150	SPACE CONTROL SYSTEMS	467,990	–3,500	464,490
	Insufficient justification		[–3,500]	
160	US NORTHCOM/NORAD	184,655		184,655
170	US STRATCOM	478,357		478,357
180	US CYBERCOM	323,121		323,121
190	US CENTCOM	160,989		160,989
200	US SOCOM	6,225		6,225
210	US TRANSCOM	544		544
220	CENTCOM CYBERSPACE SUSTAINMENT	2,073		2,073
230	USSPACECOM	70,588		70,588
235	CLASSIFIED PROGRAMS	1,322,944		1,322,944
	SUBTOTAL OPERATING FORCES	**36,707,246**	**–442,296**	**36,264,950**

SEC. 4301. OPERATION AND MAINTENANCE
(In Thousands of Dollars)

Line	Item	FY 2020 Request	House Change	House Authorized
	MOBILIZATION			
240	AIRLIFT OPERATIONS	1,158,142	–6,800	1,151,342
	Unjustified growth		[–6,800]	
250	MOBILIZATION PREPAREDNESS	138,672	–8,500	130,172
	Unjustified growth		[–8,500]	
	SUBTOTAL MOBILIZATION	**1,296,814**	**–15,300**	**1,281,514**
	TRAINING AND RECRUITING			
260	OFFICER ACQUISITION	130,835		130,835
270	RECRUIT TRAINING	26,021		26,021
280	RESERVE OFFICERS TRAINING CORPS (ROTC)	121,391		121,391
290	SPECIALIZED SKILL TRAINING	454,539	–5,000	449,539
	Insufficient justification		[–5,000]	
300	FLIGHT TRAINING	600,565		600,565
310	PROFESSIONAL DEVELOPMENT EDUCATION	282,788		282,788
320	TRAINING SUPPORT	123,988	–4,000	119,988
	Unjustified growth		[–4,000]	
330	RECRUITING AND ADVERTISING	167,731		167,731
340	EXAMINING	4,576		4,576
350	OFF-DUTY AND VOLUNTARY EDUCATION	211,911		211,911
360	CIVILIAN EDUCATION AND TRAINING	219,021		219,021
370	JUNIOR ROTC	62,092		62,092
	SUBTOTAL TRAINING AND RECRUITING	**2,405,458**	**–9,000**	**2,396,458**
	ADMIN & SRVWD ACTIVITIES			
380	LOGISTICS OPERATIONS	664,926		664,926

390	TECHNICAL SUPPORT ACTIVITIES	101,483		101,483
400	ADMINISTRATION	892,480		892,480
410	SERVICEWIDE COMMUNICATIONS	152,532		152,532
420	OTHER SERVICEWIDE ACTIVITIES	1,254,089		1,254,089
430	CIVIL AIR PATROL	30,070	7,130	37,200
	Improved emergency crew readiness		[7,130]	
460	INTERNATIONAL SUPPORT	136,110		136,110
465	CLASSIFIED PROGRAMS	1,269,624		1,269,624
	SUBTOTAL ADMIN & SRVWD ACTIVITIES	**4,501,314**	**7,130**	**4,508,444**
	TOTAL OPERATION & MAINTENANCE, AIR FORCE	**44,910,832**	**–459,466**	**44,451,366**
	OPERATION & MAINTENANCE, SPACE FORCE			
	OPERATING FORCES			
010	BASE SUPPORT	72,436	–57,436	15,000
	Insufficient justification		[–57,436]	
	SUBTOTAL OPERATING FORCES	**72,436**	**–57,436**	**15,000**
	TOTAL OPERATION & MAINTENANCE, SPACE FORCE	**72,436**	**–57,436**	**15,000**
	OPERATION & MAINTENANCE, AF RESERVE			
	OPERATING FORCES			
010	PRIMARY COMBAT FORCES	1,781,413	–42,125	1,739,288
	Delay in KC–46 aircraft delivery		[–31,492]	
	Excess Growth		[–10,633]	
020	MISSION SUPPORT OPERATIONS	209,650	–5,500	204,150
	Insufficient justification		[–5,500]	
030	DEPOT PURCHASE EQUIPMENT MAINTENANCE	494,235	–10,000	484,235
	Excess growth		[–10,000]	
040	FACILITIES SUSTAINMENT, RESTORATION & MODERNIZATION	128,746		128,746
050	CONTRACTOR LOGISTICS SUPPORT AND SYSTEM SUPPORT	256,512		256,512
060	BASE SUPPORT	414,626		414,626

SEC. 4301. OPERATION AND MAINTENANCE
(In Thousands of Dollars)

Line	Item	FY 2020 Request	House Change	House Authorized
070	CYBERSPACE ACTIVITIES	1,673		1,673
	SUBTOTAL OPERATING FORCES	**3,286,855**	**–57,625**	**3,229,230**
	ADMINISTRATION AND SERVICEWIDE ACTIVITIES			
080	ADMINISTRATION	69,436		69,436
090	RECRUITING AND ADVERTISING	22,124		22,124
100	MILITARY MANPOWER AND PERS MGMT (ARPC)	10,946		10,946
110	OTHER PERS SUPPORT (DISABILITY COMP)	7,009		7,009
120	AUDIOVISUAL	448		448
	SUBTOTAL ADMINISTRATION AND SERVICEWIDE ACTIVITIES	**109,963**		**109,963**
	TOTAL OPERATION & MAINTENANCE, AF RESERVE	**3,396,818**	**–57,625**	**3,339,193**
	OPERATION & MAINTENANCE, ANG			
	OPERATING FORCES			
010	AIRCRAFT OPERATIONS	2,497,967	–83,967	2,414,000
	Delay in KC–46 aircraft delivery		[–5,267]	
	Insufficient justification		[–78,700]	
020	MISSION SUPPORT OPERATIONS	600,377	–15,000	585,377
	Insufficient justification		[–15,000]	
030	DEPOT PURCHASE EQUIPMENT MAINTENANCE	879,467	–7,000	872,467
	Excess growth		[–7,000]	
040	FACILITIES SUSTAINMENT, RESTORATION & MODERNIZATION	400,734	–5,600	395,134
	Insufficient justification		[–5,600]	
050	CONTRACTOR LOGISTICS SUPPORT AND SYSTEM SUPPORT	1,299,089	–9,000	1,290,089
	Excess growth		[–9,000]	
060	BASE SUPPORT	911,775	–10,000	901,775

	Insufficient justification		[–10,000]	
070	CYBERSPACE SUSTAINMENT	24,742		24,742
080	CYBERSPACE ACTIVITIES	25,507		25,507
	SUBTOTAL OPERATING FORCES	**6,639,658**	**–130,567**	**6,509,091**
	ADMINISTRATION AND SERVICE-WIDE ACTIVITIES			
090	ADMINISTRATION	47,215		47,215
100	RECRUITING AND ADVERTISING	40,356		40,356
	SUBTOTAL ADMINISTRATION AND SERVICE-WIDE ACTIVITIES	**87,571**		**87,571**
	TOTAL OPERATION & MAINTENANCE, ANG	**6,727,229**	**–130,567**	**6,596,662**
	OPERATION AND MAINTENANCE, DEFENSE-WIDE			
	OPERATING FORCES			
010	JOINT CHIEFS OF STAFF	409,542		409,542
020	JOINT CHIEFS OF STAFF—CE2T2	579,179		579,179
030	JOINT CHIEFS OF STAFF—CYBER	24,598		24,598
040	SPECIAL OPERATIONS COMMAND COMBAT DEVELOPMENT ACTIVITIES	1,075,762		1,075,762
050	SPECIAL OPERATIONS COMMAND CYBERSPACE ACTIVITIES	14,409		14,409
060	SPECIAL OPERATIONS COMMAND INTELLIGENCE	501,747	–15,000	486,747
	Program decrease—SOCRATES		[–9,000]	
	Unjustified growth—DCGS		[–6,000]	
070	SPECIAL OPERATIONS COMMAND MAINTENANCE	559,300	–15,000	544,300
	Projected underexecution		[–15,000]	
080	SPECIAL OPERATIONS COMMAND MANAGEMENT/OPERATIONAL HEADQUARTERS	177,928		177,928
090	SPECIAL OPERATIONS COMMAND OPERATIONAL SUPPORT	925,262	–26,000	899,262
	Base support underexecution		[–6,000]	
	Operational support underexecution		[–10,000]	
	Unjustified growth—C4IAS Saas		[–10,000]	
100	SPECIAL OPERATIONS COMMAND THEATER FORCES	2,764,738	–40,000	2,724,738
	Program decrease		[–55,000]	
	Program increase—suicide prevention		[15,000]	

SEC. 4301. OPERATION AND MAINTENANCE
(In Thousands of Dollars)

Line	Item	FY 2020 Request	House Change	House Authorized
	SUBTOTAL OPERATING FORCES	**7,032,465**	**–96,000**	**6,936,465**
	TRAINING AND RECRUITING			
120	DEFENSE ACQUISITION UNIVERSITY	180,250		180,250
130	JOINT CHIEFS OF STAFF	100,610		100,610
140	PROFESSIONAL DEVELOPMENT EDUCATION	33,967		33,967
	SUBTOTAL TRAINING AND RECRUITING	**314,827**		**314,827**
	ADMIN & SRVWIDE ACTIVITIES			
160	CIVIL MILITARY PROGRAMS	165,707	30,000	195,707
	Program increase—STARBASE		[30,000]	
180	DEFENSE CONTRACT AUDIT AGENCY	627,467		627,467
190	DEFENSE CONTRACT AUDIT AGENCY—CYBER	3,362		3,362
200	DEFENSE CONTRACT MANAGEMENT AGENCY	1,438,068		1,438,068
210	DEFENSE CONTRACT MANAGEMENT AGENCY—CYBER	24,391		24,391
220	DEFENSE HUMAN RESOURCES ACTIVITY	892,438	6,000	898,438
	Program increase—national flagship language initiative		[6,000]	
230	DEFENSE INFORMATION SYSTEMS AGENCY	2,012,885	15,137	2,028,022
	Realignment for Sharkseer		[35,137]	
	Unjustified growth		[–20,000]	
240	DEFENSE INFORMATION SYSTEMS AGENCY—CYBER	601,223		601,223
270	DEFENSE LEGAL SERVICES AGENCY	34,632		34,632
280	DEFENSE LOGISTICS AGENCY	415,699	14,500	430,199
	Excess growth		[–5,000]	
	Program increase—PTAP		[19,500]	
290	DEFENSE MEDIA ACTIVITY	202,792	–6,000	196,792
	Program decrease		[–6,000]	

300	DEFENSE PERSONNEL ACCOUNTING AGENCY	144,881		144,881
310	DEFENSE SECURITY COOPERATION AGENCY	696,884	–15,000	681,884
	Increase for AM&E		[11,000]	
	Increase for AM&E		[–11,000]	
	Unjustified growth		[–15,000]	
320	DEFENSE SECURITY SERVICE	889,664		889,664
340	DEFENSE SECURITY SERVICE—CYBER	9,220		9,220
360	DEFENSE TECHNICAL INFORMATION CENTER	3,000		3,000
370	DEFENSE TECHNOLOGY SECURITY ADMINISTRATION	35,626		35,626
380	DEFENSE THREAT REDUCTION AGENCY	568,133		568,133
400	DEFENSE THREAT REDUCTION AGENCY—CYBER	13,339		13,339
410	DEPARTMENT OF DEFENSE EDUCATION ACTIVITY	2,932,226	50,000	2,982,226
	Program increase—impact aid for children with severe disabilites		[10,000]	
	Program increase—impact aid to schools with military dependents		[40,000]	
420	MISSILE DEFENSE AGENCY	522,529		522,529
450	OFFICE OF ECONOMIC ADJUSTMENT	59,513	55,400	114,913
	Civilian growth		[400]	
	Defense Community Infrastructure Program (DCIP)		[50,000]	
	Program increase—military aviation noise pilot program		[5,000]	
460	OFFICE OF THE SECRETARY OF DEFENSE	1,604,738	–75,262	1,529,476
	Basic Needs Allowance for low-income regular members		[15,000]	
	Excess growth		[–58,839]	
	Increase to OUSD(A&S)—JASONs		[7,000]	
	Military aviation safety commission		[3,000]	
	Program decrease		[–53,000]	
	Readiness and Environmental Protection Initiative increase		[25,000]	
	Reduction to OUSD(R&E)—JASONs		[–7,000]	
	Unjustified growth		[–6,423]	
470	OFFICE OF THE SECRETARY OF DEFENSE—CYBER	48,783		48,783
480	SPACE DEVELOPMENT AGENCY	44,750		44,750
500	WASHINGTON HEADQUARTERS SERVICES	324,001	–27,800	296,201
	Insufficient justification		[–27,800]	

SEC. 4301. OPERATION AND MAINTENANCE
(In Thousands of Dollars)

Line	Item	FY 2020 Request	House Change	House Authorized
505	CLASSIFIED PROGRAMS	15,816,598	–61,137	15,755,461
	Classified adjustment		[–26,000]	
	Realignment to DISA for Sharkseer		[–35,137]	
	SUBTOTAL ADMIN & SRVWIDE ACTIVITIES	**30,132,549**	**–14,162**	**30,118,387**
	TOTAL OPERATION AND MAINTENANCE, DEFENSE-WIDE	**37,479,841**	**–110,162**	**37,369,379**
	US COURT OF APPEALS FOR ARMED FORCES, DEF			
	ADMINISTRATION AND ASSOCIATED ACTIVITIES			
010	US COURT OF APPEALS FOR THE ARMED FORCES, DEFENSE	14,771		14,771
	SUBTOTAL ADMINISTRATION AND ASSOCIATED ACTIVITIES	**14,771**		**14,771**
	TOTAL US COURT OF APPEALS FOR ARMED FORCES, DEF	**14,771**		**14,771**
	DOD ACQUISITION WORKFORCE DEVELOPMENT FUND			
	ACQUISITION WORKFORCE DEVELOPMENT			
010	ACQ WORKFORCE DEV FD	400,000	–25,000	375,000
	Program decrease		[–25,000]	
	SUBTOTAL ACQUISITION WORKFORCE DEVELOPMENT	**400,000**	**–25,000**	**375,000**
	TOTAL DOD ACQUISITION WORKFORCE DEVELOPMENT FUND	**400,000**	**–25,000**	**375,000**
	OVERSEAS HUMANITARIAN, DISASTER, AND CIVIC AID			
	HUMANITARIAN ASSISTANCE			
010	OVERSEAS HUMANITARIAN, DISASTER AND CIVIC AID	108,600	2,200	110,800
	Increase for HMA		[2,200]	
	SUBTOTAL HUMANITARIAN ASSISTANCE	**108,600**	**2,200**	**110,800**

	TOTAL OVERSEAS HUMANITARIAN, DISASTER, AND CIVIC AID	**108,600**	**2,200**	**110,800**
	COOPERATIVE THREAT REDUCTION ACCOUNT			
	COOPERATIVE THREAT REDUCTION			
010	COOPERATIVE THREAT REDUCTION	338,700		338,700
	SUBTOTAL COOPERATIVE THREAT REDUCTION	**338,700**		**338,700**
	TOTAL COOPERATIVE THREAT REDUCTION ACCOUNT	**338,700**		**338,700**
	ENVIRONMENTAL RESTORATION, ARMY			
	DEPARTMENT OF THE ARMY			
050	ENVIRONMENTAL RESTORATION, ARMY	207,518	28,291	235,809
	Perfluorinated chemicals		[28,291]	
	SUBTOTAL DEPARTMENT OF THE ARMY	**207,518**	**28,291**	**235,809**
	TOTAL ENVIRONMENTAL RESTORATION, ARMY	**207,518**	**28,291**	**235,809**
	ENVIRONMENTAL RESTORATION, NAVY			
	DEPARTMENT OF THE NAVY			
060	ENVIRONMENTAL RESTORATION, NAVY	335,932	29,951	365,883
	Perfluorinated chemicals		[29,951]	
	SUBTOTAL DEPARTMENT OF THE NAVY	**335,932**	**29,951**	**365,883**
	TOTAL ENVIRONMENTAL RESTORATION, NAVY	**335,932**	**29,951**	**365,883**
	ENVIRONMENTAL RESTORATION, AIR FORCE			
	DEPARTMENT OF THE AIR FORCE			
070	ENVIRONMENTAL RESTORATION, AIR FORCE	302,744	63,064	365,808
	Perfluorinated chemicals		[63,064]	
	SUBTOTAL DEPARTMENT OF THE AIR FORCE	**302,744**	**63,064**	**365,808**

SEC. 4301. OPERATION AND MAINTENANCE
(In Thousands of Dollars)

Line	Item	FY 2020 Request	House Change	House Authorized
	TOTAL ENVIRONMENTAL RESTORATION, AIR FORCE	**302,744**	**63,064**	**365,808**
	ENVIRONMENTAL RESTORATION, DEFENSE-WIDE			
080	ENVIRONMENTAL RESTORATION, DEFENSE-WIDE	9,105	9,897	19,002
	Perfluorinated chemicals		[9,897]	
	SUBTOTAL DEFENSE-WIDE	**9,105**	**9,897**	**19,002**
	TOTAL ENVIRONMENTAL RESTORATION, DEFENSE-WIDE	**9,105**	**9,897**	**19,002**
	ENVIRONMENTAL RESTORATION FORMERLY USED SITES DEFENSE-WIDE			
090	ENVIRONMENTAL RESTORATION FORMERLY USED SITES	216,499		216,499
	SUBTOTAL DEFENSE-WIDE	**216,499**		**216,499**
	TOTAL ENVIRONMENTAL RESTORATION FORMERLY USED SITES	**216,499**		**216,499**
	TOTAL OPERATION & MAINTENANCE	**207,661,689**	**–3,870,143**	**203,791,546**

SEC. 4302. OPERATION AND MAINTENANCE FOR OVERSEAS CONTINGENCY OPERATIONS.

SEC. 4302. OPERATION AND MAINTENANCE FOR OVERSEAS CONTINGENCY OPERATIONS
(In Thousands of Dollars)

Line	Item	FY 2020 Request	House Change	House Authorized
	OPERATION & MAINTENANCE, ARMY			
	OPERATING FORCES			
010	MANEUVER UNITS	1,410,874		1,410,874
030	ECHELONS ABOVE BRIGADE	26,502		26,502
040	THEATER LEVEL ASSETS	2,274,490		2,274,490
050	LAND FORCES OPERATIONS SUPPORT	136,288		136,288
060	AVIATION ASSETS	300,240		300,240
070	FORCE READINESS OPERATIONS SUPPORT	3,415,009	1,100,000	4,515,009
	Realignment from base		[1,100,000]	
080	LAND FORCES SYSTEMS READINESS	29,985		29,985
090	LAND FORCES DEPOT MAINTENANCE	86,931		86,931
100	BASE OPERATIONS SUPPORT	115,706		115,706
110	FACILITIES SUSTAINMENT, RESTORATION & MODERNIZATION	72,657		72,657
130	ADDITIONAL ACTIVITIES	6,397,586		6,397,586
140	COMMANDER'S EMERGENCY RESPONSE PROGRAM	5,000	–5,000	0
	Realignment of redress and loss funding		[–5,000]	
150	RESET	1,048,896		1,048,896
160	US AFRICA COMMAND	203,174		203,174
170	US EUROPEAN COMMAND	173,676		173,676
200	CYBERSPACE ACTIVITIES—CYBERSPACE OPERATIONS	188,529		188,529
210	CYBERSPACE ACTIVITIES—CYBERSECURITY	5,682		5,682
	SUBTOTAL OPERATING FORCES	**15,891,225**	**1,095,000**	**16,986,225**
	MOBILIZATION			

SEC. 4302. OPERATION AND MAINTENANCE FOR OVERSEAS CONTINGENCY OPERATIONS
(In Thousands of Dollars)

Line	Item	FY 2020 Request	House Change	House Authorized
230	ARMY PREPOSITIONED STOCKS	131,954		131,954
	SUBTOTAL MOBILIZATION	**131,954**		**131,954**
	ADMIN & SRVWIDE ACTIVITIES			
390	SERVICEWIDE TRANSPORTATION	721,014		721,014
400	CENTRAL SUPPLY ACTIVITIES	66,845		66,845
410	LOGISTIC SUPPORT ACTIVITIES	9,309		9,309
420	AMMUNITION MANAGEMENT	23,653		23,653
460	OTHER PERSONNEL SUPPORT	109,019		109,019
490	REAL ESTATE MANAGEMENT	251,355		251,355
565	CLASSIFIED PROGRAMS	1,568,564		1,568,564
	SUBTOTAL ADMIN & SRVWIDE ACTIVITIES	**2,749,759**		**2,749,759**
	TOTAL OPERATION & MAINTENANCE, ARMY	**18,772,938**	**1,095,000**	**19,867,938**
	OPERATION & MAINTENANCE, ARMY RES			
	OPERATING FORCES			
020	ECHELONS ABOVE BRIGADE	20,440		20,440
060	FORCE READINESS OPERATIONS SUPPORT	689		689
090	BASE OPERATIONS SUPPORT	16,463		16,463
	SUBTOTAL OPERATING FORCES	**37,592**		**37,592**
	TOTAL OPERATION & MAINTENANCE, ARMY RES	**37,592**		**37,592**
	OPERATION & MAINTENANCE, ARNG			
	OPERATING FORCES			
010	MANEUVER UNITS	45,896		45,896

020	MODULAR SUPPORT BRIGADES	180	180
030	ECHELONS ABOVE BRIGADE	2,982	2,982
040	THEATER LEVEL ASSETS	548	548
060	AVIATION ASSETS	9,229	9,229
070	FORCE READINESS OPERATIONS SUPPORT	1,584	1,584
100	BASE OPERATIONS SUPPORT	22,063	22,063
120	MANAGEMENT AND OPERATIONAL HEADQUARTERS	606	606
	SUBTOTAL OPERATING FORCES	**83,088**	**83,088**
	ADMIN & SRVWD ACTIVITIES		
170	SERVICEWIDE COMMUNICATIONS	203	203
	SUBTOTAL ADMIN & SRVWD ACTIVITIES	**203**	**203**
	TOTAL OPERATION & MAINTENANCE, ARNG	**83,291**	**83,291**
	AFGHAN NATIONAL ARMY		
090	SUSTAINMENT	1,313,047	1,313,047
100	INFRASTRUCTURE	37,152	37,152
110	EQUIPMENT AND TRANSPORTATION	120,868	120,868
120	TRAINING AND OPERATIONS	118,591	118,591
	SUBTOTAL AFGHAN NATIONAL ARMY	**1,589,658**	**1,589,658**
	AFGHAN NATIONAL POLICE		
130	SUSTAINMENT	422,806	422,806
140	INFRASTRUCTURE	2,358	2,358
150	EQUIPMENT AND TRANSPORTATION	127,081	127,081
160	TRAINING AND OPERATIONS	108,112	108,112
	SUBTOTAL AFGHAN NATIONAL POLICE	**660,357**	**660,357**
	AFGHAN AIR FORCE		
170	SUSTAINMENT	893,829	893,829
180	INFRASTRUCTURE	8,611	8,611

SEC. 4302. OPERATION AND MAINTENANCE FOR OVERSEAS CONTINGENCY OPERATIONS
(In Thousands of Dollars)

Line	Item	FY 2020 Request	House Change	House Authorized
190	EQUIPMENT AND TRANSPORTATION	566,967		566,967
200	TRAINING AND OPERATIONS	356,108		356,108
	SUBTOTAL AFGHAN AIR FORCE	**1,825,515**		**1,825,515**
	AFGHAN SPECIAL SECURITY FORCES			
210	SUSTAINMENT	437,909		437,909
220	INFRASTRUCTURE	21,131		21,131
230	EQUIPMENT AND TRANSPORTATION	153,806		153,806
240	TRAINING AND OPERATIONS	115,602		115,602
	SUBTOTAL AFGHAN SPECIAL SECURITY FORCES	**728,448**		**728,448**
	UNDISTRIBUTED			
245	UNDISTRIBUTED		–300,000	–300,000
	Unjustified request		[–300,000]	
	SUBTOTAL UNDISTRIBUTED		**–300,000**	**–300,000**
	TOTAL AFGHANISTAN SECURITY FORCES FUND	**4,803,978**	**–300,000**	**4,503,978**
	COUNTER ISIS TRAIN AND EQUIP FUND (CTEF)			
	COUNTER ISIS TRAIN AND EQUIP FUND (CTEF)			
010	IRAQ	745,000	–82,000	663,000
	Unjustified request		[–82,000]	
020	SYRIA	300,000		300,000
030	BORDER SECURITY		250,000	250,000
	Realignment of CTEF border security funding		[250,000]	
	SUBTOTAL COUNTER ISIS TRAIN AND EQUIP FUND (CTEF)	**1,045,000**	**168,000**	**1,213,000**

	TOTAL COUNTER ISIS TRAIN AND EQUIP FUND (CTEF)	**1,045,000**	**168,000**	**1,213,000**
	OPERATION & MAINTENANCE, NAVY			
	OPERATING FORCES			
010	MISSION AND OTHER FLIGHT OPERATIONS	373,047	214,375	587,422
	Realignment from base		[214,375]	
030	AVIATION TECHNICAL DATA & ENGINEERING SERVICES	816		816
040	AIR OPERATIONS AND SAFETY SUPPORT	9,582		9,582
050	AIR SYSTEMS SUPPORT	197,262		197,262
060	AIRCRAFT DEPOT MAINTENANCE	168,246		168,246
070	AIRCRAFT DEPOT OPERATIONS SUPPORT	3,594		3,594
080	AVIATION LOGISTICS	10,618		10,618
090	MISSION AND OTHER SHIP OPERATIONS	1,485,108	450,000	1,935,108
	Realignment from base		[450,000]	
100	SHIP OPERATIONS SUPPORT & TRAINING	20,334		20,334
110	SHIP DEPOT MAINTENANCE	2,365,615		2,365,615
130	COMBAT COMMUNICATIONS AND ELECTRONIC WARFARE	58,092		58,092
140	SPACE SYSTEMS AND SURVEILLANCE	18,000		18,000
150	WARFARE TACTICS	16,984		16,984
160	OPERATIONAL METEOROLOGY AND OCEANOGRAPHY	29,382		29,382
170	COMBAT SUPPORT FORCES	608,870		608,870
180	EQUIPMENT MAINTENANCE AND DEPOT OPERATIONS SUPPORT	7,799		7,799
200	COMBATANT COMMANDERS DIRECT MISSION SUPPORT	24,800		24,800
220	CYBERSPACE ACTIVITIES	363		363
240	WEAPONS MAINTENANCE	486,188		486,188
250	OTHER WEAPON SYSTEMS SUPPORT	12,189		12,189
270	SUSTAINMENT, RESTORATION AND MODERNIZATION	68,667		68,667
280	BASE OPERATING SUPPORT	219,099		219,099
	SUBTOTAL OPERATING FORCES	**6,184,655**	**664,375**	**6,849,030**
	MOBILIZATION			
320	EXPEDITIONARY HEALTH SERVICES SYSTEMS	17,580		17,580

SEC. 4302. OPERATION AND MAINTENANCE FOR OVERSEAS CONTINGENCY OPERATIONS
(In Thousands of Dollars)

Line	Item	FY 2020 Request	House Change	House Authorized
330	COAST GUARD SUPPORT	190,000		190,000
	SUBTOTAL MOBILIZATION	**207,580**		**207,580**
	TRAINING AND RECRUITING			
370	SPECIALIZED SKILL TRAINING	52,161		52,161
	SUBTOTAL TRAINING AND RECRUITING	**52,161**		**52,161**
	ADMIN & SRVWD ACTIVITIES			
440	ADMINISTRATION	8,475		8,475
460	MILITARY MANPOWER AND PERSONNEL MANAGEMENT	7,653		7,653
490	SERVICEWIDE TRANSPORTATION	70,683		70,683
520	ACQUISITION, LOGISTICS, AND OVERSIGHT	11,130		11,130
530	INVESTIGATIVE AND SECURITY SERVICES	1,559		1,559
645	CLASSIFIED PROGRAMS	17,754		17,754
	SUBTOTAL ADMIN & SRVWD ACTIVITIES	**117,254**		**117,254**
	TOTAL OPERATION & MAINTENANCE, NAVY	**6,561,650**	**664,375**	**7,226,025**
	OPERATION & MAINTENANCE, MARINE CORPS			
	OPERATING FORCES			
010	OPERATIONAL FORCES	714,653		714,653
020	FIELD LOGISTICS	232,508		232,508
030	DEPOT MAINTENANCE	54,101		54,101
050	CYBERSPACE ACTIVITIES	2,000		2,000
070	BASE OPERATING SUPPORT	24,570		24,570
	SUBTOTAL OPERATING FORCES	**1,027,832**		**1,027,832**

	TRAINING AND RECRUITING		
120	TRAINING SUPPORT	30,459	30,459
	SUBTOTAL TRAINING AND RECRUITING	**30,459**	**30,459**
	ADMIN & SRVWD ACTIVITIES		
160	SERVICEWIDE TRANSPORTATION	61,400	61,400
225	CLASSIFIED PROGRAMS	5,100	5,100
	SUBTOTAL ADMIN & SRVWD ACTIVITIES	**66,500**	**66,500**
	TOTAL OPERATION & MAINTENANCE, MARINE CORPS	**1,124,791**	**1,124,791**
	OPERATION & MAINTENANCE, NAVY RES		
	OPERATING FORCES		
020	INTERMEDIATE MAINTENANCE	510	510
030	AIRCRAFT DEPOT MAINTENANCE	11,628	11,628
080	COMBAT SUPPORT FORCES	10,898	10,898
	SUBTOTAL OPERATING FORCES	**23,036**	**23,036**
	TOTAL OPERATION & MAINTENANCE, NAVY RES	**23,036**	**23,036**
	OPERATION & MAINTENANCE, MC RESERVE		
	OPERATING FORCES		
010	OPERATING FORCES	7,627	7,627
040	BASE OPERATING SUPPORT	1,080	1,080
	SUBTOTAL OPERATING FORCES	**8,707**	**8,707**
	TOTAL OPERATION & MAINTENANCE, MC RESERVE	**8,707**	**8,707**
	OPERATION & MAINTENANCE, AIR FORCE		
	OPERATING FORCES		
010	PRIMARY COMBAT FORCES	163,632	163,632
020	COMBAT ENHANCEMENT FORCES	1,049,170	1,049,170

SEC. 4302. OPERATION AND MAINTENANCE FOR OVERSEAS CONTINGENCY OPERATIONS
(In Thousands of Dollars)

Line	Item	FY 2020 Request	House Change	House Authorized
030	AIR OPERATIONS TRAINING (OJT, MAINTAIN SKILLS)	111,808		111,808
040	DEPOT PURCHASE EQUIPMENT MAINTENANCE	408,699		408,699
050	FACILITIES SUSTAINMENT, RESTORATION & MODERNIZATION	147,264		147,264
060	CYBERSPACE SUSTAINMENT	10,061		10,061
070	CONTRACTOR LOGISTICS SUPPORT AND SYSTEM SUPPORT	953,594		953,594
080	FLYING HOUR PROGRAM	2,495,266	550,000	3,045,266
	Realignment from base		[550,000]	
090	BASE SUPPORT	1,538,120		1,538,120
100	GLOBAL C3I AND EARLY WARNING	13,863		13,863
110	OTHER COMBAT OPS SPT PROGRAMS	272,020		272,020
120	CYBERSPACE ACTIVITIES	17,657		17,657
130	TACTICAL INTEL AND OTHER SPECIAL ACTIVITIES	36,098		36,098
140	LAUNCH FACILITIES	391		391
150	SPACE CONTROL SYSTEMS	39,990		39,990
160	US NORTHCOM/NORAD	725		725
170	US STRATCOM	926		926
180	US CYBERCOM	35,189		35,189
190	US CENTCOM	163,015		163,015
200	US SOCOM	19,000		19,000
	SUBTOTAL OPERATING FORCES	**7,476,488**	**550,000**	**8,026,488**
	MOBILIZATION			
240	AIRLIFT OPERATIONS	1,271,439		1,271,439
250	MOBILIZATION PREPAREDNESS	109,682		109,682
	SUBTOTAL MOBILIZATION	**1,381,121**		**1,381,121**
	TRAINING AND RECRUITING			

260	OFFICER ACQUISITION	200		200
270	RECRUIT TRAINING	352		352
290	SPECIALIZED SKILL TRAINING	26,802		26,802
300	FLIGHT TRAINING	844		844
310	PROFESSIONAL DEVELOPMENT EDUCATION	1,199		1,199
320	TRAINING SUPPORT	1,320		1,320
	SUBTOTAL TRAINING AND RECRUITING	**30,717**		**30,717**
	ADMIN & SRVWD ACTIVITIES			
380	LOGISTICS OPERATIONS	164,701		164,701
390	TECHNICAL SUPPORT ACTIVITIES	11,608		11,608
400	ADMINISTRATION	4,814		4,814
410	SERVICEWIDE COMMUNICATIONS	145,204		145,204
420	OTHER SERVICEWIDE ACTIVITIES	98,841		98,841
460	INTERNATIONAL SUPPORT	29,890		29,890
465	CLASSIFIED PROGRAMS	52,995		52,995
	SUBTOTAL ADMIN & SRVWD ACTIVITIES	**508,053**		**508,053**
	TOTAL OPERATION & MAINTENANCE, AIR FORCE	**9,396,379**	**550,000**	**9,946,379**
	OPERATION & MAINTENANCE, AF RESERVE			
	OPERATING FORCES			
030	DEPOT PURCHASE EQUIPMENT MAINTENANCE	24,188		24,188
060	BASE SUPPORT	5,570		5,570
	SUBTOTAL OPERATING FORCES	**29,758**		**29,758**
	TOTAL OPERATION & MAINTENANCE, AF RESERVE	**29,758**		**29,758**
	OPERATION & MAINTENANCE, ANG			
	OPERATING FORCES			
020	MISSION SUPPORT OPERATIONS	3,666		3,666
030	DEPOT PURCHASE EQUIPMENT MAINTENANCE	66,944		66,944

SEC. 4302. OPERATION AND MAINTENANCE FOR OVERSEAS CONTINGENCY OPERATIONS
(In Thousands of Dollars)

Line	Item	FY 2020 Request	House Change	House Authorized
050	CONTRACTOR LOGISTICS SUPPORT AND SYSTEM SUPPORT	93,620		93,620
060	BASE SUPPORT	12,679		12,679
	SUBTOTAL OPERATING FORCES	**176,909**		**176,909**
	TOTAL OPERATION & MAINTENANCE, ANG	**176,909**		**176,909**
	OPERATION AND MAINTENANCE, DEFENSE-WIDE			
	OPERATING FORCES			
010	JOINT CHIEFS OF STAFF	21,866		21,866
020	JOINT CHIEFS OF STAFF—CE2T2	6,634		6,634
040	SPECIAL OPERATIONS COMMAND COMBAT DEVELOPMENT ACTIVITIES	1,121,580		1,121,580
060	SPECIAL OPERATIONS COMMAND INTELLIGENCE	1,328,201		1,328,201
070	SPECIAL OPERATIONS COMMAND MAINTENANCE	399,845		399,845
090	SPECIAL OPERATIONS COMMAND OPERATIONAL SUPPORT	138,458	–35,500	102,958
	Project underexecution—communications		[–35,500]	
100	SPECIAL OPERATIONS COMMAND THEATER FORCES	808,729		808,729
	SUBTOTAL OPERATING FORCES	**3,825,313**	**–35,500**	**3,789,813**
	ADMIN & SRVWIDE ACTIVITIES			
180	DEFENSE CONTRACT AUDIT AGENCY	1,810		1,810
200	DEFENSE CONTRACT MANAGEMENT AGENCY	21,723		21,723
230	DEFENSE INFORMATION SYSTEMS AGENCY	81,133		81,133
240	DEFENSE INFORMATION SYSTEMS AGENCY—CYBER	3,455		3,455
270	DEFENSE LEGAL SERVICES AGENCY	196,124		196,124
290	DEFENSE MEDIA ACTIVITY	14,377		14,377
310	DEFENSE SECURITY COOPERATION AGENCY	1,927,217	–562,790	1,364,427
	Realignment of CTEF border security funding		[–250,000]	

	Transfer of funds to Ukraine Security Assistance		[–250,000]	
	Unjustified growth		[–62,790]	
380	DEFENSE THREAT REDUCTION AGENCY	317,558	–10,000	307,558
	Program decrease		[–10,000]	
410	DEPARTMENT OF DEFENSE EDUCATION ACTIVITY	31,620		31,620
460	OFFICE OF THE SECRETARY OF DEFENSE	16,666	5,000	21,666
	Realignment of redress and loss funding		[5,000]	
500	WASHINGTON HEADQUARTERS SERVICES	6,331		6,331
505	CLASSIFIED PROGRAMS	1,924,785		1,924,785
	SUBTOTAL ADMIN & SRVWIDE ACTIVITIES	**4,542,799**	**–567,790**	**3,975,009**
	TOTAL OPERATION AND MAINTENANCE, DEFENSE-WIDE	**8,368,112**	**–603,290**	**7,764,822**
	UKRAINE SECURITY ASSISTANCE			
	UKRAINE SECURITY ASSISTANCE			
010	UKRAINE SECURITY ASSISTANCE		250,000	250,000
	Transfer of funds from Defense Security Cooperation Agency		[250,000]	
	SUBTOTAL UKRAINE SECURITY ASSISTANCE		**250,000**	**250,000**
	TOTAL UKRAINE SECURITY ASSISTANCE		**250,000**	**250,000**
	TOTAL OPERATION & MAINTENANCE	**50,432,141**	**1,824,085**	**52,256,226**

TITLE XLIV—MILITARY PERSONNEL

SEC. 4401. MILITARY PERSONNEL.

SEC. 4401. MILITARY PERSONNEL
(In Thousands of Dollars)

Item	FY 2020 Request	House Change	House Authorized
Military Personnel Appropriations	143,476,503	[–1,228,000]	142,248,503
Historical unobligated balances		[–1,228,000]	
Medicare-Eligible Retiree Health Fund Contributions	7,816,815		7,816,815

SEC. 4402. MILITARY PERSONNEL FOR OVERSEAS CONTINGENCY OPERATIONS.

SEC. 4402. MILITARY PERSONNEL FOR OVERSEAS CONTINGENCY OPERATIONS
(In Thousands of Dollars)

Item	FY 2020 Request	House Change	House Authorized
Military Personnel Appropriations	4,485,808		4,485,808

TITLE XLV—OTHER AUTHORIZATIONS

SEC. 4501. OTHER AUTHORIZATIONS.

SEC. 4501. OTHER AUTHORIZATIONS
(In Thousands of Dollars)

Item	FY 2020 Request	House Change	House Authorized
WORKING CAPITAL FUND, ARMY			
INDUSTRIAL OPERATIONS	57,467		57,467
SUPPLY MANAGEMENT—ARMY	32,130		32,130
TOTAL WORKING CAPITAL FUND, ARMY	**89,597**		**89,597**
WORKING CAPITAL FUND, AIR FORCE			
TRANSPORTATION			
SUPPLIES AND MATERIALS	92,499		92,499
TOTAL WORKING CAPITAL FUND, AIR FORCE	**92,499**		**92,499**
WORKING CAPITAL FUND, DEFENSE-WIDE			
SUPPLY CHAIN MANAGEMENT—DEF	49,085		49,085
TOTAL WORKING CAPITAL FUND, DEFENSE-WIDE	**49,085**		**49,085**
WORKING CAPITAL FUND, DECA			
WORKING CAPITAL FUND, DECA	995,030		995,030
TOTAL WORKING CAPITAL FUND, DECA	**995,030**		**995,030**
NATIONAL DEFENSE SEALIFT FUND			
LG MED SPD RO/RO MAINTENANCE		264,751	264,751
Realignment from Operations and Maintenance, Navy		[264,751]	

DOD MOBILIZATION ALTERATIONS		9,590	9,590
Realignment from Operations and Maintenance, Navy		[9,590]	
TAH MAINTENANCE		96,867	96,867
Realignment from Operations and Maintenance, Navy		[96,867]	
READY RESERVE FORCE		352,044	352,044
Realignment from Operations and Maintenance, Navy		[352,044]	
TOTAL NATIONAL DEFENSE SEALIFT FUND		**723,252**	**723,252**
WCF, DEF COUNTERINTELLIGENCE & SECURITY AGENCY			
DEFENSE COUNTERINTELLIGENCE AND SECURITY AGENCY	200,000		200,000
TOTAL WCF, DEF COUNTERINTELLIGENCE & SECURITY AGENCY	**200,000**		**200,000**
CHEM AGENTS & MUNITIONS DESTRUCTION			
OPERATION & MAINTENANCE	107,351		107,351
RDT&E	875,930	–10,000	865,930
Unjustified growth		[–10,000]	
PROCUREMENT	2,218		2,218
TOTAL CHEM AGENTS & MUNITIONS DESTRUCTION	**985,499**	**–10,000**	**975,499**
DRUG INTERDICTION & CTR-DRUG ACTIVITIES, DEF			
COUNTER-NARCOTICS SUPPORT	581,739	–64,568	517,171
Realignment of National Guard Bureau funding		[–30,921]	
Unjustified growth		[–33,647]	
DRUG DEMAND REDUCTION PROGRAM	120,922		120,922
NATIONAL GUARD COUNTER-DRUG PROGRAM	91,370	30,921	122,291
Realignment of National Guard Bureau funding		[30,921]	
NATIONAL GUARD COUNTER-DRUG SCHOOLS	5,371		5,371
TOTAL DRUG INTERDICTION & CTR-DRUG ACTIVITIES, DEF	**799,402**	**–33,647**	**765,755**
OFFICE OF THE INSPECTOR GENERAL			
OFFICE OF THE INSPECTOR GENERAL	359,022		359,022
OFFICE OF THE INSPECTOR GENERAL—CYBER	1,179		1,179

SEC. 4501. OTHER AUTHORIZATIONS
(In Thousands of Dollars)

Item	FY 2020 Request	House Change	House Authorized
OFFICE OF THE INSPECTOR GENERAL	2,965		2,965
OFFICE OF THE INSPECTOR GENERAL	333		333
TOTAL OFFICE OF THE INSPECTOR GENERAL	**363,499**		**363,499**
DEFENSE HEALTH PROGRAM			
IN-HOUSE CARE	9,570,615	–100,000	9,470,615
Unjustified growth		[–100,000]	
PRIVATE SECTOR CARE	15,041,006		15,041,006
CONSOLIDATED HEALTH SUPPORT	1,975,536		1,975,536
INFORMATION MANAGEMENT	2,004,588		2,004,588
MANAGEMENT ACTIVITIES	333,246		333,246
EDUCATION AND TRAINING	793,810		793,810
BASE OPERATIONS/COMMUNICATIONS	2,093,289		2,093,289
UNDISTRIBUTED		7,000	7,000
PFAS exposure blood testing for DoD firefighters		[2,000]	
TRICARE lead level screening and testing for children		[5,000]	
R&D RESEARCH	12,621	10,000	22,621
CDC ASTDR PFOS/PFOA health study increment		[10,000]	
R&D EXPLORATRY DEVELOPMENT	84,266		84,266
R&D ADVANCED DEVELOPMENT	279,766		279,766
R&D DEMONSTRATION/VALIDATION	128,055		128,055
R&D ENGINEERING DEVELOPMENT	143,527	15,000	158,527
Deployment of mTBI/concussion multi-modal devices		[10,000]	
Program increase—freeze dried platelets		[5,000]	
R&D MANAGEMENT AND SUPPORT	67,219		67,219
R&D CAPABILITIES ENHANCEMENT	16,819		16,819
PROC INITIAL OUTFITTING	26,135		26,135

PROC REPLACEMENT & MODERNIZATION	225,774		225,774
PROC JOINT OPERATIONAL MEDICINE INFORMATION SYSTEM	314		314
PROC MILITARY HEALTH SYSTEM—DESKTOP TO DATACENTER	73,010		73,010
PROC DOD HEALTHCARE MANAGEMENT SYSTEM MODERNIZATION	129,091		129,091
TOTAL DEFENSE HEALTH PROGRAM	**32,998,687**	**–68,000**	**32,930,687**
TOTAL OTHER AUTHORIZATIONS	**36,573,298**	**611,605**	**37,184,903**

SEC. 4502. OTHER AUTHORIZATIONS FOR OVERSEAS CONTINGENCY OPERATIONS.

SEC. 4502. OTHER AUTHORIZATIONS FOR OVERSEAS CONTINGENCY OPERATIONS
(In Thousands of Dollars)

Item	FY 2020 Request	House Change	House Authorized
WORKING CAPITAL FUND, ARMY			
INDUSTRIAL OPERATIONS			
SUPPLY MANAGEMENT—ARMY	20,100		20,100
TOTAL WORKING CAPITAL FUND, ARMY	**20,100**		**20,100**
DRUG INTERDICTION & CTR-DRUG ACTIVITIES, DEF			
COUNTER-NARCOTICS SUPPORT	163,596	–10,496	153,100
Unjustified growth		[–10,496]	
TOTAL DRUG INTERDICTION & CTR-DRUG ACTIVITIES, DEF	**163,596**	**–10,496**	**153,100**
OFFICE OF THE INSPECTOR GENERAL			
OFFICE OF THE INSPECTOR GENERAL	24,254		24,254
TOTAL OFFICE OF THE INSPECTOR GENERAL	**24,254**		**24,254**
DEFENSE HEALTH PROGRAM			
IN-HOUSE CARE	57,459		57,459
PRIVATE SECTOR CARE	287,487		287,487
CONSOLIDATED HEALTH SUPPORT	2,800		2,800
TOTAL DEFENSE HEALTH PROGRAM	**347,746**		**347,746**
TOTAL OTHER AUTHORIZATIONS	**555,696**	**–10,496**	**545,200**

TITLE XLVI—MILITARY CONSTRUCTION

SEC. 4601. MILITARY CONSTRUCTION.

SEC. 4601. MILITARY CONSTRUCTION
(In Thousands of Dollars)

Account	State/ Country	Installation	Project Title	FY 2020 Request	House Change	House Agreement
Army	ALABAMA	Redstone Arsenal	Aircraft and Flight Equipment Building	38,000		38,000
Army	COLORADO	Fort Carson	Company Operations Facility	71,000		71,000
Army	GEORGIA	Fort Gordon	Cyber Instructional Fac (Admin/Command)	107,000	–37,000	70,000
Army	GEORGIA	Hunter Army Airfield	Aircraft Maintenance Hangar	62,000		62,000
Army	HAWAII	Fort Shafter	Command and Control Facility, Incr 5	60,000		60,000
Army	HONDURAS	Soto Cano Air Base	Aircraft Maintenance Hangar	34,000		34,000
Army	KENTUCKY	Fort Campbell	Automated Infantry Platoon Battle Course	7,100		7,100
Army	KENTUCKY	Fort Campbell	Easements	3,200		3,200
Army	KENTUCKY	Fort Campbell	General Purpose Maintenance Shop	51,000		51,000
Army	KWAJALEIN	Kwajalein Atoll	Air Traffic Control Tower and Terminal	0	40,000	40,000
Army	MASSACHUSETTS	U.S. Army Natick Soldier Systems Center	Human Engineering Lab	50,000		50,000
Army	MICHIGAN	Detroit Arsenal	Substation	24,000		24,000
Army	NEW YORK	Fort Drum	Railhead	0	21,000	21,000
Army	NEW YORK	Fort Drum	Unmanned Aerial Vehicle Hangar	23,000		23,000
Army	NORTH CAROLINA	Fort Bragg	Dining Facility	12,500		12,500
Army	OKLAHOMA	Fort Sill	Adv Individual Training Barracks Cplx, Ph2	73,000		73,000
Army	PENNSYLVANIA	Carlisle Barracks	General Instruction Building	98,000	–38,000	60,000
Army	SOUTH CAROLINA	Fort Jackson	Reception Complex, Ph2	54,000		54,000
Army	TEXAS	Corpus Christi Army Depot	Powertrain Facility (Machine Shop)	86,000	–46,000	40,000
Army	TEXAS	Fort Hood	Barracks	32,000		32,000
Army	TEXAS	Fort Hood	Vehicle Bridge	0	18,500	18,500

SEC. 4601. MILITARY CONSTRUCTION
(In Thousands of Dollars)

Account	State/ Country	Installation	Project Title	FY 2020 Request	House Change	House Agreement
Army	VIRGINIA	Fort Belvoir	Secure Operations and Admin Facility	60,000		60,000
Army	VIRGINIA	Joint Base Langley-Eustis	Adv Individual Training Barracks Cplx, Ph4	55,000		55,000
Army	WASHINGTON	Joint Base Lewis-McChord	Information Systems Facility	46,000		46,000
Army	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Host Nation Support	31,000		31,000
Army	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning and Design	94,099	11,000	105,099
Army	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Unspecified Minor Construction	70,600		70,600
Army	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Unspecified Worldwide Construction	211,000	–211,000	0
Navy	ARIZONA	Marine Corps Air Station Yuma	Bachelor Enlisted Quarters	0	99,600	99,600
Navy	ARIZONA	Marine Corps Air Station Yuma	Hangar 95 Renovation & Addition	90,160		90,160
Navy	BAHRAIN ISLAND	SW Asia	Electrical System Upgrade	53,360	–53,360	0
Navy	CALIFORNIA	Camp Pendleton	62 Area Mess Hall and Consolidated Warehouse	71,700		71,700
Navy	CALIFORNIA	Camp Pendleton	I MEF Consolidated Information Center	113,869	–50,000	63,869
Navy	CALIFORNIA	Marine Corps Air Station Miramar	Child Development Center	0	37,400	37,400
Navy	CALIFORNIA	Naval Air Weapons Station China Lake	Runway & Taxiway Extension	64,500		64,500
Navy	CALIFORNIA	Naval Base Coronado	Aircraft Paint Complex	0	79,000	79,000
Navy	CALIFORNIA	Naval Base Coronado	Navy V–22 Hangar	86,830		86,830
Navy	CALIFORNIA	Naval Base San Diego	Pier 8 Replacement (Inc)	59,353		59,353
Navy	CALIFORNIA	Naval Base San Diego	PMO Facility Repair	0	9,900	9,900
Navy	CALIFORNIA	Naval Weapons Station Seal Beach	Ammunition Pier	95,310	–35,000	60,310
Navy	CALIFORNIA	Naval Weapons Station Seal Beach	Missile Magazine	0	28,000	28,000
Navy	CALIFORNIA	Travis Air Force Base	Alert Force Complex	64,000		64,000
Navy	CONNECTICUT	Naval Submarine Base New London	SSN Berthing Pier 32	72,260		72,260

Navy	DISTRICT OF COLUMBIA	Naval Observatory	Master Time Clocks & Operations Fac (Inc)	75,600	–75,600	0
Navy	FLORIDA	Blount Island	Police Station and EOC Facility	0	18,700	18,700
Navy	FLORIDA	Naval Air Station Jacksonville	Targeting & Surveillance Syst Prod Supp Fac	32,420		32,420
Navy	GUAM	Joint Region Marianas	Bachelor Enlisted Quarters H	164,100	–100,000	64,100
Navy	GUAM	Joint Region Marianas	EOD Compound Facilities	61,900		61,900
Navy	GUAM	Joint Region Marianas	Machine Gun Range (Inc)	91,287		91,287
Navy	HAWAII	Marine Corps Air Station Kaneohe Bay	Bachelor Enlisted Quarters	134,050		134,050
Navy	HAWAII	Naval Ammunition Depot West Loch	Magazine Consolidation, Phase 1	53,790		53,790
Navy	ITALY	Naval Air Station Sigonella	Communications Station	77,400	–77,400	0
Navy	JAPAN	Fleet Activities Yokosuka	Pier 5 (Berths 2 and 3)	174,692	–74,692	100,000
Navy	JAPAN	Marine Corps Air Station Iwakuni	VTOL Pad—South	15,870		15,870
Navy	MARYLAND	Saint Inigoes	Air Traffic Control Tower	0	15,000	15,000
Navy	NORTH CAROLINA	Camp Lejeune	10th Marines Himars Complex	35,110		35,110
Navy	NORTH CAROLINA	Camp Lejeune	2nd MARDIV/2nd MLG Ops Center Replacement	60,130		60,130
Navy	NORTH CAROLINA	Camp Lejeune	2nd Radio BN Complex, Phase 2 (Inc)	25,650		25,650
Navy	NORTH CAROLINA	Camp Lejeune	ACV-AAV Maintenance Facility Upgrades	11,570	–11,570	0
Navy	NORTH CAROLINA	Camp Lejeune	II MEF Operations Center Replacement	122,200	–60,000	62,200
Navy	NORTH CAROLINA	Marine Corps Air Station Cherry Point	Aircraft Maintenance Hangar (Inc)	73,970		73,970
Navy	NORTH CAROLINA	Marine Corps Air Station Cherry Point	ATC Tower & Airfield Operations	61,340		61,340
Navy	NORTH CAROLINA	Marine Corps Air Station Cherry Point	F–35 Training and Simulator Facility	53,230		53,230
Navy	NORTH CAROLINA	Marine Corps Air Station Cherry Point	Flightline Utility Modernization (Inc)	51,860		51,860
Navy	NORTH CAROLINA	Marine Corps Air Station New River	CH–53K Cargo Loading Trainer	11,320		11,320
Navy	PENNSYLVANIA	Philadelphia	Machinery Control Development Center	0	66,000	66,000
Navy	SOUTH CAROLINA	Parris Island	Range Improvements & Modernization Phase 3	0	37,200	37,200

SEC. 4601. MILITARY CONSTRUCTION
(In Thousands of Dollars)

Account	State/ Country	Installation	Project Title	FY 2020 Request	House Change	House Agreement
Navy	UTAH	Hill Air Force Base	D5 Missile Motor Receipt/Storage Fac (Inc)	50,520		50,520
Navy	VIRGINIA	Marine Corps Base Quantico	Wargaming Center	143,350	–73,350	70,000
Navy	VIRGINIA	Naval Station Norfolk	Mariner Skills Training Center	79,100		79,100
Navy	VIRGINIA	Naval Station Norfolk	MH–60 & CMV–22B Corrison Control and Paint Facility.	0	49,000	49,000
Navy	VIRGINIA	Portsmouth Naval Shipyard	Dry Dock Flood Protection Improvements	48,930		48,930
Navy	VIRGINIA	Yorktown Naval Weapons Station	NMC Ordnance Facilities Recapitalization Phase 1	0	59,000	59,000
Navy	WASHINGTON	Bremerton	Dry Dock 4 & Pier 3 Modernization	51,010		51,010
Navy	WASHINGTON	Keyport	Undersea Vehicle Maintenance Facility	25,050		25,050
Navy	WASHINGTON	Naval Base Kitsap	Seawolf Service Pier Cost-to-Complete	0	48,000	48,000
Navy	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning and Design	167,715	11,000	178,715
Navy	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Unspecified Minor Construction	81,237		81,237
AF	ALASKA	Eielson Air Force Base	F–35 AME Storage Facility	8,600		8,600
AF	ARKANSAS	Little Rock Air Force Base	C–130H/J Fuselage Trainer Facility	47,000		47,000
AF	ARKANSAS	Little Rock Air Force Base	Dormitory Cost-to-Complete	0	7,000	7,000
AF	AUSTRALIA	Tindal	APR—RAAF Tindal/Earth Covered Magazine	11,600		11,600
AF	AUSTRALIA	Tindal	APR-RAAF Tindal/Bulk Storage Tanks	59,000		59,000
AF	CALIFORNIA	Travis Air Force Base	KC–46A Alter B181/B185/B187 Squad Ops/AMU	6,600		6,600
AF	CALIFORNIA	Travis Air Force Base	KC–46A Regional Maintenance Training Facility	19,500		19,500
AF	CALIFORNIA	Travis Air Force Base	MMHAS Aiiied Support	0	17,000	17,000
AF	COLORADO	Peterson Air Force Base	Sconorth Theater Operational Support Facility	0	54,000	54,000
AF	COLORADO	Schriever Air Force Base	Consolidated Space Operations Facility	148,000	–74,000	74,000
AF	COLORADO	United States Air Force Academy	Consolidate Cadet Prep School Dormitory	0	49,000	49,000
AF	CYPRUS	Royal Air Force Akrotiri	New Dormitory for 1 ERS	27,000		27,000
AF	GEORGIA	Moody Air Force Base	41 RQS HH–60W Apron	0	12,500	12,500
AF	GUAM	Joint Region Marianas	Munitions Storage Igloos III	65,000		65,000
AF	ILLINOIS	Scott Air Force Base	Joint Operations & Mission Planning Center	100,000		100,000

AF	JAPAN	Yokota Air Base	Fuel Receipt & Distribution Upgrade	12,400		12,400
AF	JORDAN	Azraq	Air Traffic Control Tower	24,000	–24,000	0
AF	JORDAN	Azraq	Munitions Storage Area	42,000	–42,000	0
AF	MARIANA ISLANDS	Tinian	Airfield Development Phase 1	109,000	–84,000	25,000
AF	MARIANA ISLANDS	Tinian	Fuel Tanks W/ Pipeline/Hydrant System	109,000	–84,000	25,000
AF	MARIANA ISLANDS	Tinian	Parking Apron	98,000	–73,000	25,000
AF	MARYLAND	Joint Base Andrews	Presidential Aircraft Recap Complex Inc 3	86,000		86,000
AF	MASSACHUSETTS	Hanscom Air Force Base	MIT-Lincoln Lab (West Lab CSL/MIF) Inc 2	135,000	–35,000	100,000
AF	MISSOURI	Whiteman Air Force Base	Consolidated Vehicle Ops and MX Facility	0	27,000	27,000
AF	MONTANA	Malmstrom Air Force Base	Weapons Storage and Maintenance Facility	235,000	–117,500	117,500
AF	NEVADA	Nellis Air Force Base	365th ISR Group Facility	57,000		57,000
AF	NEVADA	Nellis Air Force Base	F–35 Munitions Maintenance Facilities Cost-to-Complete.	0	3,100	3,100
AF	NEVADA	Nellis Air Force Base	F–35A Munitions Assembly Conveyor Facility	8,200		8,200
AF	NEW MEXICO	Holloman Air Force Base	NC3 Support Wrm Storage/Shipping Facility	0	20,000	20,000
AF	NEW MEXICO	Kirtland Air Force Base	Combat Rescue Helicopter Simulator (CRH) ADAL	15,500		15,500
AF	NEW MEXICO	Kirtland Air Force Base	UH–1 Replacement Facility	22,400		22,400
AF	NORTH DAKOTA	Minot Air Force Base	Helo/TRFOps/AMUfacility	5,500		5,500
AF	OHIO	Wright-Patterson Air Force Base	ADAL Intelligence Prod. Complex (NASIC) Inc 2	120,900		120,900
AF	TEXAS	Joint Base San Antonio	Aquatics Tank	69,000		69,000
AF	TEXAS	Joint Base San Antonio	BMT Recruit Dormitory 8	110,000		110,000
AF	TEXAS	Joint Base San Antonio	T-XA DAL Ground Based Trng Sys (GBTS) Sim	9,300		9,300
AF	TEXAS	Joint Base San Antonio	T-XMX Trng Sys Centrailized Trng Fac	19,000		19,000
AF	TEXAS	Joint Base San Antonio-Randolph	AFPC B-Wing	0	36,000	36,000
AF	UNITED KINGDOM	Royal Air Force Lakenheath	F–35A PGM Facility	14,300		14,300
AF	UTAH	Hill Air Force Base	GBSD Mission Integration Facility	108,000	–68,000	40,000
AF	UTAH	Hill Air Force Base	Joint Advanced Tactical Missile Storage Fac	6,500		6,500
AF	WASHINGTON	Fairchild Air Force Base	Consolidated TFI Base Operations	31,000		31,000
AF	WASHINGTON	Fairchild Air Force Base	SERE Pipeline Dormitory Cost-to-Complete	0	4,800	4,800
AF	WORLDWIDE UNSPECIFIED	Various Worldwide Locations	Planning and Design	142,148	11,000	153,148
AF	WORLDWIDE UNSPECIFIED	Various Worldwide Locations	Unspecified Minor Construction	79,682		79,682

SEC. 4601. MILITARY CONSTRUCTION
(In Thousands of Dollars)

Account	State/ Country	Installation	Project Title	FY 2020 Request	House Change	House Agreement
AF	WYOMING	F. E. Warren Air Force Base	Consolidated Helo/TRF Ops/AMU and Alert Fac	18,100		18,100
Def-Wide	CALIFORNIA	Beale Air Force Base	Hydrant Fuel System Replacement	33,700		33,700
Def-Wide	CALIFORNIA	Camp Pendleton	Ambul Care Center/Dental Clinic Replacement	17,700		17,700
Def-Wide	CONUS CLASSIFIED	Classified Location	Battalion Complex, Ph 3	82,200		82,200
Def-Wide	FLORIDA	Eglin Air Force Base	SOF Combined Squadron Ops Facility	16,500		16,500
Def-Wide	FLORIDA	Hurlburt Field	SOF AMU & Weapons Hangar	72,923		72,923
Def-Wide	FLORIDA	Hurlburt Field	SOF Combined Squadron Operations Facility	16,513		16,513
Def-Wide	FLORIDA	Hurlburt Field	SOF Maintenance Training Facility	18,950		18,950
Def-Wide	FLORIDA	Naval Air Station Key West	SOF Watercraft Maintenance Facility	16,000		16,000
Def-Wide	GERMANY	Geilenkirchen Air Base	Ambulatory Care Center/Dental Clinic	30,479		30,479
Def-Wide	GUAM	Joint Region Marianas	Xray Wharf Refueling Facility	19,200		19,200
Def-Wide	HAWAII	Joint Base Pearl Harbor-Hickam	SOF Undersea Operational Training Facility	67,700		67,700
Def-Wide	JAPAN	Yokosuka	Kinnick High School Inc 2	130,386	–130,386	0
Def-Wide	JAPAN	Yokota Air Base	Bulk Storage Tanks PH1	116,305	–96,305	20,000
Def-Wide	JAPAN	Yokota Air Base	Pacific East District Superintendent's Office	20,106		20,106
Def-Wide	MARYLAND	Bethesda Naval Hospital	MEDCEN Addition/Altertion Incr 3	96,900	–63,900	33,000
Def-Wide	MARYLAND	Fort Detrick	Medical Research Acquisition Building	27,846		27,846
Def-Wide	MARYLAND	Fort Meade	NSAW Recapitalize Building #3 Inc 2	426,000		426,000
Def-Wide	MISSISSIPPI	Columbus Air Force Base	Fuel Facilities Replacement	16,800		16,800
Def-Wide	MISSOURI	Fort Leonard Wood	Hospital Replacement Incr 2	50,000		50,000
Def-Wide	MISSOURI	St. Louis	Next NGA West (N2W) Complex Phase 2 Inc. 2	218,800	–100,000	118,800
Def-Wide	NORTH CAROLINA	Camp Lejeune	SOF Marine Raider Regiment HQ	13,400		13,400
Def-Wide	NORTH CAROLINA	Fort Bragg	SOF Assessment and Selection Training Complex	12,103		12,103
Def-Wide	NORTH CAROLINA	Fort Bragg	SOF Human Platform-Force Generation Facility	43,000		43,000
Def-Wide	NORTH CAROLINA	Fort Bragg	SOF Operations Support Bldg	29,000		29,000
Def-Wide	OKLAHOMA	Tulsa IAP	Fuels Storage Complex	18,900		18,900
Def-Wide	RHODE ISLAND	Quonset State Airport	Fuels Storage Complex Replacement	11,600		11,600

Def-Wide	SOUTH CAROLINA	Joint Base Charleston	Medical Consolidated Storage & Distrib Center	33,300		33,300
Def-Wide	SOUTH DAKOTA	Ellsworth Air Force Base	Hydrant Fuel System Replacement	24,800		24,800
Def-Wide	VIRGINIA	Defense Distribution Depot Richmond	Operations Center Phase 2	98,800	–65,800	33,000
Def-Wide	VIRGINIA	Joint Expeditionary Base Little Creek—Fort Story	SOF NSWG–10 Operations Support Facility	32,600		32,600
Def-Wide	VIRGINIA	Joint Expeditionary Base Little Creek—Fort Story	SOF NSWG2 JSOTF Ops Training Facility	13,004		13,004
Def-Wide	VIRGINIA	Pentagon	Backup Generator	8,670		8,670
Def-Wide	VIRGINIA	Pentagon	Control Tower & Fire Day Station	20,132		20,132
Def-Wide	VIRGINIA	Training Center Dam Neck	SOF Demolition Training Compound Expansion	12,770		12,770
Def-Wide	WASHINGTON	Joint Base Lewis-McChord	SOF 22 STS Operations Facility	47,700		47,700
Def-Wide	WISCONSIN	Gen Mitchell IAP	POL Facilities Replacement	25,900		25,900
Def-Wide	WORLDWIDE CLASSIFIED	Classified Location	Mission Support Compound	52,000	–52,000	0
Def-Wide	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Contingency Construction	10,000	–10,000	0
Def-Wide	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Energy Resilience and Conserv. Invest. Prog.	150,000	40,000	190,000
Def-Wide	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	ERCIP Design	10,000		10,000
Def-Wide	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Exercise Related Minor Construction	11,770		11,770
Def-Wide	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning and Design	99,441		99,441
Def-Wide	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Unspecified Minor Construction	60,642		60,642
Def-Wide	WORLDWIDE UNSPECIFIED	Various Worldwide Locations	Planning and Design	142,914		142,914
Def-Wide	WORLDWIDE UNSPECIFIED	Various Worldwide Locations	Unspecified Minor Construction	26,736		26,736
NATO	WORLDWIDE UNSPECIFIED	NATO Security Investment Program	NATO Security Investment Program	144,040	27,965	172,005
Army NG	ALABAMA	Anniston Army Depot	Enlisted Transient Barracks	0	34,000	34,000
Army NG	ALABAMA	Foley	National Guard Readiness Center	12,000		12,000
Army NG	CALIFORNIA	Camp Roberts	Automated Multipurpose Machine Gun Range	12,000		12,000
Army NG	IDAHO	Orchard Combat Training Center	Railroad Tracks	29,000		29,000
Army NG	MARYLAND	Havre De Grace	Combined Support Maintenance Shop	12,000		12,000
Army NG	MASSACHUSETTS	Camp Edwards	Automated Multipurpose Machine Gun Range	9,700		9,700
Army NG	MINNESOTA	New Ulm	National Guard Vehicle Maintenance Shop	11,200		11,200
Army NG	MISSISSIPPI	Camp Shelby	Automated Multipurpose Machine Gun Range	8,100		8,100

SEC. 4601. MILITARY CONSTRUCTION
(In Thousands of Dollars)

Account	State/ Country	Installation	Project Title	FY 2020 Request	House Change	House Agreement
Army NG	MISSOURI	Springfield	National Guard Readiness Center	12,000		12,000
Army NG	NEBRASKA	Bellevue	National Guard Readiness Center	29,000		29,000
Army NG	NEW HAMPSHIRE	Concord	National Guard Readiness Center	5,950		5,950
Army NG	NEW YORK	Jamaica Armory	National Guard Readiness Center	0	91,000	91,000
Army NG	PENNSYLVANIA	Moon Township	Combined Support Maintenance Shop	23,000		23,000
Army NG	VERMONT	Jericho	General Instruction Builiding	0	30,000	30,000
Army NG	WASHINGTON	Richland	National Guard Readiness Center	11,400		11,400
Army NG	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning and Design	20,469		20,469
Army NG	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Unspecified Minor Construction	15,000		15,000
Army Res	DELAWARE	Newark	Army Reserve Center/BMA	21,000		21,000
Army Res	WISCONSIN	Fort McCoy	Transient Training Barracks	25,000		25,000
Army Res	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning and Design	6,000		6,000
Army Res	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Unspecified Minor Construction	8,928		8,928
N/MC Res	LOUISIANA	New Orleans	Entry Control Facility Upgrades	25,260		25,260
N/MC Res	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning and Design	4,780		4,780
N/MC Res	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Unspecified Minor Construction	24,915		24,915
Air NG	CALIFORNIA	Moffett Air National Guard Base	Fuels/Corrosion Control Hanger and Shops	0	57,000	57,000
Air NG	GEORGIA	Savannah/Hilton Head IAP	Consolidated Joint Air Dominance Hangar/Shops	24,000		24,000
Air NG	MISSOURI	Rosecrans Memorial Airport	C–130 Flight Simulator Facility	9,500		9,500
Air NG	PUERTO RICO	Luis Munoz-Marin IAP	Communications Facility	12,500	–12,500	0
Air NG	PUERTO RICO	Luis Munoz-Marin IAP	Maintenance Hangar	37,500	–37,500	0
Air NG	WISCONSIN	Truax Field	F–35 Simulator Facility	14,000		14,000
Air NG	WISCONSIN	Truax Field	Fighter Alert Shelters	20,000		20,000
Air NG	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Unspecified Minor Construction	31,471		31,471
Air NG	WORLDWIDE UNSPECIFIED	Various Worldwide Locations	Planning and Design	17,000		17,000
AF Res	GEORGIA	Robins Air Force Base	Consolidated Misssion Complex Phase 3	43,000		43,000
AF Res	MARYLAND	Joint Base Andrews	AES Training Admin Facility	0	15,000	15,000

AF Res	MINNESOTA	Minneapolis-St. Paul IAP	Aerial Port Facility	0	9,800	9,800
AF Res	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning and Design	4,604		4,604
AF Res	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Unspecified Minor Construction	12,146		12,146
FH Con Army	GERMANY	Baumholder	Family Housing Improvements	29,983		29,983
FH Con Army	KOREA	Camp Humphreys	Family Housing New Construction Incr 4	83,167		83,167
FH Con Army	PENNSYLVANIA	Tobyhanna Army Depot	Family Housing Replacement Construction	19,000		19,000
FH Con Army	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Family Housing P & D	9,222		9,222
FH Ops Army	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Furnishings	24,027		24,027
FH Ops Army	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Housing Privatization Support	18,627	50,000	68,627
FH Ops Army	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Leasing	128,938		128,938
FH Ops Army	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Maintenance	81,065		81,065
FH Ops Army	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Management	38,898		38,898
FH Ops Army	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Miscellaneous	484		484
FH Ops Army	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Services	10,156		10,156
FH Ops Army	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Utilities	55,712		55,712
FH Con Navy	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Construction Improvements	41,798		41,798
FH Con Navy	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning & Design	3,863		3,863
FH Con Navy	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	USMC DPRI/Guam Planning and Design	2,000		2,000
FH Ops Navy	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Furnishings	19,009		19,009
FH Ops Navy	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Housing Privatization Support	21,975	59,600	81,575
FH Ops Navy	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Leasing	64,126		64,126
FH Ops Navy	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Maintenance	82,611		82,611
FH Ops Navy	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Management	50,122		50,122
FH Ops Navy	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Miscellaneous	151		151
FH Ops Navy	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Services	16,647		16,647
FH Ops Navy	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Utilities	63,229		63,229
FH Con AF	GERMANY	Spangdahlem Air Base	Construct Deficit Military Family Housing	53,584		53,584
FH Con AF	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Construction Improvements	46,638		46,638
FH Con AF	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning & Design	3,409		3,409
FH Ops AF	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Furnishings	30,283		30,283
FH Ops AF	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Housing Privatization	22,593	31,200	53,793
FH Ops AF	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Leasing	15,768		15,768

SEC. 4601. MILITARY CONSTRUCTION
(In Thousands of Dollars)

Account	State/ Country	Installation	Project Title	FY 2020 Request	House Change	House Agreement
FH Ops AF	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Maintenance	117,704		117,704
FH Ops AF	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Management	56,022		56,022
FH Ops AF	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Miscellaneous	2,144		2,144
FH Ops AF	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Services	7,770		7,770
FH Ops AF	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Utilities	42,732		42,732
FH Ops DW	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Furnishings	727		727
FH Ops DW	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Leasing	52,128		52,128
FH Ops DW	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Maintenance	32		32
FH Ops DW	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Utilities	4,113		4,113
FHIF	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Administrative Expenses—FHIF	3,045		3,045
UHIF	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Administrative Expenses—UHIF	500		500
BRAC	WORLDWIDE UNSPECIFIED	Worldwide Unspecified Locations	Base Realignment and Closure	66,111	30,000	96,111
BRAC	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Base Realignment & Closure	158,349	60,000	218,349
BRAC	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	DoD BRAC Activities—Air Force	54,066	30,000	84,066
PYS	PRIOR YEAR SAVINGS	Prior Year Savings	Prior Year Savings	0	–45,055	–45,055

SEC. 4602. MILITARY CONSTRUCTION FOR OVERSEAS CONTINGENCY OPERATIONS.

SEC. 4602. MILITARY CONSTRUCTION FOR OVERSEAS CONTINGENCY OPERATIONS
(In Thousands of Dollars)

Account	State/ Country	Installation	Project Title	FY 2020 Request	House Change	House Agreement
Army	GUANTANAMO BAY, CUBA	Guantanamo Bay Naval Station	OCO: Communications Facility	22,000		22,000
Army	GUANTANAMO BAY, CUBA	Guantanamo Bay Naval Station	OCO: Detention Legal Office and Comms Ctr	11,800		11,800
Army	GUANTANAMO BAY, CUBA	Guantanamo Bay Naval Station	OCO: High Value Detention Facility	88,500	–88,500	0
Army	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	EDI/OCO Planning and Design	19,498		19,498
Army	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	EDI: Bulk Fuel Storage	36,000		36,000
Army	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	EDI: Information Systems Facility	6,200		6,200
Army	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	EDI: Minor Construction	5,220		5,220
Army	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Unspecified Worldwide Construction	9,200,000	–9,200,000	0
Army	WORLDWIDE UNSPECIFIED	VARIOUS WORLDWIDE LOCATIONS	EDI: Various Worldwide Locations Europe	0	56,142	56,142
Navy	BAHRAIN	SW Asia	Electrical System Upgrade	0	53,360	53,360
Navy	ITALY	Sigonella	Communications Station	0	77,400	77,400
Navy	SPAIN	Rota	EDI: In-Transit Munitions Facility	9,960		9,960
Navy	SPAIN	Rota	EDI: Joint Mobility Center	46,840		46,840
Navy	SPAIN	Rota	EDI: Small Craft Berthing Facility	12,770		12,770
Navy	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning and Design	25,000		25,000

SEC. 4602. MILITARY CONSTRUCTION FOR OVERSEAS CONTINGENCY OPERATIONS
(In Thousands of Dollars)

Account	State/ Country	Installation	Project Title	FY 2020 Request	House Change	House Agreement
Navy	WORLDWIDE UNSPECIFIED	VARIOUS WORLDWIDE LOCATIONS	EDI: Various Worldwide Locations Europe	0	56,246	56,246
AF	ICELAND	Keflavik	EDI-Airfield Upgrades—Dangerous Cargo Pad	18,000		18,000
AF	ICELAND	Keflavik	EDI-Beddown Site Prep	7,000		7,000
AF	ICELAND	Keflavik	EDI-Expand Parking Apron	32,000		32,000
AF	JORDAN	Azraq	Air Traffic Control Tower	0	24,000	24,000
AF	JORDAN	Azraq	Munitions Storage Area	0	42,000	42,000
AF	SPAIN	Moron	EDI-Hot Cargo Pad	8,500		8,500
AF	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	EDI-ECAOS DABS/FEV EMEDS Storage	107,000		107,000
AF	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	EDI-Hot Cargo Pad	29,000		29,000
AF	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	EDI-Munitions Storage Area	39,000		39,000
AF	WORLDWIDE UNSPECIFIED	VARIOUS WORLDWIDE LOCATIONS	EDI: Various Worldwide Locations Europe	0	56,246	56,246
AF	WORLDWIDE UNSPECIFIED	Various Worldwide Locations	EDI-P&D	61,438		61,438
AF	WORLDWIDE UNSPECIFIED	Various Worldwide Locations	EDI-UMMC	12,800		12,800
Def-Wide	GERMANY	Gemersheim	EDI: Logistics Distribution Center Annex	46,000		46,000

TITLE XLVII—DEPARTMENT OF ENERGY NATIONAL SECURITY PROGRAMS

SEC. 4701. DEPARTMENT OF ENERGY NATIONAL SECURITY PROGRAMS.

SEC. 4701. DEPARTMENT OF ENERGY NATIONAL SECURITY PROGRAMS
(In Thousands of Dollars)

Program	FY 2020 Request	House Change	House Authorized
Discretionary Summary By Appropriation			
Energy And Water Development, And Related Agencies			
Appropriation Summary:			
Energy Programs			
Nuclear Energy	137,808		137,808
Atomic Energy Defense Activities			
National nuclear security administration:			
Weapons activities	12,408,603	–601,529	11,807,074
Defense nuclear nonproliferation	1,993,302	11,785	2,005,087
Naval reactors	1,648,396	–16,254	1,632,142
Federal salaries and expenses	434,699	–24,699	410,000
Total, National nuclear security administration	**16,485,000**	**–630,697**	**15,854,303**
Environmental and other defense activities:			
Defense environmental cleanup	5,506,501	109,500	5,616,001
Other defense activities	1,035,339		1,035,339
Defense nuclear waste disposal	26,000	–26,000	0
Total, Environmental & other defense activities	**6,567,840**	**83,500**	**6,651,340**

SEC. 4701. DEPARTMENT OF ENERGY NATIONAL SECURITY PROGRAMS
(In Thousands of Dollars)

Program	FY 2020 Request	House Change	House Authorized
Total, Atomic Energy Defense Activities	**23,052,840**	**–547,197**	**22,505,643**
Total, Discretionary Funding	**23,190,648**	**–547,197**	**22,643,451**
Nuclear Energy			
Idaho sitewide safeguards and security	137,808		137,808
Total, Nuclear Energy	**137,808**	**0**	**137,808**
Weapons Activities			
Directed stockpile work			
Life extension programs and major alterations			
B61–12 Life extension program	792,611		792,611
W76–2 Modification program	10,000	–10,000	0
Terminate effort		[–10,000]	
W88 Alt 370	304,186		304,186
W80–4 Life extension program	898,551		898,551
W87–1 Modification Program (formerly IW1)	112,011	–59,011	53,000
Unjustified growth		[–59,011]	
Total, Life extension programs and major alterations	**2,117,359**	**–69,011**	**2,048,348**
Stockpile systems			
B61 Stockpile systems	71,232		71,232
W76 Stockpile systems	89,804		89,804
W78 Stockpile systems	81,299		81,299
W80 Stockpile systems	85,811	–5,607	80,204
Unjustified study requirement		[–5,607]	
B83 Stockpile systems	51,543	–29,122	22,421
Unjustified growth		[–29,122]	

W87 Stockpile systems	98,262		98,262
W88 Stockpile systems	157,815		157,815
Total, Stockpile systems	**635,766**	**–34,729**	**601,037**
Weapons dismantlement and disposition			
Operations and maintenance	47,500		47,500
Stockpile services			
Production support	543,964	–33,964	510,000
Unjustified program growth		[–33,964]	
Research and development support	39,339	–3,189	36,150
Unjustified program growth		[–3,189]	
R&D certification and safety	236,235	–34,395	201,840
Unjustified program growth		[–34,395]	
Management, technology, and production	305,000		305,000
Total, Stockpile services	**1,124,538**	**–71,548**	**1,052,990**
Strategic materials			
Uranium sustainment	94,146		94,146
Plutonium sustainment	712,440	–241,131	471,309
Pit production beyond 30 pits per year		[–241,131]	
Tritium sustainment	269,000		269,000
Lithium sustainment	28,800		28,800
Domestic uranium enrichment	140,000		140,000
Strategic materials sustainment	256,808		256,808
Total, Strategic materials	**1,501,194**	**–241,131**	**1,260,063**
Total, Directed stockpile work	**5,426,357**	**–416,419**	**5,009,938**
Research, development, test and evaluation (RDT&E)			
Science			
Advanced certification	57,710		57,710
Primary assessment technologies	95,169		95,169

SEC. 4701. DEPARTMENT OF ENERGY NATIONAL SECURITY PROGRAMS
(In Thousands of Dollars)

Program	FY 2020 Request	House Change	House Authorized
Dynamic materials properties	133,800		133,800
Advanced radiography	32,544		32,544
Secondary assessment technologies	77,553		77,553
Academic alliances and partnerships	44,625		44,625
Enhanced Capabilities for Subcritical Experiments	145,160		145,160
Total, Science	**586,561**	**0**	**586,561**
Engineering			
Enhanced surety	46,500	–6,783	39,717
Unjustified program growth		[–6,783]	
Delivery Environments (formerly Weapons Systems Engineering Assessment Technology)	35,945	–12,916	23,029
Unjustified program growth		[–12,916]	
Nuclear survivability	53,932		53,932
Enhanced surveillance	57,747		57,747
Stockpile Responsiveness	39,830	–34,830	5,000
Unjustified request		[–34,830]	
Total, Engineering	**233,954**	**–54,529**	**179,425**
Inertial confinement fusion ignition and high yield			
Ignition and Other Stockpile Programs	55,649		55,649
Diagnostics, cryogenics and experimental support	66,128		66,128
Pulsed power inertial confinement fusion	8,571		8,571
Joint program in high energy density laboratory plasmas	12,000		12,000
Facility operations and target production	338,247		338,247
High energy density R&D	0		0
National ignition facility, LLNL	0		0
Z Facility, SNL	0		0

Omega laser facility, URochester	0		0
Total, Inertial confinement fusion and high yield	**480,595**	**0**	**480,595**
Advanced simulation and computing			
Advanced simulation and computing	789,849		789,849
Construction:			
18–D–620, Exascale Computing Facility Modernization Project, LLNL	50,000		50,000
Total, Construction	**50,000**	**0**	**50,000**
Total, Advanced simulation and computing	**839,849**	**0**	**839,849**
Advanced manufacturing			
Additive manufacturing	18,500		18,500
Component manufacturing development	48,410		48,410
Process technology development	69,998	–39,084	30,914
Unjustified program growth		[–39,804]	
Total, Advanced manufacturing	**136,908**	**–39,084**	**97,824**
Total, RDT&E	**2,277,867**	**–93,613**	**2,184,254**
Infrastructure and operations			
Operations of facilities	905,000	–35,000	870,000
Unjustified program growth		[–35,000]	
Safety and environmental operations	119,000	–9,000	110,000
Unjustified program growth		[–9,000]	
Maintenance and repair of facilities	456,000		456,000
Recapitalization:			
Infrastructure and safety	447,657		447,657
Capability based investments	135,341	–26,284	109,057
Unjustified program growth		[–26,284]	
Total, Recapitalization	**582,998**	**–26,284**	**556,714**
Construction:			
19–D–670, 138kV Power Transmission System Replacement, NNSS	6,000		6,000

SEC. 4701. DEPARTMENT OF ENERGY NATIONAL SECURITY PROGRAMS
(In Thousands of Dollars)

Program	FY 2020 Request	House Change	House Authorized
18–D–690, Lithium Processing Facility, Y–12 (formerly Lithium Production Capability, Y–12)	32,000	7,000	39,000
Program increase		[7,000]	
18–D–650, Tritium Finishing Facility, SRS	27,000		27,000
17–D–640, U1a Complex Enhancements Project, NNSS	35,000		35,000
15–D–612, Emergency Operations Center, LLNL	5,000		5,000
15–D–611, Emergency Operations Center, SNL	4,000		4,000
15–D–301, HE Science & Engineering Facility, PX	123,000		123,000
06–D–141 Uranium processing facility Y–12, Oak Ridge, TN	745,000		745,000
04–D–125, Chemistry and Metallurgy Research Replacement Project, LANL	168,444		168,444
Total, Construction	**1,145,444**	**7,000**	**1,152,444**
Total, Infrastructure and operations	**3,208,442**	**–63,284**	**3,145,158**
Secure transportation asset			
Operations and equipment	209,502		209,502
Program direction	107,660		107,660
Total, Secure transportation asset	**317,162**	**0**	**317,162**
Defense nuclear security			
Operations and maintenance	778,213	–28,213	750,000
Excess to need		[–28,213]	
Total, Defense nuclear security	**778,213**	**–28,213**	**750,000**
Information technology and cybersecurity	309,362		309,362
Legacy contractor pensions	91,200		91,200
Total, Weapons Activities	**12,408,603**	**–601,529**	**11,807,074**

Defense Nuclear Nonproliferation			
Defense Nuclear Nonproliferation Programs			
Global material security			
International nuclear security	48,839		48,839
Domestic radiological security	90,513		90,513
International radiological security	60,827	20,000	80,827
Secure additional radiologic materials		[20,000]	
Nuclear smuggling detection and deterrence	142,171		142,171
Total, Global material security	**342,350**	**20,000**	**362,350**
Material management and minimization			
HEU reactor conversion	114,000		114,000
Nuclear material removal	32,925		32,925
Material disposition	186,608		186,608
Total, Material management & minimization	**333,533**	**0**	**333,533**
Nonproliferation and arms control	137,267		137,267
Defense nuclear nonproliferation R&D	495,357	30,000	525,357
Proliferation detection research		[15,000]	
Additional verification and detection effort		[15,000]	
Nonproliferation Construction:			
18–D–150 Surplus Plutonium Disposition Project	79,000		79,000
99–D–143 Mixed Oxide (MOX) Fuel Fabrication Facility, SRS	220,000	–6,500	213,500
Program decrease		[–6,500]	
Total, Nonproliferation construction	**299,000**	**–6,500**	**292,500**
Total, Defense Nuclear Nonproliferation Programs	**1,607,507**	**43,500**	**1,651,007**
Legacy contractor pensions	13,700		13,700
Nuclear counterterrorism and incident response program	372,095	–31,715	340,380
Unjustified cost growth		[–31,715]	
Total, Defense Nuclear Nonproliferation	**1,993,302**	**11,785**	**2,005,087**

SEC. 4701. DEPARTMENT OF ENERGY NATIONAL SECURITY PROGRAMS
(In Thousands of Dollars)

Program	FY 2020 Request	House Change	House Authorized
Naval Reactors			
Naval reactors development	531,205	–16,254	514,951
Unjustified growth		[–16,254]	
Columbia-Class reactor systems development	75,500		75,500
S8G Prototype refueling	155,000		155,000
Naval reactors operations and infrastructure	553,591		553,591
Construction:			
20-D–931, KL Fuel Development Laboratory	23,700		23,700
19–D–930, KS Overhead Piping	20,900		20,900
14–D–901 Spent fuel handling recapitalization project, NRF	238,000		238,000
Total, Construction	**282,600**	**0**	**282,600**
Program direction	50,500		50,500
Total, Naval Reactors	**1,648,396**	**–16,254**	**1,632,142**
Federal Salaries And Expenses			
Program direction	434,699	–24,699	410,000
Unjustified growth		[–24,699]	
Total, Office Of The Administrator	**434,699**	**–24,699**	**410,000**
Defense Environmental Cleanup			
Closure sites:			
Closure sites administration	4,987		4,987

Richland:			
River corridor and other cleanup operations	139,750		139,750
Central plateau remediation	472,949	50,000	522,949
Program increase		[50,000]	
Richland community and regulatory support	5,121		5,121
Construction:			
18–D–404 WESF Modifications and Capsule Storage	11,000		11,000
Total, Construction	**11,000**	**0**	**11,000**
Total, Hanford site	**628,820**	**50,000**	**678,820**
Office of River Protection:			
Waste Treatment Immobilization Plant Commissioning	15,000		15,000
Rad liquid tank waste stabilization and disposition	677,460	28,000	705,460
Program increase		[28,000]	
Construction:			
18–D–16 Waste treatment and immobilization plant—LBL/Direct feed LAW	640,000		640,000
01–D–16 D, High-level waste facility	30,000		30,000
01–D–16 E—Pretreatment Facility	20,000		20,000
Total, Construction	**690,000**	**0**	**690,000**
ORP Low-level waste offsite disposal	10,000	0	10,000
Total, Office of River Protection	**1,392,460**	**28,000**	**1,420,460**
Idaho National Laboratory:			
Idaho cleanup and waste disposition	331,354		331,354
Idaho community and regulatory support	3,500		3,500
Total, Idaho National Laboratory	**334,854**	**0**	**334,854**
NNSA sites and Nevada off-sites			
Lawrence Livermore National Laboratory	1,727		1,727
LLNL Excess facilities R&D	128,000		128,000

SEC. 4701. DEPARTMENT OF ENERGY NATIONAL SECURITY PROGRAMS
(In Thousands of Dollars)

Program	FY 2020 Request	House Change	House Authorized
Nuclear facility D & D			
Separations Process Research Unit	15,300		15,300
Nevada	60,737		60,737
Sandia National Laboratories	2,652		2,652
Los Alamos National Laboratory	195,462		195,462
Total, NNSA sites and Nevada off-sites	**403,878**	**0**	**403,878**
Oak Ridge Reservation:			
OR Nuclear facility D & D	93,693	0	93,693
Total, OR Nuclear facility D & D	**93,693**	**0**	**93,693**
U233 Disposition Program	45,000		45,000
OR cleanup and waste disposition			
OR cleanup and disposition	82,000		82,000
Construction:			
17–D–401 On-site waste disposal facility	15,269		15,269
14–D–403 Outfall 200 Mercury Treatment Facility	49,000		49,000
Total, Construction	**64,269**	**0**	**64,269**
Total, OR cleanup and waste disposition	**146,269**	**0**	**146,269**
OR community & regulatory support	4,819		4,819
OR technology development and deployment	3,000		3,000
OR Excess facilities D&D			0
Total, Oak Ridge Reservation	**292,781**	**0**	**292,781**
Savannah River Sites:			

Savannah River risk management operations			
Savannah River risk management operations	490,613	25,000	515,613
Program increase		[25,000]	
Construction:			
18–D–402, Emergency Operations Center	6,792		6,792
Total, risk management operations	**497,405**	**25,000**	**522,405**
SR community and regulatory support	4,749	6,500	11,249
Program increase		[6,500]	
Radioactive liquid tank waste stabilization and disposition	797,706		797,706
Construction:			
20-D–402 Advanced Manufacturing Collaborative Facility (AMC)	50,000		50,000
20-D–401 Saltstone Disposal Unit #10, 11, 12	500		500
18–D–402 Saltstone Disposal Unit #8/9	51,750		51,750
17–D–402 Saltstone Disposal Unit #7	40,034		40,034
05–D–405 Salt waste processing facility, Savannah River Site	20,988		20,988
Total, Construction	**163,272**	**0**	**163,272**
Total, Savannah River site	**1,463,132**	**31,500**	**1,494,632**
Waste Isolation Pilot Plant			
Waste Isolation Pilot Plant	299,088		299,088
Construction:			
15–D–411 Safety significant confinement ventilation system, WIPP	58,054		58,054
15–D–412 Exhaust shaft, WIPP	34,500		34,500
Total, Construction	**92,554**	**0**	**92,554**
Total, Waste Isolation Pilot Plant	**391,642**	**0**	**391,642**
Program direction	278,908		278,908
Program support	12,979		12,979
Safeguards and Security			
Safeguards and Security	317,622		317,622
Total, Safeguards and Security	**317,622**	**0**	**317,622**

SEC. 4701. DEPARTMENT OF ENERGY NATIONAL SECURITY PROGRAMS
(In Thousands of Dollars)

Program	FY 2020 Request	House Change	House Authorized
Use of prior year balances	–15,562		–15,562
Total, Defense Environmental Cleanup	**5,506,501**	**109,500**	**5,616,001**
Other Defense Activities			
Environment, health, safety and security			
Environment, health, safety and security	139,628		139,628
Program direction	72,881		72,881
Total, Environment, Health, safety and security	**212,509**	**0**	**212,509**
Independent enterprise assessments			
Independent enterprise assessments	24,068		24,068
Program direction	57,211		57,211
Total, Independent enterprise assessments	**81,279**	**0**	**81,279**
Specialized security activities	254,578		254,578
Office of Legacy Management			
Legacy management	283,767		283,767
Program direction	19,262		19,262
Total, Office of Legacy Management	**303,029**	**0**	**303,029**
Defense related administrative support			
Chief financial officer	54,538		54,538
Chief information officer	124,554		124,554
Total, Defense related administrative support	**179,092**	**0**	**179,092**
Office of hearings and appeals	4,852		4,852

Subtotal, Other defense activities	**1,035,339**	**0**	**1,035,339**
Total, Other Defense Activities	**1,035,339**	**0**	**1,035,339**
Defense Nuclear Waste Disposal			
Yucca mountain and interim storage	26,000	–26,000	0
Program cut	0	[–26,000]	
Total, Defense Nuclear Waste Disposal	**26,000**	**–26,000**	**0**

DEPARTMENT OF DEFENSE AUTHORIZATION REQUEST

The Department of Defense requested legislation, in accordance with the program of the President, as illustrated by the correspondence set out below:

MARCH 21, 2019.

Hon. NANCY PELOSI,
Speaker of the House of Representatives,
Washington, DC.

DEAR MADAM SPEAKER: Enclosed please find a draft of proposed legislation, titled the "National Defense Authorization Act for Fiscal Year 2020", which the Department of Defense requests be enacted during the first session of the 116th Congress.

The purpose of each provision in the proposed bill is stated in the accompanying section-by-section analysis.

The Department is currently working with the Administration on additional legislative initiatives, which the Department hopes to transmit to Congress for its consideration in the coming weeks.

The Office of Management and Budget advises that there is no objection, from the standpoint of the Administration's program, to the presenting of these legislative proposals for your consideration and the consideration of Congress.

Sincerely yours,

ROBERT R. HOOD.

Enclosures: As Stated.

MARCH 27, 2019.

Hon. NANCY PELOSI,
Speaker of the House of Representatives,
Washington, DC.

DEAR MADAM SPEAKER: Enclosed please find additional legislative proposals that the Department of Defense requests be enacted during the first session of the 116th Congress. The purpose of each proposal is stated in the accompanying section-by-section analysis. The Department submits these proposals as a follow-on to the earlier transmittal of our request for enactment of proposed legislation titled the "National Defense Authorization Act for Fiscal Year 2020".

The Department is currently working with the Administration on additional legislative initiatives, which the Department hopes to transmit to Congress for its consideration in the coming weeks.

The Office of Management and Budget advises that there is no objection, from the standpoint of the Administration's program, to the presenting of these legislative proposals for your consideration and the consideration of Congress.

Sincerely yours,

ROBERT R. HOOD

Enclosures: As Stated.

MARCH 29, 2019.

Hon. NANCY PELOSI,
Speaker of the House of Representatives,
Washington, DC.

DEAR MADAM SPEAKER: Enclosed please find additional legislative proposals that the Department of Defense requests be enacted during the first session of the 116th Congress. The purpose of each proposal is stated in the accompanying section-by-section analysis. The Department submits these proposals as a follow-on to the earlier transmittal of our request for enactment of proposed legislation titled the "National Defense Authorization Act for Fiscal Year 2020".

The Department is currently working with the Administration on additional legislative initiatives, which the Department hopes to transmit to Congress for its consideration in the coming weeks.

The Office of Management and Budget advises that there is no objection, from the standpoint of the Administration's program, to the presenting of these legislative proposals for your consideration and the consideration of Congress.

Sincerely yours,

ROBERT R. HOOD

Enclosures: As Stated.

APRIL 10, 2019.

Hon. NANCY PELOSI,
Speaker of the House of Representatives,
Washington, DC.

DEAR MADAM SPEAKER: Enclosed please find additional legislative proposals that the Department of Defense requests be enacted during the first session of the 116th Congress. The purpose of each proposal is stated in the accompanying section-by-section analysis. The Department submits these proposals as a follow-on to the earlier transmittal of our request for enactment of proposed legislation titled the "National Defense Authorization Act for Fiscal Year 2020".

The Department is currently working with the Administration on additional legislative initiatives, which the Department hopes to transmit to Congress for its consideration in the coming weeks.

The Office of Management and Budget advises that there is no objection, from the standpoint of the Administration's program, to the presenting of these legislative proposals for your consideration and the consideration of Congress.

Sincerely yours,

ROBERT R. HOOD

Enclosures: As Stated.

APRIL 18, 2019.

Hon. NANCY PELOSI,
Speaker of the House of Representatives,
Washington, DC.

DEAR MADAM SPEAKER: Enclosed please find additional legislative proposals that the Department of Defense requests be enacted

during the first session of the 116th Congress. The purpose of each proposal is stated in the accompanying section-by-section analysis. The Department submits these proposals as a follow-on to the earlier transmittal of our request for enactment of proposed legislation titled the "National Defense Authorization Act for Fiscal Year 2020".

The Department is currently working with the Administration on additional legislative initiatives, which the Department hopes to transmit to Congress for its consideration in the coming weeks.

The Office of Management and Budget advises that there is no objection, from the standpoint of the Administration's program, to the presenting of these legislative proposals for your consideration and the consideration of Congress.

Sincerely yours,

JAMIE JONES MILLER.

Enclosures: As Stated.

APRIL 26, 2019.

Hon. NANCY PELOSI,
Speaker of the House of Representatives,
Washington, DC.

DEAR MADAM SPEAKER:Enclosed please find additional legislative proposals that the Department of Defense requests be enacted during the first session of the 116th Congress. The purpose of each proposal is stated in the accompanying section-by-section analysis. The Department submits these proposals as a follow-on to the earlier transmittal of our request for enactment of proposed legislation titled the "National Defense Authorization Act for Fiscal Year 2020".

The Department is currently working with the Administration on additional legislative initiatives, which the Department hopes to transmit to Congress for its consideration in the coming weeks.

The Office of Management and Budget advises that there is no objection, from the standpoint of the Administration's program, to the presenting of these legislative proposals for your consideration and the consideration of Congress.

Sincerely yours,

ROBERT R. HOOD.

Enclosures: As Stated

MAY 3, 2019.

Hon. NANCY PELOSI,
Speaker of the House of Representatives,
Washington, DC.

DEAR MADAM SPEAKER: Enclosed please find additional legislative proposals that the Department of Defense requests be enacted during the first session of the 116th Congress. The purpose of each proposal is stated in the accompanying section-by-section analysis. The Department submits these proposals as a follow-on to the earlier transmittal of our request for enactment of proposed legislation titled the "National Defense Authorization Act for Fiscal Year 2020".

The Department is currently working with the Administration on additional legislative initiatives, which the Department hopes to transmit to Congress for its consideration in the coming weeks.

The Office of Management and Budget advises that there is no objection, from the standpoint of the Administration's program, to the presenting of these legislative proposals for your consideration and the consideration of Congress.

Sincerely yours,

ROBERT R. HOOD

Enclosures: As Stated.

COMMUNICATIONS FROM OTHER COMMITTEES

HOUSE OF REPRESENTATIVES,
COMMITTEE ON AGRICULTURE,
Washington, DC, June 5, 2019.

Hon. ADAM SMITH,
Chairman, Committee on Armed Services,
House of Representatives, Washington, DC.

DEAR MR. SMITH: I am writing to you concerning the bill H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020. There are certain provisions in the legislation which fall within the Rule X jurisdiction of the House Committee on Agriculture.

In the interest of permitting your committee to proceed expeditiously to floor consideration of this important bill, I am willing to waive this committee's right to sequential referral. I do so with the understanding that by waiving consideration of the bill the House Committee on Agriculture does not waive any future jurisdictional claim over the subject matters contained in the bill which fall within its Rule X jurisdiction. I request that you urge the Speaker to name members of this committee to any conference committee which is named to consider such provisions.

Please place this letter into the committee report on H.R. 2500 and into the Congressional Record during consideration of the measure on the House floor. Thank you for the cooperative spirit in which you have worked regarding this matter and others between our respective committees.

Sincerely,

COLLIN C. PETERSON,
Chairman.

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
Washington, DC, June 18, 2019.

Hon. COLLIN C. PETERSON,
Chairman, Committee on Agriculture,
House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: Thank you for your letter regarding H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020. I agree that the Committee on Agriculture has valid jurisdictional claims to certain provisions in this important legislation, and I am most appreciative of your decision not to request a referral in the

interest of expediting consideration of the bill. I agree that by foregoing a sequential referral, the Committee on Agriculture is not waiving its jurisdiction. Further, this exchange of letters will be included in the committee report on the bill.

Sincerely,

ADAM SMITH,
Chairman.

HOUSE OF REPRESENTATIVES,
COMMITTEE ON APPROPRIATIONS,
Washington, DC, June 14, 2019.

Hon. ADAM SMITH,
1Chairman, Committee on Armed Services,
House of Representatives, Washington, DC.

DEAR MR. SMITH: I am writing to you concerning the bill H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020. There are certain provisions in the legislation which fall within the rule X jurisdiction of the Committee on Appropriations.

In the interest of permitting your Committee to proceed expeditiously to floor consideration of this important bill, I am willing to waive this Committee's right to sequential referral. I do so with the understanding that by waiving consideration of the bill the Committee on Appropriations does not waive any future jurisdictional claim over the subject matters contained in the bill which fall within its rule X jurisdiction. I request that you urge the Speaker to name Members of this Committee to any conference committee which is named to consider such provisions.

Please place this letter into the committee report on H.R. 2500 and into the Congressional Record during consideration of the measure on the House floor. Thank you for the cooperative spirit in which you have worked regarding this matter and others between our respective committees.

Sincerely,

NITA M. LOWEY,
Chairwoman.

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
Washington, DC, June 18, 2019.

HON. NITA M. LOWEY,
Chairwoman, Committee on Appropriations,
House of Representatives, Washington, DC.

DEAR MS. CHAIRWOMAN: Thank you for your letter regarding H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020. I agree that the Committee on Appropriations has valid jurisdictional claims to certain provisions in this important legislation, and I am most appreciative of your decision not to request a referral in the interest of expediting consideration of the bill. I agree that by foregoing a sequential referral, the Committee on Appro-

priations is not waiving its jurisdiction. Further, this exchange of letters will be included in the committee report on the bill.

Sincerely,

ADAM SMITH,
Chairman.

HOUSE OF REPRESENTATIVES,
COMMITTEE ON THE BUDGET,
Washington, DC, June 13, 2019.

Hon. ADAM SMITH,
Chairman, Committee on Armed Services,
House of Representatives, Washington, DC.

DEAR CHAIRMAN SMITH: I am writing to you concerning the bill H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020. There are certain provisions in the legislation which fall within the Rule X jurisdiction of the Committee on the Budget.

In the interest of permitting your committee to proceed expeditiously to floor consideration of this important bill, I am willing to waive this committee's right to sequential referral. I do so with the understanding that by waiving consideration of the bill the Committee on the Budget does not waive any future jurisdictional claim over the subject matters contained in the bill which fall within its Rule X jurisdiction. I request that you urge the Speaker to name members of this committee to any conference committee which is named to consider such provisions.

Please place this letter into the committee report on H.R. 2500 and into the Congressional Record during consideration of the measure on the House floor. Thank you for the cooperative spirit in which you have worked regarding this matter and others between our respective committees.

Sincerely,

JOHN YARMUTH,
Chairman.

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
Washington, DC, June 18, 2019.

HON. JOHN YARMUTH,
Chairman, Committee on the Budget,
House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: Thank you for your letter regarding H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020. I agree that the Committee on the Budget has valid jurisdictional claims to certain provisions in this important legislation, and I am most appreciative of your decision not to request a referral in the interest of expediting consideration of the bill. I agree that by foregoing a sequential referral, the Committee on the Budget is not

waiving its jurisdiction. Further, this exchange of letters will be included in the committee report on the bill.

Sincerely,

ADAM SMITH,
Chairman.

HOUSE OF REPRESENTATIVES,
COMMITTEE ON EDUCATION AND LABOR,
Washington, DC, June 17, 2019.

Hon. ADAM SMITH,
Chairman, Committee on Armed Services,
House of Representatives, Washington, DC.

Dear Mr. Smith: I am writing to you concerning the bill H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020. There are certain provisions in the legislation which fall within the Rule X jurisdiction of the Committee on Education and Labor.

In the interest of permitting your committee to proceed expeditiously to floor consideration of this important bill, I am willing to waive this committee's right to sequential referral. I do so with the understanding that by waiving consideration of the bill the Committee on Education and Labor does not waive any future jurisdictional claim over the subject matters contained in the bill which fall within its Rule X jurisdiction. I request that you urge the Speaker to name members of this committee to any conference committee which is named to consider such provisions.

Please place this letter into the committee report on H.R. 2500 and into the Congressional Record during consideration of the measure on the House floor. Thank you for the cooperative spirit in which you have worked regarding this matter and others between our respective committees.

Sincerely,

BOBBY SCOTT,
Chairman.

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
Washington, DC, June 18, 2019.

Hon. BOBBY SCOTT,
Chairman, Education and Labor,
House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: Thank you for your letter regarding H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020. I agree that the Committee on Education and Labor has valid jurisdictional claims to certain provisions in this important legislation, and I am most appreciative of your decision not to request a referral in the interest of expediting consideration of the bill. I agree that by foregoing a sequential referral, the Committee on Education and Labor is not waiving its jurisdiction. Further, this ex-

change of letters will be included in the committee report on the bill.

Sincerely,

ADAM SMITH,
Chairman.

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ENERGY AND COMMERCE,
Washington, DC, June 14, 2019.

Hon. ADAM SMITH,
Chairman, Committee on Armed Services,
House of Representatives, Washington, DC.

DEAR CHAIRMAN SMITH: I am writing to you concerning the bill H.R. 2500, the "National Defense Authorization Act for Fiscal Year 2020." Certain provisions in the legislation fall within the jurisdiction of the Committee on Energy and Commerce. In the interest of permitting your committee to proceed expeditiously to floor consideration of this important bill, the Committee will not request a sequential referral and is waiving its right to said referral.

The Committee takes this action with the understanding that it is not waiving any jurisdictional claim over this and similar legislation or the subject matters contained in the bill, that it will be appropriately consulted and involved as this legislation moves forward, and that its jurisdictional interests over this and similar legislation are in no way diminished or altered. I request that you urge the Speaker to name members of this committee to any conference committee which is named to consider such provisions. The Committee also reserves the right to seek appointment to any House-Senate conference on such legislation and requests your support in the event the Committee makes such a request.

Finally, I would appreciate a response to this letter confirming this understanding and that you would place our exchange of letters into the committee report on H.R. 2500 and the Congressional Record during consideration of the measure on the House floor. Thank you for the cooperative spirit in which you have worked with this committee regarding this matter.

Sincerely,

FRANK PALLONE, JR.,
Chairman.

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
Washington, DC, June 18, 2019.

Hon. FRANK PALLONE, Jr.,
Chairman, Committee on Energy and Commerce,
House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: Thank you for your letter regarding H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020. I agree that the Committee on Energy and Commerce has valid jurisdictional claims to certain provisions in this important legislation, and I am most appreciative of your decision not to request a

referral in the interest of expediting consideration of the bill. I agree that by foregoing a sequential referral, the Committee on Energy and Commerce is not waiving its jurisdiction. Further, this exchange of letters will be included in the committee report on the bill.

Sincerely,

ADAM SMITH,
Chairman.

HOUSE OF REPRESENTATIVES,
COMMITTEE ON FINANCIAL SERVICES,
Washington, DC, June 14, 2019.

Hon. ADAM SMITH,
Chairman, Committee on Armed Services,
House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: I am writing to you concerning the bill H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020. There are certain provisions in the legislation which fall within the Rule X jurisdiction of the Committee on Financial Services.

In the interest of permitting your Committee to proceed expeditiously to floor consideration of H.R. 2500, I am willing to waive this Committee's right to sequential referral and forego formal consideration of H.R. 2500 at this time. I do so with the understanding that by waiving consideration of the bill, the Committee on Financial Services does not waive any future jurisdictional claim over the subject matters contained in H.R. 2500 which fall within the Committee's Rule X jurisdiction. I also do so under the mutual understanding that the Committee on Financial Services will be appropriately consulted and involved as this or similar legislation moves forward. The Committee reserves the right to seek appointment of an appropriate number of conferees to any House-Senate conference involving H.R. 2500, and I request that you urge the Speaker to name members of this committee to any conference committee which is named to consider such provisions.

Please place this letter into the Committee report on H.R. 2500 and into the Congressional Record during consideration of the measure on the House Floor. Thank you for the cooperative spirit in which you have worked regarding this matter between our respective committees.

Sincerely,

MAXINE WATERS,
Chairwoman.

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
Washington, DC, June 18, 2019.

Hon. MAXINE WATERS,
Chairwoman, Committee on Financial Services,
House of Representatives, Washington, DC.

DEAR MS. CHAIRWOMAN: Thank you for your letter regarding H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020. I agree that the Committee on Financial Services has valid jurisdictional claims to certain provisions in this important legislation, and I am most appreciative of your decision not to request a referral in the interest of expediting consideration of the bill. I agree that by foregoing a sequential referral, the Committee on Financial Services is not waiving its jurisdiction. Further, this exchange of letters will be included in the committee report on the bill.

Sincerely,

ADAM SMITH,
Chairman.

HOUSE OF REPRESENTATIVES,
COMMITTEE ON FOREIGN AFFAIRS,
Washington, DC, June 18, 2019.

Hon. ADAM SMITH,
Chairman, Committee on Armed Services,
House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: I am writing to you concerning the bill H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020. There are certain provisions in the legislation which fall within the Rule X jurisdiction of the House Foreign Affairs Committee.

In the interest of permitting your committee to proceed expeditiously to floor consideration of this important bill, I am willing to waive this committee's right to sequential referral. I do so with the understanding that by waiving consideration of the bill the House Foreign Affairs Committee does not waive any future jurisdictional claim over the subject matters contained in the bill which fall within its Rule X jurisdiction. I request that you urge the Speaker to name members of this committee to any conference committee which is named to consider such provisions.

Please place this letter into the committee report on H.R. 2500 and into the Congressional Record during consideration of the measure on the House floor. Thank you for the cooperative spirit in which you have worked regarding this matter and others between our respective committees.

Sincerely,

ELIOT L. ENGEL,
Chairman.

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
Washington, DC, June 18, 2019.

Hon. ELIOT L. ENGEL,
Chairman, Committee on Foreign Affairs,
House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: Thank you for your letter regarding H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020. I agree that the Committee on Foreign Affairs has valid jurisdictional claims to certain provisions in this important legislation, and I am most appreciative of your decision not to request a referral in the interest of expediting consideration of the bill. I agree that by foregoing a sequential referral, the Committee on Foreign Affairs is not waiving its jurisdiction. Further, this exchange of letters will be included in the committee report on the bill.

Sincerely,

ADAM SMITH,
Chairman.

HOUSE OF REPRESENTATIVES,
COMMITTEE ON HOMELAND SECURITY,
Washington, DC, June 17, 2019.

Hon. ADAM SMITH,
Chairman, Committee on Armed Services,
House of Representatives, Washington, DC.

DEAR MR. SMITH: I am writing to you concerning H.R. 2500, the "National Defense Authorization Act for Fiscal Year 2020." There are certain provisions in the legislation which fall within the Rule X jurisdiction of the Committee on Homeland Security.

In the interest of permitting your committee to proceed expeditiously to floor consideration of this important bill, I am willing to waive this committee's right to sequential referral. I do so with the understanding that by waiving consideration of H.R. 2500, the Committee on Homeland Security does not waive any future jurisdictional claim over the subject matters contained in the bill which fall within its Rule X jurisdiction. I request that you urge the Speaker to name members of this committee to any conference committee which is named to consider such provisions.

Please place this letter into the committee report on H.R. 2500 and into the Congressional Record during consideration of the measure on the House floor. Thank you for the cooperative spirit in which you have worked regarding this matter and others between our respective committees.

Sincerely,

BENNIE G. THOMPSON,
Chairman.

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
Washington, DC, June 18, 2019.

Hon. BENNIE G. THOMPSON,
Chairman, Committee on Homeland Security,
House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: Thank you for your letter regarding H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020. I agree that the Committee on Homeland Security has valid jurisdictional claims to certain provisions in this important legislation, and I am most appreciative of your decision not to request a referral in the interest of expediting consideration of the bill. I agree that by foregoing a sequential referral, the Committee on Homeland Security is not waiving its jurisdiction. Further, this exchange of letters will be included in the committee report on the bill.

Sincerely,

ADAM SMITH,
Chairman.

HOUSE OF REPRESENTATIVES,
COMMITTEE ON THE JUDICIARY,
Washington, DC, June 17, 2019.

Hon. ADAM SMITH,
Chairman, Committee on Armed Services,
House of Representatives, Washington, DC.

DEAR MR. SMITH: I am writing to you concerning the bill H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020. There are certain provisions in the legislation which fall within the Rule X jurisdiction of the House Committee on the Judiciary.

In the interest of permitting your committee to proceed expeditiously to floor consideration of this important bill, I am willing to waive this committee's right to sequential referral. I do so with the understanding that by waiving consideration of the bill the Judiciary Committee not waive any future jurisdictional claim over the subject matters contained in the bill which fall within its Rule X jurisdiction. I request that you urge the Speaker to name members of this committee to any conference committee which is named to consider such provisions.

Please place this letter into the committee report on H.R. 2500 and into the Congressional Record during consideration of the measure on the House floor. Thank you for the cooperative spirit in which you have worked regarding this matter and others between our respective committees.

Sincerely,

JERROLD NADLER,
Chairman.

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
Washington, DC, June 18, 2019.

Hon. JERROLD NADLER,
Chairman, Committee on the Judiciary,
House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: Thank you for your letter regarding H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020. I agree that the Committee on the Judiciary has valid jurisdictional claims to certain provisions in this important legislation, and I am most appreciative of your decision not to request a referral in the interest of expediting consideration of the bill. I agree that by foregoing a sequential referral, the Committee on the Judiciary is not waiving its jurisdiction. Further, this exchange of letters will be included in the committee report on the bill.

Sincerely,

ADAM SMITH,
Chairman.

HOUSE OF REPRESENTATIVES,
COMMITTEE ON NATURAL RESOURCES,
Washington, DC, June 13, 2019.

Hon. ADAM SMITH,
Chairman, Committee on Armed Services,
House of Representatives, Washington, DC.

DEAR MR. SMITH: I am writing to you concerning the bill H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020. There are certain provisions in the legislation which fall within the Rule X jurisdiction of the Committee on Natural Resources.

In the interest of permitting your committee to proceed expeditiously to floor consideration of this important bill, I am willing to waive this committee's right to sequential referral. I do so with the understanding that by waiving consideration of the bill, the Committee on Natural Resources does not waive any future jurisdictional claim over the subject matters contained in the bill which fall within its Rule X jurisdiction. I request that you urge the Speaker to name members of this committee to any conference committee which is named to consider such provisions.

Please place this letter into the committee report on H.R. 2500 and into the Congressional Record during consideration of the measure on the House floor. Thank you for the cooperative spirit in which you have worked regarding this matter and others between our respective committees.

Sincerely,

RAÚL M. GRIJALVA,
Chairman.

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
Washington, DC, June 18, 2019.

Hon. RAÚL GRIJALVA,
Chairman, Committee on Natural Resources
House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: Thank you for your letter regarding H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020. I agree that the Committee on Natural Resources has valid jurisdictional claims to certain provisions in this important legislation, and I am most appreciative of your decision not to request a referral in the interest of expediting consideration of the bill. I agree that by foregoing a sequential referral, the Committee on Natural Resources is not waiving its jurisdiction. Further, this exchange of letters will be included in the committee report on the bill.

Sincerely,

ADAM SMITH,
Chairman.

HOUSE OF REPRESENTATIVES,
COMMITTEE ON OVERSIGHT AND REFORM,
Washington, DC, June 17, 2019.

Hon. ADAM SMITH,
Chairman, Committee on Armed Services,
House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: I am writing to you concerning H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020. There are certain provisions in the legislation which fall within the Rule X jurisdiction of the Committee on Oversight and Reform.

In the interest of permitting your Committee to proceed expeditiously to floor consideration of this important bill, I am willing to waive this Committee's right to sequential referral. I do so with the understanding that by waiving consideration of the bill, the Committee on Oversight and Reform does not waive any future jurisdictional claim over the subject matters contained in the bill which fall within its Rule X jurisdiction. I request that you urge the Speaker to name Members of this Committee to any conference committee which is named to consider such provisions.

Please place this letter into the committee report on H.R. 2500 and into the Congressional Record during consideration of the measure on the House floor. Thank you for the cooperative spirit in which you have worked regarding this matter and others between our respective Committees.

Sincerely,

ELIJAH CUMMINGS,
Chairman.

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
Washington, DC, June 18, 2019.

Hon. ELIJAH CUMMINGS,
Chairman, Committee on Oversight and Reform,
House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: Thank you for your letter regarding H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020. I agree that the Committee on Oversight and Reform has valid jurisdictional claims to certain provisions in this important legislation, and I am most appreciative of your decision not to request a referral in the interest of expediting consideration of the bill. I agree that by foregoing a sequential referral, the Committee on Oversight and Reform is not waiving its jurisdiction. Further, this exchange of letters will be included in the committee report on the bill.

Sincerely,

ADAM SMITH,
Chairman.

HOUSE OF REPRESENTATIVES,
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY,
Washington, DC, June 14, 2019.

Hon. ADAM SMITH,
Chairman, Committee on Armed Services,
House of Representatives, Washington, DC.

DEAR MR. SMITH: I am writing to you concerning the bill H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020. There are certain provisions in the legislation which fall within the Rule X jurisdiction of the Committee on Science, Space, and Technology.

In the interest of permitting your committee to proceed expeditiously to floor consideration of this important bill, I am willing to waive this committee's right to sequential referral. I do so with the understanding that by waiving consideration of the bill the Committee on Science, Space, and Technology does not waive any future jurisdictional claim over the subject matters contained in the bill which fall within its Rule X jurisdiction. I request that you urge the Speaker to name members of this committee to any conference committee which is named to consider such provisions.

Please place this letter into the committee report on H.R. 2500 and into the Congressional Record during consideration of the measure on the House floor. Thank you for the cooperative spirit in which you have worked regarding this matter and others between our respective committees.

Sincerely,

EDDIE BERNICE JOHNSON,
Chairwoman.

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
Washington, DC, June 18, 2019.

Hon. EDDIE BERNICE JOHNSON,
Chairwoman, Committee on Science, Space, and Technology,
House of Representatives, Washington, DC.

DEAR MS. CHAIRWOMAN: Thank you for your letter regarding H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020. I agree that the Committee on Science, Space, and Technology has valid jurisdictional claims to certain provisions in this important legislation, and I am most appreciative of your decision not to request a referral in the interest of expediting consideration of the bill. I agree that by foregoing a sequential referral, the Committee on Science, Space, and Technology is not waiving its jurisdiction. Further, this exchange of letters will be included in the committee report on the bill.

Sincerely,

ADAM SMITH,
Chairman.

HOUSE OF REPRESENTATIVES,
COMMITTEE ON SMALL BUSINESS,
Washington, DC, June 10, 2019.

Hon. ADAM SMITH,
Chairman, Committee on Armed Services,
House of Representatives, Washington, DC.

DEAR MR. SMITH: I am writing to you concerning the bill *H.R. 2500*, the *National Defense Authorization Act for Fiscal Year 2020*. There are certain provisions in the legislation which fall within the Rule X jurisdiction of the Committee on Small Business.

In the interest of permitting your committee to proceed expeditiously to floor consideration of this important bill, I am willing to waive this committee's right to sequential referral. I do so with the understanding that by waiving consideration of the bill the Committee on Small Business does not waive any future jurisdictional claim over the subject matters contained in the bill which fall within its Rule X jurisdiction. I request that you urge the Speaker to name members of this committee to any conference committee which is named to consider such provisions.

Please place this letter into the committee report on H.R. 2500 and into the Congressional Record during consideration of the measure on the House floor. Thank you for the cooperative spirit in which you have worked regarding this matter and others between our respective committees.

Sincerely,

NYDIA M. VELÁZQUEZ,
Chairwoman.

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
Washington, DC, June 18, 2019.

Hon. NYDIA M. VELÁZQUEZ,
Chairwoman, Committee on Small Business,
House of Representatives, Washington, DC.

DEAR MS. CHAIRWOMAN: Thank you for your letter regarding H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020. I agree that the Committee on Small Business has valid jurisdictional claims to certain provisions in this important legislation, and I am most appreciative of your decision not to request a referral in the interest of expediting consideration of the bill. I agree that by foregoing a sequential referral, the Committee on Small Business is not waiving its jurisdiction. Further, this exchange of letters will be included in the committee report on the bill.

Sincerely,

ADAM SMITH,
Chairman.

HOUSE OF REPRESENTATIVES,
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE,
Washington, DC, June 14, 2019.

Hon. ADAM SMITH,
Chairman, Committee on Armed Services,
House of Representatives, Washington, DC.

DEAR MR. SMITH: I am writing to you concerning H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020, as amended. There are certain provisions in the legislation that fall within the Rule X jurisdiction of the Committee on Transportation and Infrastructure.

In the interest of permitting your committee to proceed expeditiously to floor consideration, I am willing to waive this committee's right to sequential referral. I do so with the understanding that by waiving consideration of the bill, the Committee on Transportation and Infrastructure does not waive any future jurisdictional claim over the subject matters contained in the bill which fall within its Rule X jurisdiction. I also request that you urge the Speaker to name members of this Committee to any conference committee which is named to consider such provisions.

Please place a copy of this letter and your response acknowledging our jurisdictional interest into the committee report on H.R. 2500 and into the Congressional Record during consideration of the measure on the House floor.

Sincerely,

PETER A. DEFAZIO,
Chairman.

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
Washington, DC, June 18, 2019.

Hon. PETER A. DEFAZIO,
Chairman, Committee on Transportation and Infrastructure,
House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: Thank you for your letter regarding H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020. I agree that the Committee on Transportation and Infrastructure has valid jurisdictional claims to certain provisions in this important legislation, and I am most appreciative of your decision not to request a referral in the interest of expediting consideration of the bill. I agree that by foregoing a sequential referral, the Committee on Transportation and Infrastructure is not waiving its jurisdiction. Further, this exchange of letters will be included in the committee report on the bill.

Sincerely,

ADAM SMITH,
Chairman.

HOUSE OF REPRESENTATIVES,
COMMITTEE ON VETERANS' AFFAIRS,
Washington, DC, June 14, 2019.

Hon. ADAM SMITH,
Chairman, Committee on Armed Services,
House of Representatives, Washington, DC.

DEAR MR. SMITH: I am writing to you concerning the bill H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020. There are certain provisions in the legislation which fall within the Rule X jurisdiction of the Committee on Veterans' Affairs.

In the interest of permitting your committee to proceed expeditiously to floor consideration of this important bill, I am willing to waive this committee's right to sequential referral. I do so with the understanding that by waiving consideration of the bill the Committee on Veterans' Affairs does not waive any future jurisdictional claim over the subject matters contained in the bill which fall within its Rule X jurisdiction. I request that you urge the Speaker to appoint Committee on Veterans' Affairs members to any conference committee which is named to consider such provisions.

Please place this letter into the committee report on H.R. 2500 and into the Congressional Record during consideration of the measure on the House floor to memorialize our understanding. Thank you for the cooperative spirit in which you have worked regarding this matter and others between our respective committees.

Sincerely,

MARK TAKANO,
Chairman.

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
Washington, DC, June 18, 2019.

Hon. MARK TAKANO,
Chairman, Committee on Veterans' Affairs,
House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: Thank you for your letter regarding H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020. I agree that the Committee on Veterans' Affairs has valid jurisdictional claims to certain provisions in this important legislation, and I am most appreciative of your decision not to request a referral in the interest of expediting consideration of the bill. I agree that by foregoing a sequential referral, the Committee on Veterans' Affairs is not waiving its jurisdiction. Further, this exchange of letters will be included in the committee report on the bill.

Sincerely,

ADAM SMITH,
Chairman.

HOUSE OF REPRESENTATIVES,
PERMANENT SELECT COMMITTEE ON INTELLIGENCE,
Washington, DC, June 18, 2019.

Hon. ADAM SMITH
Chairman, Committee on Armed Services,
House of Representatives, Washington, DC.

DEAR CHAIRMAN SMITH: I am writing to you concerning H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020. Certain provisions in the legislation fall within the jurisdiction of the House Permanent Select Committee on Intelligence (HPSCI), as set forth in Rule X of the House of Representatives for the 116th Congress.

In the interest of permitting your committee to proceed expeditiously to floor consideration of this important bill, I am willing to waive this committee's right to sequential referral. By waiving consideration of H.R. 2500, HPSCI does not waive any future jurisdictional claim over the subjects contained in the bill which fall within HPSCI's Rule X jurisdiction. I further request that you urge the Speaker to appoint members of HPSCI to any conference committee which is named to consider provisions addressing such subjects.

Please place this letter into the committee report on H.R. 2500 and into the Congressional Record during consideration of the measure on the House floor. Thank you for the cooperative spirit in which you have worked regarding this matter and others between our respective committees.

Sincerely,

ADAM B. SCHIFF,
Chairman.

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
Washington, DC, June 18, 2019.

Hon. ADAM SCHIFF,
Chairman, Permanent Select Committee on Intelligence,
House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: Thank you for your letter regarding H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020. I agree that the Permanent Select Committee on Intelligence has valid jurisdictional claims to certain provisions in this important legislation, and I am most appreciative of your decision not to request a referral in the interest of expediting consideration of the bill. I agree that by foregoing a sequential referral, the Permanent Select Committee on Intelligence is not waiving its jurisdiction. Further, this exchange of letters will be included in the committee report on the bill.

Sincerely,

ADAM SMITH,
Chairman.

CONGRESSIONAL BUDGET OFFICE ESTIMATE

In compliance with clause 3(c)(3) of rule XIII of the House of Representatives, the cost estimate prepared by the Congressional Budget Office and submitted pursuant to section 402 of the Congressional Budget Act of 1974 is as follows:

CONGRESSIONAL BUDGET OFFICE PRELIMINARY COST ESTIMATE

JUNE 18, 2019.

Re: Direct Spending and Revenue Effects of H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020

Hon. ADAM SMITH,
Chairman, Committee on Armed Services,
House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: The Congressional Budget Office has completed the enclosed estimate of the direct spending and revenue effects of H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020, as ordered reported by the House Committee on Armed Services on June 13, 2019. CBO's complete estimate, including discretionary costs, will be provided shortly.

Enacting the bill would reduce net direct spending by $9 million over the 2020–2029 period. The budgetary effects primarily arise from three sources. A provision that would require the Secretary of Defense to sell IPv4 (Internet Protocol) addresses would increase offsetting receipts which are classified as reductions in direct spending. That reduction would be partially offset by increasing the number of service members in the reserve components of the U.S. Armed Forces who can collect reserve retired pay before age 60. The bill also would provide additional Special Immigrant Visas to Afghans who worked for the U.S. government in Afghanistan, allowing them and their family members to immigrate to the United

States and receive federal benefits. Several other provisions would have smaller effects on direct spending. Other provisions would affect revenues by an insignificant amount.

Because the bill would affect direct spending and revenues, statutory pay-as-you-go procedures apply.

CBO estimates that enacting H.R. 2500 would not increase on-budget deficits by more than $5 billion in any of the four consecutive 10-year periods beginning in 2030.

If you wish further details on this estimate, we will be pleased to provide them. The CBO staff contact is Aldo Prosperi, who can be reached at 226–2840.

Sincerely,

PHILLIP L. SWAGEL,
Director.

Enclosure.

TABLE 1. ESTIMATED INCREASES OR DECREASES IN DIRECT SPENDING UNDER H.R. 2500, AS ORDERED REPORTED BY THE HOUSE COMMITTEE ON ARMED SERVICES ON JUNE 13, 2019

	By fiscal year, millions of dollars												
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2019–2024	2019–2029
	Increases or Decreases (−) in Direct Spending												
Sale of IPv4 Addresses [a]													
Section 1088													
Estimated Budget Authority	0	0	0	−20	−32	−25	−9	−4	−4	−3	−3	−77	−100
Estimated Outlays	0	0	0	−20	−32	−25	−9	−4	−4	−3	−3	−77	−100
Reduced Age for Reserve Retirement [b]													
Section 627													
Estimated Budget Authority	0	1	2	2	3	3	4	5	6	7	8	11	41
Estimated Outlays	0	1	2	2	3	3	4	5	6	7	8	11	41
Afghan Special Immigrant Visas [c]													
Section 1212													
Estimated Budget Authority	0	0	0	5	6	5	5	5	4	4	4	16	38
Estimated Outlays	0	0	0	5	6	5	5	5	4	4	4	16	38
Aviation Insurance [d]													
Section 354													
Estimated Budget Authority	0	2	2	2	2	0	0	0	0	0	0	8	8
Estimated Outlays	0	2	2	2	2	0	0	0	0	0	0	8	8

TABLE 1. ESTIMATED INCREASES OR DECREASES IN DIRECT SPENDING UNDER H.R. 2500, AS ORDERED REPORTED BY THE HOUSE COMMITTEE ON ARMED SERVICES ON JUNE 13, 2019—Continued

	By fiscal year, millions of dollars												
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2019–2024	2019–2029
Contraception Cost Sharing [e]													
Section 701													
Estimated Budget Authority	0	*	*	*	*	*	*	*	*	*	*	1	3
Estimated Outlays	0	*	*	*	*	*	*	*	*	*	*	1	3
Board of Discharge Appeals [f]													
Section 521													
Estimated Budget Authority	0	*	*	*	*	*	*	*	*	*	*	*	1
Estimated Outlays	0	*	*	*	*	*	*	*	*	*	*	*	1
National Defense Stockpile [g]													
Section 807													
Estimated Budget Authority	0	0	0	0	0	0	0	0	0	0	0	0	0
Estimated Outlays	0	8	8	−4	−4	−8	*	0	0	0	0	*	*
Total Changes in Direct Spending													
Estimated Budget Authority	0	3	4	−11	−21	−17	*	6	6	8	9	−41	−9
Estimated Outlays	0	11	12	−15	−25	−25	*	6	6	8	9	−41	−9

Components may not sum to totals because of rounding; IPv4 = Internet Protocol version 4; * = between −$500,000 and $500,000.

CBO estimates that enacting H.R. 2500 would not increase on-budget deficits by more than $5 billion in any of the four consecutive 10-year periods beginning in 2030. Other provisions in H.R. 2500 would have insignificant effects on direct spending and revenues. CBO assumes that H.R. 2500 will be enacted near the start of fiscal year 2020.

a. Section 1088 would require the Department of Defense to sell all of the department's IPv4 addresses over the next 10 years at fair market value.

b. Section 627 would expand eligibility for service members to collect reserve retired pay before age 60.

c. Section 1212 would increase by 300 the number of Special Immigrant Visas available to Afghans who worked for the U.S. government in Afghanistan. Afghan special immigrants are eligible for a variety of federal benefits upon arrival in the United States if they meet the other eligibility criteria for those benefits.

d. Section 354 would extend, through September 30, 2023, the authority of the Secretary of Transportation to issue aviation insurance without charging an insurance premium.

e. Section 701 would eliminate all cost sharing for contraceptive pharmaceuticals and devices for women who use TRICARE. The health care costs for beneficiaries who are retirees of the other uniformed services and their dependents are paid from mandatory appropriations.

f. Section 521 would establish a new board to evaluate requests from veterans to improve the characterization of their discharge from the armed forces. Those upgrades would increase direct spending for retroactive separation pay and for mandatory veterans' benefits.

g. Section 807 would require the Department of Defense to sell three million pounds of tungsten and allow the department to purchase other critical materials. Because monies deposited into the National Defense Stockpile Fund are permanently appropriated, receipts from newly authorized sales of materials are not counted as negative budget authority, and authority for new purchases of strategic materials does not create new budget authority.

STATEMENT REQUIRED BY THE CONGRESSIONAL BUDGET ACT

Pursuant to clause (3)(c)(2) of rule XIII of the Rules of the House of Representatives, and section 308(a) of the Congressional Budget Act of 1974 (Public Law 93–344):

(1) this legislation does not provide budget authority subject to an allocation made pursuant to section 302(b) of Public Law 93–344;

(2) the Congressional Budget Office (CBO) Estimate included in this report pursuant to clause (3)(c)(3) of rule XIII of the Rules of the House of Representatives contains CBO's projection of how this legislation will affect the levels of budget authority, budget outlays, revenues, and tax expenditures for fiscal year 2020 and for the ensuing 5 fiscal years; and

(3) the CBO Estimate does not identify any new budget authority for assistance to state and local governments by this measure at the time that this report was filed.

COMMITTEE COST ESTIMATE

Pursuant to clause (3)(d)(2)(B) of rule XIII of the Rules of the House of Representatives, the Congressional Budget Office Estimate included in this report satisfies the requirement for the committee to include an estimate by the committee of the costs incurred in carrying out this bill.

ADVISORY OF EARMARKS

The committee finds that H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020, as reported, does not contain any congressional earmarks, limited tax benefits, or limited tariff benefits as defined in clause 9 of rule XXI of the Rules of the House of Representatives.

OVERSIGHT FINDINGS

With respect to clause 3(c)(1) of rule XIII of the Rules of the House of Representatives, this legislation results from hearings and other oversight activities conducted by the committee pursuant to clause 2(b)(1) of rule X. The findings are reflected in the body of this report.

GENERAL PERFORMANCE GOALS AND OBJECTIVES

With respect to clause 3(c)(4) of rule XIII of the Rules of the House of Representatives, the general goals and objectives of H.R. 2500 are to maintain the national defense, to prepare the United States to meet current and future challenges to the national defense, and to accomplish each of those goals and objectives in a fiscally responsible manner.

This legislation provides $655.9 billion to support national defense requirements, and it includes an additional $69.0 billion for Overseas Contingency Operations. The bill includes funding to provide a 3.1 percent pay raise for service members, to invest in key maintenance and readiness areas, and to modernize the force to deter potential adversaries.

This bill continues the longstanding work of the Committee on Armed Services to ensure that the military is sufficiently resourced and prepared to maintain the national defense, and it thereby fulfills the committees duties under Article I, Section 8, of the Constitution.

STATEMENT OF FEDERAL MANDATES

The committee adopts as its own the estimate of Federal mandates prepared by the Director of the Congressional Budget Office pursuant to section 423 of the Unfunded Mandates Reform Act.

FEDERAL ADVISORY COMMITTEE STATEMENT

Consistent with the requirements of section 5(b) of the Federal Advisory Committee Act, the committee finds that the functions of the proposed advisory committees authorized in the bill are not currently being nor could they be performed by one or more agencies, an advisory committee already in existence or by enlarging the mandate of an existing advisory committee.

APPLICABILITY TO THE LEGISLATIVE BRANCH

The committee finds that this legislation does not relate to the terms and conditions of employment or access to public services or accommodations within the meaning of section 102(b)(3) of the Congressional Accountability Act (Public Law 104–1).

DUPLICATION OF FEDERAL PROGRAMS

Pursuant to clause 3(c)(5) of rule XIII, no provision of H.R. 2500 establishes or reauthorizes a program of the Federal Government known to be duplicative of another Federal program, a program that was included in any report from the Government Accountability Office to Congress pursuant to section 21 of Public Law 111–139, or a program related to a program identified in the most recent Catalog of Federal Domestic Assistance.

COMMITTEE VOTES

In accordance with clause 3(b) of rule XIII of the Rules of the House of Representatives, record votes were taken with respect to the committee's consideration of H.R. 2500. The record of these votes is contained in the following pages.

The committee ordered H.R. 2500 to be reported to the House with a favorable recommendation by a vote of 33–24 a quorum being present.

COMMITTEE ON ARMED SERVICES

ROLL CALL VOTE NO. 1

H.R. 2500

On Courtney Log 493—Clarifies section 125(a)(1) regarding a limitation on the availability of funds for VC–25B aircraft.

Member	Aye	No	Present	Member	Aye	No	Present
Mr. Smith	x			Mr. Thornberry		x	
Mrs. Davis	x			Mr. Wilson		x	
Mr. Langevin	x			Mr. Bishop		x	
Mr. Larsen	x			Mr. Turner		x	
Mr. Cooper	x			Mr. Rogers		x	
Mr. Courtney	x			Mr. Conaway		x	
Mr. Garamendi	x			Mr. Lamborn		x	
Ms. Speier	x			Mr. Wittman		x	
Ms. Gabbard	x			Mrs. Hartzler		x	
Mr. Norcross	x			Mr. Scott		x	
Mr. Gallego	x			Mr. Brooks		x	
Mr. Moulton	x			Mr. Cook		x	
Mr. Carbajal	x			Mr. Byrne		x	
Mr. Brown	x			Mr. Graves		x	
Mr. Khanna	x			Ms. Stefanik		x	
Mr. Keating	x			Dr. DesJarlais		x	
Mr. Vela	x			Dr. Abraham		x	
Mr. Kim	x			Mr. Kelly		x	
Ms. Horn	x			Mr. Gallagher		x	
Mr. Cisneros	x			Mr. Gaetz		x	
Ms. Houlahan	x			Mr. Bacon		x	
Mr. Crow	x			Mr. Banks		x	
Ms. Torres Small	x			Ms. Cheney		x	
Ms. Slotkin	x			Mr. Mitchell		x	
Ms. Sherrill	x			Mr. Bergman		x	
Ms. Hill	x			Mr. Waltz		x	
Ms. Escobar	x						
Ms. Haaland	x						
Mr. Golden	x						
Mrs. Trahan	x						
Mrs. Luria	x						
Roll Call Vote Total:	**31**	**26**	**0**				

COMMITTEE ON ARMED SERVICES

ROLL CALL VOTE NO. 2

H.R. 2500

On Turner Log 505—Substitute to Log 044r1 Speier—Comprehensive review of the role of the commander in the prosecution of sex-related offenses under UCMJ.

Member	Aye	No	Present	Member	Aye	No	Present
Mr. Smith		x		Mr. Thornberry	x		
Mrs. Davis		x		Mr. Wilson	x		
Mr. Langevin		x		Mr. Bishop	x		
Mr. Larsen		x		Mr. Turner	x		
Mr. Cooper		x		Mr. Rogers	x		
Mr. Courtney		x		Mr. Conaway	x		
Mr. Garamendi		x		Mr. Lamborn	x		
Ms. Speier		x		Mr. Wittman	x		
Ms. Gabbard		x		Mrs. Hartzler	x		
Mr. Norcross		x		Mr. Scott	x		
Mr. Gallego		x		Mr. Brooks	x		
Mr. Moulton		x		Mr. Cook	x		
Mr. Carbajal		x		Mr. Byrne	x		
Mr. Brown		x		Mr. Graves	x		
Mr. Khanna		x		Ms. Stefanik	x		
Mr. Keating		x		Dr. DesJarlais	x		
Mr. Vela		x		Dr. Abraham	x		
Mr. Kim		x		Mr. Kelly	x		
Ms. Horn		x		Mr. Gallagher	x		
Mr. Cisneros		x		Mr. Gaetz	x		
Ms. Houlahan		x		Mr. Bacon	x		
Mr. Crow		x		Mr. Banks	x		
Ms. Torres Small		x		Ms. Cheney	x		
Ms. Slotkin		x		Mr. Mitchell	x		
Ms. Sherrill		x		Mr. Bergman	x		
Ms. Hill		x		Mr. Waltz	x		
Ms. Escobar		x					
Ms. Haaland		x					
Mr. Golden		x					
Mrs. Trahan		x					
Mrs. Luria	x						
Roll Call Vote Total:	**27**	**30**	**0**				

COMMITTEE ON ARMED SERVICES

ROLL CALL VOTE NO. 3

H.R. 2500

On Speier Log 043—Requires Marine Corps to gender integrate basic training at Parris Island within 5 years and San Diego within 8 years.

Member	Aye	No	Present	Member	Aye	No	Present
Mr. Smith	x			Mr. Thornberry		x	
Mrs. Davis	x			Mr. Wilson		x	
Mr. Langevin	x			Mr. Bishop		x	
Mr. Larsen	x			Mr. Turner		x	
Mr. Cooper	x			Mr. Rogers		x	
Mr. Courtney	x			Mr. Conaway		x	
Mr. Garamendi	x			Mr. Lamborn		x	
Ms. Speier	x			Mr. Wittman		x	
Ms. Gabbard	x			Mrs. Hartzler		x	
Mr. Norcross	x			Mr. Scott		x	
Mr. Gallego	x			Mr. Brooks		x	
Mr. Moulton	x			Mr. Cook		x	
Mr. Carbajal	x			Mr. Byrne		x	
Mr. Brown	x			Mr. Graves		x	
Mr. Khanna	x			Ms. Stefanik		x	
Mr. Keating	x			Dr. DesJarlais		x	
Mr. Vela	x			Dr. Abraham		x	
Mr. Kim	x			Mr. Kelly		x	
Ms. Horn	x			Mr. Gallagher		x	
Mr. Cisneros	x			Mr. Gaetz		x	
Ms. Houlahan	x			Mr. Bacon		x	
Mr. Crow	x			Mr. Banks		x	
Ms. Torres Small	x			Ms. Cheney		x	
Ms. Slotkin	x			Mr. Mitchell		x	
Ms. Sherrill	x			Mr. Bergman		x	
Ms. Hill	x			Mr. Waltz		x	
Ms. Escobar	x						
Ms. Haaland	x						
Mr. Golden	x						
Mrs. Trahan	x						
Mrs. Luria	x						
Roll Call Vote Total:	**31**	**26**	**0**				

COMMITTEE ON ARMED SERVICES

ROLL CALL VOTE NO. 4

H.R. 2500

On Cheney Log 406—Strike section 1646.

Member	Aye	No	Present	Member	Aye	No	Present
Mr. Smith		x		Mr. Thornberry	x		
Mrs. Davis		x		Mr. Wilson	x		
Mr. Langevin		x		Mr. Bishop	x		
Mr. Larsen		x		Mr. Turner	x		
Mr. Cooper		x		Mr. Rogers	x		
Mr. Courtney		x		Mr. Conaway	x		
Mr. Garamendi		x		Mr. Lamborn	x		
Ms. Speier		x		Mr. Wittman	x		
Ms. Gabbard		x		Mrs. Hartzler	x		
Mr. Norcross		x		Mr. Scott	x		
Mr. Gallego		x		Mr. Brooks	x		
Mr. Moulton		x		Mr. Cook	x		
Mr. Carbajal		x		Mr. Byrne	x		
Mr. Brown		x		Mr. Graves	x		
Mr. Khanna				Ms. Stefanik	x		
Mr. Keating		x		Dr. DesJarlais	x		
Mr. Vela		x		Dr. Abraham	x		
Mr. Kim		x		Mr. Kelly	x		
Ms. Horn		x		Mr. Gallagher	x		
Mr. Cisneros		x		Mr. Gaetz	x		
Ms. Houlahan		x		Mr. Bacon	x		
Mr. Crow		x		Mr. Banks	x		
Ms. Torres Small		x		Ms. Cheney	x		
Ms. Slotkin		x		Mr. Mitchell	x		
Ms. Sherrill		x		Mr. Bergman	x		
Ms. Hill		x		Mr. Waltz	x		
Ms. Escobar		x					
Ms. Haaland		x					
Mr. Golden		x					
Mrs. Trahan		x					
Mrs. Luria		x					
Roll Call Vote Total:	**26**	**30**	**0**				

COMMITTEE ON ARMED SERVICES

ROLL CALL VOTE NO. 5

H.R. 2500

On Cheney Log 397r1—Restores funding for low-yield nuclear weapons.

Member	Aye	No	Present	Member	Aye	No	Present
Mr. Smith		x		Mr. Thornberry	x		
Mrs. Davis		x		Mr. Wilson	x		
Mr. Langevin		x		Mr. Bishop	x		
Mr. Larsen		x		Mr. Turner	x		
Mr. Cooper		x		Mr. Rogers	x		
Mr. Courtney		x		Mr. Conaway	x		
Mr. Garamendi		x		Mr. Lamborn	x		
Ms. Speier		x		Mr. Wittman	x		
Ms. Gabbard		x		Mrs. Hartzler	x		
Mr. Norcross		x		Mr. Scott	x		
Mr. Gallego		x		Mr. Brooks	x		
Mr. Moulton		x		Mr. Cook	x		
Mr. Carbajal		x		Mr. Byrne	x		
Mr. Brown		x		Mr. Graves	x		
Mr. Khanna				Ms. Stefanik	x		
Mr. Keating		x		Dr. DesJarlais	x		
Mr. Vela		x		Dr. Abraham	x		
Mr. Kim		x		Mr. Kelly	x		
Ms. Horn		x		Mr. Gallagher	x		
Mr. Cisneros		x		Mr. Gaetz	x		
Ms. Houlahan		x		Mr. Bacon	x		
Mr. Crow		x		Mr. Banks	x		
Ms. Torres Small		x		Ms. Cheney	x		
Ms. Slotkin		x		Mr. Mitchell	x		
Ms. Sherrill		x		Mr. Bergman	x		
Ms. Hill		x		Mr. Waltz	x		
Ms. Escobar		x					
Ms. Haaland		x					
Mr. Golden		x					
Mrs. Trahan		x					
Mrs. Luria		x					
Roll Call Vote Total:	**26**	**30**	**0**				

COMMITTEE ON ARMED SERVICES

ROLL CALL VOTE NO. 6

H.R. 2500

On Wilson Log 426—Strikes section 3114 (relating to modification to plutonium pit production capacity).

Member	Aye	No	Present	Member	Aye	No	Present
Mr. Smith		x		Mr. Thornberry	x		
Mrs. Davis		x		Mr. Wilson	x		
Mr. Langevin		x		Mr. Bishop	x		
Mr. Larsen		x		Mr. Turner	x		
Mr. Cooper		x		Mr. Rogers	x		
Mr. Courtney		x		Mr. Conaway	x		
Mr. Garamendi		x		Mr. Lamborn	x		
Ms. Speier		x		Mr. Wittman	x		
Ms. Gabbard		x		Mrs. Hartzler	x		
Mr. Norcross		x		Mr. Scott	x		
Mr. Gallego		x		Mr. Brooks	x		
Mr. Moulton		x		Mr. Cook	x		
Mr. Carbajal		x		Mr. Byrne	x		
Mr. Brown		x		Mr. Graves	x		
Mr. Khanna				Ms. Stefanik	x		
Mr. Keating		x		Dr. DesJarlais	x		
Mr. Vela		x		Dr. Abraham	x		
Mr. Kim		x		Mr. Kelly	x		
Ms. Horn		x		Mr. Gallagher	x		
Mr. Cisneros		x		Mr. Gaetz	x		
Ms. Houlahan		x		Mr. Bacon	x		
Mr. Crow		x		Mr. Banks	x		
Ms. Torres Small		x		Ms. Cheney	x		
Ms. Slotkin		x		Mr. Mitchell	x		
Ms. Sherrill		x		Mr. Bergman	x		
Ms. Hill		x		Mr. Waltz	x		
Ms. Escobar		x					
Ms. Haaland		x					
Mr. Golden		x					
Mrs. Trahan		x					
Mrs. Luria		x					
Roll Call Vote Total:	**26**	**30**	**0**				

COMMITTEE ON ARMED SERVICES

ROLL CALL VOTE NO. 7

H.R. 2500

On Turner Log 003—Strikes section 1664.

Member	Aye	No	Present	Member	Aye	No	Present
Mr. Smith		x		Mr. Thornberry	x		
Mrs. Davis		x		Mr. Wilson	x		
Mr. Langevin		x		Mr. Bishop	x		
Mr. Larsen		x		Mr. Turner	x		
Mr. Cooper		x		Mr. Rogers	x		
Mr. Courtney		x		Mr. Conaway	x		
Mr. Garamendi		x		Mr. Lamborn	x		
Ms. Speier		x		Mr. Wittman	x		
Ms. Gabbard		x		Mrs. Hartzler	x		
Mr. Norcross		x		Mr. Scott	x		
Mr. Gallego		x		Mr. Brooks	x		
Mr. Moulton	x			Mr. Cook	x		
Mr. Carbajal		x		Mr. Byrne	x		
Mr. Brown		x		Mr. Graves	x		
Mr. Khanna				Ms. Stefanik	x		
Mr. Keating		x		Dr. DesJarlais	x		
Mr. Vela		x		Dr. Abraham	x		
Mr. Kim		x		Mr. Kelly	x		
Ms. Horn	x			Mr. Gallagher	x		
Mr. Cisneros		x		Mr. Gaetz	x		
Ms. Houlahan	x			Mr. Bacon	x		
Mr. Crow		x		Mr. Banks	x		
Ms. Torres Small		x		Ms. Cheney	x		
Ms. Slotkin	x			Mr. Mitchell	x		
Ms. Sherrill	x			Mr. Bergman	x		
Ms. Hill		x		Mr. Waltz	x		
Ms. Escobar		x					
Ms. Haaland		x					
Mr. Golden	x						
Mrs. Trahan		x					
Mrs. Luria		x					
Roll Call Vote Total:	**32**	**24**	**0**				

COMMITTEE ON ARMED SERVICES

ROLL CALL VOTE NO. 8

H.R. 2500

On the Motion to Adopt the Subcommittee on Strategic Forces Mark.

Member	Aye	No	Present	Member	Aye	No	Present
Mr. Smith	x			Mr. Thornberry		x	
Mrs. Davis	x			Mr. Wilson		x	
Mr. Langevin	x			Mr. Bishop		x	
Mr. Larsen	x			Mr. Turner		x	
Mr. Cooper	x			Mr. Rogers		x	
Mr. Courtney	x			Mr. Conaway		x	
Mr. Garamendi	x			Mr. Lamborn		x	
Ms. Speier	x			Mr. Wittman		x	
Ms. Gabbard	x			Mrs. Hartzler		x	
Mr. Norcross	x			Mr. Scott		x	
Mr. Gallego	x			Mr. Brooks		x	
Mr. Moulton	x			Mr. Cook		x	
Mr. Carbajal	x			Mr. Byrne		x	
Mr. Brown	x			Mr. Graves		x	
Mr. Khanna				Ms. Stefanik		x	
Mr. Keating				Dr. DesJarlais		x	
Mr. Vela	x			Dr. Abraham		x	
Mr. Kim	x			Mr. Kelly		x	
Ms. Horn	x			Mr. Gallagher		x	
Mr. Cisneros	x			Mr. Gaetz			
Ms. Houlahan	x			Mr. Bacon		x	
Mr. Crow	x			Mr. Banks			
Ms. Torres Small	x			Ms. Cheney		x	
Ms. Slotkin	x			Mr. Mitchell		x	
Ms. Sherrill	x			Mr. Bergman		x	
Ms. Hill	x			Mr. Waltz		x	
Ms. Escobar	x						
Ms. Haaland	x						
Mr. Golden	x						
Mrs. Trahan	x						
Mrs. Luria	x						
Roll Call Vote Total:	**29**	**24**	**0**				

COMMITTEE ON ARMED SERVICES

ROLL CALL VOTE NO. 9

H.R. 2500

On Hartzler Log 509—Substitute to Log 160 Speier—Clarifies that the Secretary will provide pregnant women with pregnancy support services. The revision provides a definition for pregnancy support services.

Member	Aye	No	Present	Member	Aye	No	Present
Mr. Smith		x		Mr. Thornberry	x		
Mrs. Davis		x		Mr. Wilson	x		
Mr. Langevin		x		Mr. Bishop	x		
Mr. Larsen		x		Mr. Turner	x		
Mr. Cooper		x		Mr. Rogers	x		
Mr. Courtney		x		Mr. Conaway	x		
Mr. Garamendi		x		Mr. Lamborn	x		
Ms. Speier		x		Mr. Wittman	x		
Ms. Gabbard		x		Mrs. Hartzler	x		
Mr. Norcross		x		Mr. Scott	x		
Mr. Gallego		x		Mr. Brooks	x		
Mr. Moulton		x		Mr. Cook	x		
Mr. Carbajal		x		Mr. Byrne	x		
Mr. Brown		x		Mr. Graves	x		
Mr. Khanna		x		Ms. Stefanik	x		
Mr. Keating		x		Dr. DesJarlais	x		
Mr. Vela		x		Dr. Abraham	x		
Mr. Kim		x		Mr. Kelly	x		
Ms. Horn		x		Mr. Gallagher	x		
Mr. Cisneros		x		Mr. Gaetz	x		
Ms. Houlahan		x		Mr. Bacon	x		
Mr. Crow		x		Mr. Banks	x		
Ms. Torres Small		x		Ms. Cheney	x		
Ms. Slotkin		x		Mr. Mitchell		x	
Ms. Sherrill		x		Mr. Bergman	x		
Ms. Hill		x		Mr. Waltz	x		
Ms. Escobar		x					
Ms. Haaland		x					
Mr. Golden		x					
Mrs. Trahan		x					
Mrs. Luria		x					
Roll Call Vote Total:	**25**	**32**	**0**				

COMMITTEE ON ARMED SERVICES

ROLL CALL VOTE NO. 10

H.R. 2500

On Thornberry Log 507—Substitute to Log 332 Khanna—Provides guidance on price reasonableness for certain high-risk parts.

Member	Aye	No	Present	Member	Aye	No	Present
Mr. Smith		x		Mr. Thornberry	x		
Mrs. Davis		x		Mr. Wilson	x		
Mr. Langevin		x		Mr. Bishop	x		
Mr. Larsen		x		Mr. Turner	x		
Mr. Cooper		x		Mr. Rogers	x		
Mr. Courtney		x		Mr. Conaway	x		
Mr. Garamendi		x		Mr. Lamborn	x		
Ms. Speier		x		Mr. Wittman	x		
Ms. Gabbard		x		Mrs. Hartzler	x		
Mr. Norcross		x		Mr. Scott	x		
Mr. Gallego		x		Mr. Brooks	x		
Mr. Moulton		x		Mr. Cook	x		
Mr. Carbajal		x		Mr. Byrne	x		
Mr. Brown		x		Mr. Graves	x		
Mr. Khanna		x		Ms. Stefanik	x		
Mr. Keating		x		Dr. DesJarlais	x		
Mr. Vela		x		Dr. Abraham	x		
Mr. Kim		x		Mr. Kelly	x		
Ms. Horn		x		Mr. Gallagher	x		
Mr. Cisneros		x		Mr. Gaetz	x		
Ms. Houlahan		x		Mr. Bacon	x		
Mr. Crow		x		Mr. Banks	x		
Ms. Torres Small	x			Ms. Cheney	x		
Ms. Slotkin	x			Mr. Mitchell	x		
Ms. Sherrill		x		Mr. Bergman	x		
Ms. Hill		x		Mr. Waltz	x		
Ms. Escobar		x					
Ms. Haaland		x					
Mr. Golden		x					
Mrs. Trahan		x					
Mrs. Luria		x					
Roll Call Vote Total:	**28**	**29**	**0**				

COMMITTEE ON ARMED SERVICES

ROLL CALL VOTE NO. 11

H.R. 2500

On Escobar Log 514—Substitute to Log 250 Rogers—Substitutes ban on transfer of GTMO detainees to Mexico, Honduras, Guatemala, El Salvador, and Venezuela for a report.

Member	Aye	No	Present	Member	Aye	No	Present
Mr. Smith	x			Mr. Thornberry		x	
Mrs. Davis	x			Mr. Wilson		x	
Mr. Langevin				Mr. Bishop		x	
Mr. Larsen	x			Mr. Turner		x	
Mr. Cooper	x			Mr. Rogers		x	
Mr. Courtney	x			Mr. Conaway		x	
Mr. Garamendi	x			Mr. Lamborn		x	
Ms. Speier	x			Mr. Wittman		x	
Ms. Gabbard	x			Mrs. Hartzler		x	
Mr. Norcross	x			Mr. Scott		x	
Mr. Gallego	x			Mr. Brooks		x	
Mr. Moulton	x			Mr. Cook		x	
Mr. Carbajal	x			Mr. Byrne		x	
Mr. Brown	x			Mr. Graves		x	
Mr. Khanna	x			Ms. Stefanik		x	
Mr. Keating	x			Dr. DesJarlais		x	
Mr. Vela	x			Dr. Abraham		x	
Mr. Kim	x			Mr. Kelly		x	
Ms. Horn	x			Mr. Gallagher		x	
Mr. Cisneros	x			Mr. Gaetz		x	
Ms. Houlahan	x			Mr. Bacon		x	
Mr. Crow	x			Mr. Banks		x	
Ms. Torres Small	x			Ms. Cheney		x	
Ms. Slotkin		x		Mr. Mitchell		x	
Ms. Sherrill	x			Mr. Bergman		x	
Ms. Hill	x			Mr. Waltz		x	
Ms. Escobar	x						
Ms. Haaland	x						
Mr. Golden	x						
Mrs. Trahan	x						
Mrs. Luria		x					
Roll Call Vote Total:	**28**	**28**	**0**				

COMMITTEE ON ARMED SERVICES

ROLL CALL VOTE NO. 12

H.R. 2500

On Khanna Log 511—Substitute to Log 389 Lamborn—Would require a study on alternatives to meet the near-term facility requirements to house high value detainees. It requires this report to be completed in 120 days.

Member	Aye	No	Present	Member	Aye	No	Present
Mr. Smith	x			Mr. Thornberry		x	
Mrs. Davis	x			Mr. Wilson		x	
Mr. Langevin	x			Mr. Bishop		x	
Mr. Larsen	x			Mr. Turner		x	
Mr. Cooper	x			Mr. Rogers		x	
Mr. Courtney	x			Mr. Conaway		x	
Mr. Garamendi	x			Mr. Lamborn		x	
Ms. Speier	x			Mr. Wittman		x	
Ms. Gabbard	x			Mrs. Hartzler		x	
Mr. Norcross	x			Mr. Scott		x	
Mr. Gallego	x			Mr. Brooks		x	
Mr. Moulton	x			Mr. Cook		x	
Mr. Carbajal	x			Mr. Byrne		x	
Mr. Brown	x			Mr. Graves		x	
Mr. Khanna	x			Ms. Stefanik		x	
Mr. Keating	x			Dr. DesJarlais		x	
Mr. Vela	x			Dr. Abraham		x	
Mr. Kim	x			Mr. Kelly		x	
Ms. Horn	x			Mr. Gallagher		x	
Mr. Cisneros	x			Mr. Gaetz		x	
Ms. Houlahan	x			Mr. Bacon		x	
Mr. Crow	x			Mr. Banks		x	
Ms. Torres Small	x			Ms. Cheney		x	
Ms. Slotkin	x			Mr. Mitchell		x	
Ms. Sherrill	x			Mr. Bergman		x	
Ms. Hill	x			Mr. Waltz		x	
Ms. Escobar	x						
Ms. Haaland	x						
Mr. Golden	x						
Mrs. Trahan	x						
Mrs. Luria	x						
Roll Call Vote Total:	**31**	**26**	**0**				

COMMITTEE ON ARMED SERVICES

ROLL CALL VOTE NO. 13

H.R. 2500

On Lamborn Log 500—Requires report by SECDEF on how implementing net-zero emissions and implementing the Green New Deal will affect military readiness.

Member	Aye	No	Present	Member	Aye	No	Present
Mr. Smith		x		Mr. Thornberry	x		
Mrs. Davis		x		Mr. Wilson	x		
Mr. Langevin		x		Mr. Bishop	x		
Mr. Larsen		x		Mr. Turner	x		
Mr. Cooper		x		Mr. Rogers	x		
Mr. Courtney		x		Mr. Conaway	x		
Mr. Garamendi		x		Mr. Lamborn	x		
Ms. Speier		x		Mr. Wittman	x		
Ms. Gabbard		x		Mrs. Hartzler	x		
Mr. Norcross		x		Mr. Scott	x		
Mr. Gallego		x		Mr. Brooks	x		
Mr. Moulton		x		Mr. Cook	x		
Mr. Carbajal		x		Mr. Byrne	x		
Mr. Brown		x		Mr. Graves	x		
Mr. Khanna		x		Ms. Stefanik	x		
Mr. Keating		x		Dr. DesJarlais	x		
Mr. Vela		x		Dr. Abraham	x		
Mr. Kim		x		Mr. Kelly	x		
Ms. Horn	x			Mr. Gallagher	x		
Mr. Cisneros		x		Mr. Gaetz	x		
Ms. Houlahan		x		Mr. Bacon	x		
Mr. Crow		x		Mr. Banks	x		
Ms. Torres Small	x			Ms. Cheney	x		
Ms. Slotkin	x			Mr. Mitchell	x		
Ms. Sherrill	x			Mr. Bergman	x		
Ms. Hill		x		Mr. Waltz	x		
Ms. Escobar		x					
Ms. Haaland		x					
Mr. Golden	x						
Mrs. Trahan		x					
Mrs. Luria		x					
Roll Call Vote Total:	**31**	**26**	**0**				

COMMITTEE ON ARMED SERVICES

ROLL CALL VOTE NO. 14

H.R. 2500

On Luria Log 376—Reduces the $20 million addition for low enriched uranium (LEU) and moves the $20 million authorization of appropriations to USS Boise submarine availability associated with Ship Depot Maintenance.

Member	Aye	No	Present	Member	Aye	No	Present
Mr. Smith		x		Mr. Thornberry	x		
Mrs. Davis	x			Mr. Wilson	x		
Mr. Langevin		x		Mr. Bishop	x		
Mr. Larsen		x		Mr. Turner	x		
Mr. Cooper	x			Mr. Rogers	x		
Mr. Courtney		x		Mr. Conaway	x		
Mr. Garamendi		x		Mr. Lamborn	x		
Ms. Speier		x		Mr. Wittman	x		
Ms. Gabbard		x		Mrs. Hartzler	x		
Mr. Norcross		x		Mr. Scott	x		
Mr. Gallego		x		Mr. Brooks	x		
Mr. Moulton	x			Mr. Cook	x		
Mr. Carbajal		x		Mr. Byrne	x		
Mr. Brown	x			Mr. Graves	x		
Mr. Khanna		x		Ms. Stefanik	x		
Mr. Keating		x		Dr. DesJarlais	x		
Mr. Vela		x		Dr. Abraham	x		
Mr. Kim		x		Mr. Kelly	x		
Ms. Horn	x			Mr. Gallagher	x		
Mr. Cisneros		x		Mr. Gaetz		x	
Ms. Houlahan		x		Mr. Bacon	x		
Mr. Crow		x		Mr. Banks	x		
Ms. Torres Small		x		Ms. Cheney	x		
Ms. Slotkin		x		Mr. Mitchell	x		
Ms. Sherrill	x			Mr. Bergman	x		
Ms. Hill	x			Mr. Waltz	x		
Ms. Escobar		x					
Ms. Haaland		x					
Mr. Golden		x					
Mrs. Trahan		x					
Mrs. Luria	x						
Roll Call Vote Total:	**33**	**24**	**0**				

COMMITTEE ON ARMED SERVICES

ROLL CALL VOTE NO. 15

H.R. 2500

On Gabbard Log 138r1—Codifies President Obama's executive order from July 1, 2016, requiring reporting on civilian casualties in U.S. operations involving use of force.

Member	Aye	No	Present	Member	Aye	No	Present
Mr. Smith	x			Mr. Thornberry		x	
Mrs. Davis	x			Mr. Wilson		x	
Mr. Langevin	x			Mr. Bishop		x	
Mr. Larsen	x			Mr. Turner		x	
Mr. Cooper	x			Mr. Rogers		x	
Mr. Courtney	x			Mr. Conaway		x	
Mr. Garamendi	x			Mr. Lamborn		x	
Ms. Speier	x			Mr. Wittman		x	
Ms. Gabbard	x			Mrs. Hartzler		x	
Mr. Norcross	x			Mr. Scott		x	
Mr. Gallego	x			Mr. Brooks		x	
Mr. Moulton	x			Mr. Cook		x	
Mr. Carbajal	x			Mr. Byrne		x	
Mr. Brown	x			Mr. Graves		x	
Mr. Khanna	x			Ms. Stefanik		x	
Mr. Keating	x			Dr. DesJarlais		x	
Mr. Vela	x			Dr. Abraham		x	
Mr. Kim	x			Mr. Kelly		x	
Ms. Horn	x			Mr. Gallagher		x	
Mr. Cisneros	x			Mr. Gaetz		x	
Ms. Houlahan	x			Mr. Bacon		x	
Mr. Crow	x			Mr. Banks		x	
Ms. Torres Small	x			Ms. Cheney		x	
Ms. Slotkin		x		Mr. Mitchell		x	
Ms. Sherrill	x			Mr. Bergman		x	
Ms. Hill	x			Mr. Waltz		x	
Ms. Escobar	x						
Ms. Haaland	x						
Mr. Golden	x						
Mrs. Trahan	x						
Mrs. Luria		x					
Roll Call Vote Total:	**29**	**28**	**0**				

COMMITTEE ON ARMED SERVICES

ROLL CALL VOTE NO. 16

H.R. 2500

On Waltz Log 285—Strikes section 1033.

Member	Aye	No	Present	Member	Aye	No	Present
Mr. Smith		x		Mr. Thornberry	x		
Mrs. Davis		x		Mr. Wilson	x		
Mr. Langevin		x		Mr. Bishop	x		
Mr. Larsen		x		Mr. Turner	x		
Mr. Cooper		x		Mr. Rogers	x		
Mr. Courtney		x		Mr. Conaway	x		
Mr. Garamendi		x		Mr. Lamborn	x		
Ms. Speier		x		Mr. Wittman	x		
Ms. Gabbard		x		Mrs. Hartzler	x		
Mr. Norcross		x		Mr. Scott	x		
Mr. Gallego		x		Mr. Brooks	x		
Mr. Moulton		x		Mr. Cook	x		
Mr. Carbajal		x		Mr. Byrne	x		
Mr. Brown		x		Mr. Graves	x		
Mr. Khanna		x		Ms. Stefanik	x		
Mr. Keating		x		Dr. DesJarlais	x		
Mr. Vela		x		Dr. Abraham	x		
Mr. Kim		x		Mr. Kelly	x		
Ms. Horn		x		Mr. Gallagher	x		
Mr. Cisneros		x		Mr. Gaetz	x		
Ms. Houlahan		x		Mr. Bacon	x		
Mr. Crow		x		Mr. Banks	x		
Ms. Torres Small		x		Ms. Cheney	x		
Ms. Slotkin		x		Mr. Mitchell	x		
Ms. Sherrill		x		Mr. Bergman	x		
Ms. Hill		x		Mr. Waltz	x		
Ms. Escobar		x					
Ms. Haaland		x					
Mr. Golden		x					
Mrs. Trahan		x					
Mrs. Luria		x					
Roll Call Vote Total:	**26**	**31**	**0**				

COMMITTEE ON ARMED SERVICES

ROLL CALL VOTE NO. 17

H.R. 2500

On Byrne Log 255—Prohibits the authorization of funds to transfer or release of individuals detained at GTMO to the United States.

Member	Aye	No	Present	Member	Aye	No	Present
Mr. Smith		x		Mr. Thornberry	x		
Mrs. Davis		x		Mr. Wilson	x		
Mr. Langevin		x		Mr. Bishop	x		
Mr. Larsen		x		Mr. Turner	x		
Mr. Cooper		x		Mr. Rogers	x		
Mr. Courtney		x		Mr. Conaway	x		
Mr. Garamendi		x		Mr. Lamborn	x		
Ms. Speier		x		Mr. Wittman	x		
Ms. Gabbard		x		Mrs. Hartzler	x		
Mr. Norcross		x		Mr. Scott	x		
Mr. Gallego		x		Mr. Brooks	x		
Mr. Moulton		x		Mr. Cook	x		
Mr. Carbajal		x		Mr. Byrne	x		
Mr. Brown		x		Mr. Graves	x		
Mr. Khanna		x		Ms. Stefanik	x		
Mr. Keating		x		Dr. DesJarlais	x		
Mr. Vela		x		Dr. Abraham	x		
Mr. Kim		x		Mr. Kelly	x		
Ms. Horn		x		Mr. Gallagher	x		
Mr. Cisneros		x		Mr. Gaetz	x		
Ms. Houlahan		x		Mr. Bacon	x		
Mr. Crow		x		Mr. Banks	x		
Ms. Torres Small		x		Ms. Cheney	x		
Ms. Slotkin		x		Mr. Mitchell	x		
Ms. Sherrill		x		Mr. Bergman	x		
Ms. Hill		x		Mr. Waltz	x		
Ms. Escobar		x					
Ms. Haaland		x					
Mr. Golden		x					
Mrs. Trahan		x					
Mrs. Luria		x					
Roll Call Vote Total:	**26**	**31**	**0**				

COMMITTEE ON ARMED SERVICES

ROLL CALL VOTE NO. 18

H.R. 2500

On Banks Log 151—Prohibits funds to be used to construct or modify facilities in the U.S. to house detainees transferred from GTMO.

Member	Aye	No	Present	Member	Aye	No	Present
Mr. Smith		x		Mr. Thornberry	x		
Mrs. Davis		x		Mr. Wilson	x		
Mr. Langevin		x		Mr. Bishop	x		
Mr. Larsen		x		Mr. Turner	x		
Mr. Cooper		x		Mr. Rogers	x		
Mr. Courtney		x		Mr. Conaway	x		
Mr. Garamendi		x		Mr. Lamborn	x		
Ms. Speier		x		Mr. Wittman	x		
Ms. Gabbard		x		Mrs. Hartzler	x		
Mr. Norcross		x		Mr. Scott	x		
Mr. Gallego		x		Mr. Brooks	x		
Mr. Moulton		x		Mr. Cook	x		
Mr. Carbajal		x		Mr. Byrne	x		
Mr. Brown		x		Mr. Graves	x		
Mr. Khanna		x		Ms. Stefanik	x		
Mr. Keating		x		Dr. DesJarlais	x		
Mr. Vela		x		Dr. Abraham	x		
Mr. Kim		x		Mr. Kelly	x		
Ms. Horn		x		Mr. Gallagher	x		
Mr. Cisneros		x		Mr. Gaetz	x		
Ms. Houlahan		x		Mr. Bacon	x		
Mr. Crow		x		Mr. Banks	x		
Ms. Torres Small		x		Ms. Cheney	x		
Ms. Slotkin		x		Mr. Mitchell	x		
Ms. Sherrill		x		Mr. Bergman	x		
Ms. Hill		x		Mr. Waltz	x		
Ms. Escobar		x					
Ms. Haaland		x					
Mr. Golden		x					
Mrs. Trahan		x					
Mrs. Luria		x					
Roll Call Vote Total:	**26**	**31**	**0**				

COMMITTEE ON ARMED SERVICES

ROLL CALL VOTE NO. 19

H.R. 2500

On Kelly Log 223—Strikes "recommendations for policy changes, including any recommendations that would require legislative action" from report item, "Independent Study on Detainee Medical Care at United States Naval Station, GITMO."

Member	Aye	No	Present	Member	Aye	No	Present
Mr. Smith		x		Mr. Thornberry	x		
Mrs. Davis		x		Mr. Wilson	x		
Mr. Langevin		x		Mr. Bishop	x		
Mr. Larsen		x		Mr. Turner	x		
Mr. Cooper		x		Mr. Rogers	x		
Mr. Courtney		x		Mr. Conaway	x		
Mr. Garamendi		x		Mr. Lamborn	x		
Ms. Speier		x		Mr. Wittman	x		
Ms. Gabbard		x		Mrs. Hartzler	x		
Mr. Norcross		x		Mr. Scott	x		
Mr. Gallego		x		Mr. Brooks	x		
Mr. Moulton		x		Mr. Cook	x		
Mr. Carbajal		x		Mr. Byrne	x		
Mr. Brown		x		Mr. Graves	x		
Mr. Khanna		x		Ms. Stefanik	x		
Mr. Keating		x		Dr. DesJarlais	x		
Mr. Vela		x		Dr. Abraham	x		
Mr. Kim		x		Mr. Kelly	x		
Ms. Horn		x		Mr. Gallagher	x		
Mr. Cisneros		x		Mr. Gaetz	x		
Ms. Houlahan		x		Mr. Bacon	x		
Mr. Crow		x		Mr. Banks	x		
Ms. Torres Small		x		Ms. Cheney	x		
Ms. Slotkin		x		Mr. Mitchell	x		
Ms. Sherrill		x		Mr. Bergman	x		
Ms. Hill		x		Mr. Waltz	x		
Ms. Escobar		x					
Ms. Haaland		x					
Mr. Golden		x					
Mrs. Trahan		x					
Mrs. Luria		x					
Roll Call Vote Total:	**26**	**31**	**0**				

COMMITTEE ON ARMED SERVICES

ROLL CALL VOTE NO. 20

H.R. 2500

On Rogers Log 250—Prohibition on transfer of GTMO detainees to Mexico, Guatemala, Honduras, El Salvador, and Venezuela.

Member	Aye	No	Present	Member	Aye	No	Present
Mr. Smith		x		Mr. Thornberry	x		
Mrs. Davis		x		Mr. Wilson	x		
Mr. Langevin		x		Mr. Bishop	x		
Mr. Larsen		x		Mr. Turner	x		
Mr. Cooper		x		Mr. Rogers	x		
Mr. Courtney		x		Mr. Conaway	x		
Mr. Garamendi		x		Mr. Lamborn	x		
Ms. Speier		x		Mr. Wittman	x		
Ms. Gabbard		x		Mrs. Hartzler	x		
Mr. Norcross		x		Mr. Scott	x		
Mr. Gallego		x		Mr. Brooks	x		
Mr. Moulton		x		Mr. Cook	x		
Mr. Carbajal		x		Mr. Byrne	x		
Mr. Brown		x		Mr. Graves	x		
Mr. Khanna		x		Ms. Stefanik	x		
Mr. Keating		x		Dr. DesJarlais	x		
Mr. Vela		x		Dr. Abraham	x		
Mr. Kim		x		Mr. Kelly	x		
Ms. Horn		x		Mr. Gallagher	x		
Mr. Cisneros		x		Mr. Gaetz	x		
Ms. Houlahan	x			Mr. Bacon	x		
Mr. Crow		x		Mr. Banks	x		
Ms. Torres Small	x			Ms. Cheney	x		
Ms. Slotkin	x			Mr. Mitchell	x		
Ms. Sherrill		x		Mr. Bergman	x		
Ms. Hill		x		Mr. Waltz	x		
Ms. Escobar		x					
Ms. Haaland		x					
Mr. Golden		x					
Mrs. Trahan		x					
Mrs. Luria		x					
Roll Call Vote Total:	**29**	**28**	**0**				

COMMITTEE ON ARMED SERVICES

ROLL CALL VOTE NO. 21

H.R. 2500

On Rogers Log 245—Strikes section 1046.

Member	Aye	No	Present	Member	Aye	No	Present
Mr. Smith		x		Mr. Thornberry	x		
Mrs. Davis		x		Mr. Wilson	x		
Mr. Langevin		x		Mr. Bishop	x		
Mr. Larsen		x		Mr. Turner	x		
Mr. Cooper		x		Mr. Rogers	x		
Mr. Courtney		x		Mr. Conaway	x		
Mr. Garamendi		x		Mr. Lamborn	x		
Ms. Speier		x		Mr. Wittman	x		
Ms. Gabbard		x		Mrs. Hartzler	x		
Mr. Norcross		x		Mr. Scott	x		
Mr. Gallego		x		Mr. Brooks	x		
Mr. Moulton		x		Mr. Cook	x		
Mr. Carbajal		x		Mr. Byrne	x		
Mr. Brown		x		Mr. Graves	x		
Mr. Khanna		x		Ms. Stefanik	x		
Mr. Keating		x		Dr. DesJarlais	x		
Mr. Vela		x		Dr. Abraham	x		
Mr. Kim		x		Mr. Kelly	x		
Ms. Horn		x		Mr. Gallagher	x		
Mr. Cisneros		x		Mr. Gaetz	x		
Ms. Houlahan		x		Mr. Bacon	x		
Mr. Crow		x		Mr. Banks	x		
Ms. Torres Small		x		Ms. Cheney	x		
Ms. Slotkin		x		Mr. Mitchell	x		
Ms. Sherrill		x		Mr. Bergman	x		
Ms. Hill		x		Mr. Waltz	x		
Ms. Escobar		x					
Ms. Haaland		x					
Mr. Golden		x					
Mrs. Trahan		x					
Mrs. Luria		x					
Roll Call Vote Total:	**26**	**31**	**0**				

COMMITTEE ON ARMED SERVICES

ROLL CALL VOTE NO. 22

H.R. 2500

On Rogers Log 247—Strikes section 2802.

Member	Aye	No	Present	Member	Aye	No	Present
Mr. Smith		x		Mr. Thornberry	x		
Mrs. Davis		x		Mr. Wilson	x		
Mr. Langevin		x		Mr. Bishop	x		
Mr. Larsen		x		Mr. Turner	x		
Mr. Cooper		x		Mr. Rogers	x		
Mr. Courtney		x		Mr. Conaway	x		
Mr. Garamendi		x		Mr. Lamborn	x		
Ms. Speier		x		Mr. Wittman	x		
Ms. Gabbard		x		Mrs. Hartzler	x		
Mr. Norcross		x		Mr. Scott	x		
Mr. Gallego		x		Mr. Brooks	x		
Mr. Moulton		x		Mr. Cook	x		
Mr. Carbajal		x		Mr. Byrne	x		
Mr. Brown		x		Mr. Graves	x		
Mr. Khanna		x		Ms. Stefanik	x		
Mr. Keating		x		Dr. DesJarlais	x		
Mr. Vela		x		Dr. Abraham	x		
Mr. Kim		x		Mr. Kelly	x		
Ms. Horn		x		Mr. Gallagher	x		
Mr. Cisneros		x		Mr. Gaetz	x		
Ms. Houlahan		x		Mr. Bacon	x		
Mr. Crow		x		Mr. Banks	x		
Ms. Torres Small		x		Ms. Cheney	x		
Ms. Slotkin		x		Mr. Mitchell	x		
Ms. Sherrill		x		Mr. Bergman	x		
Ms. Hill		x		Mr. Waltz	x		
Ms. Escobar		x					
Ms. Haaland		x					
Mr. Golden		x					
Mrs. Trahan		x					
Mrs. Luria		x					
Roll Call Vote Total:	**26**	**31**	**0**				

COMMITTEE ON ARMED SERVICES

ROLL CALL VOTE NO. 23

H.R. 2500

On Rogers Log 244—Strikes section 1044.

Member	Aye	No	Present	Member	Aye	No	Present
Mr. Smith		x		Mr. Thornberry	x		
Mrs. Davis		x		Mr. Wilson	x		
Mr. Langevin		x		Mr. Bishop	x		
Mr. Larsen		x		Mr. Turner	x		
Mr. Cooper		x		Mr. Rogers	x		
Mr. Courtney		x		Mr. Conaway	x		
Mr. Garamendi		x		Mr. Lamborn	x		
Ms. Speier		x		Mr. Wittman	x		
Ms. Gabbard		x		Mrs. Hartzler	x		
Mr. Norcross		x		Mr. Scott	x		
Mr. Gallego		x		Mr. Brooks	x		
Mr. Moulton		x		Mr. Cook	x		
Mr. Carbajal		x		Mr. Byrne	x		
Mr. Brown		x		Mr. Graves	x		
Mr. Khanna		x		Ms. Stefanik	x		
Mr. Keating		x		Dr. DesJarlais	x		
Mr. Vela		x		Dr. Abraham	x		
Mr. Kim		x		Mr. Kelly	x		
Ms. Horn		x		Mr. Gallagher	x		
Mr. Cisneros		x		Mr. Gaetz	x		
Ms. Houlahan		x		Mr. Bacon	x		
Mr. Crow		x		Mr. Banks	x		
Ms. Torres Small		x		Ms. Cheney	x		
Ms. Slotkin		x		Mr. Mitchell	x		
Ms. Sherrill		x		Mr. Bergman	x		
Ms. Hill		x		Mr. Waltz	x		
Ms. Escobar		x					
Ms. Haaland		x					
Mr. Golden		x					
Mrs. Trahan		x					
Mrs. Luria		x					
Roll Call Vote Total:	**26**	**31**	**0**				

COMMITTEE ON ARMED SERVICES

ROLL CALL VOTE NO. 24

H.R. 2500

On Hartzler Log 229r1—Strikes section 1011.

Member	Aye	No	Present	Member	Aye	No	Present
Mr. Smith		x		Mr. Thornberry	x		
Mrs. Davis		x		Mr. Wilson	x		
Mr. Langevin		x		Mr. Bishop	x		
Mr. Larsen		x		Mr. Turner	x		
Mr. Cooper		x		Mr. Rogers	x		
Mr. Courtney		x		Mr. Conaway	x		
Mr. Garamendi		x		Mr. Lamborn	x		
Ms. Speier		x		Mr. Wittman	x		
Ms. Gabbard		x		Mrs. Hartzler	x		
Mr. Norcross		x		Mr. Scott	x		
Mr. Gallego		x		Mr. Brooks	x		
Mr. Moulton		x		Mr. Cook	x		
Mr. Carbajal		x		Mr. Byrne	x		
Mr. Brown		x		Mr. Graves	x		
Mr. Khanna		x		Ms. Stefanik	x		
Mr. Keating		x		Dr. DesJarlais	x		
Mr. Vela		x		Dr. Abraham	x		
Mr. Kim		x		Mr. Kelly	x		
Ms. Horn		x		Mr. Gallagher	x		
Mr. Cisneros		x		Mr. Gaetz	x		
Ms. Houlahan		x		Mr. Bacon	x		
Mr. Crow		x		Mr. Banks	x		
Ms. Torres Small		x		Ms. Cheney	x		
Ms. Slotkin		x		Mr. Mitchell	x		
Ms. Sherrill		x		Mr. Bergman	x		
Ms. Hill		x		Mr. Waltz	x		
Ms. Escobar		x					
Ms. Haaland		x					
Mr. Golden		x					
Mrs. Trahan		x					
Mrs. Luria		x					
Roll Call Vote Total:	**26**	**31**	**0**				

COMMITTEE ON ARMED SERVICES

ROLL CALL VOTE NO. 25

H.R. 2500

On Thornberry Log 374—Funding table adjustment to restore topline budget in line with 3% to 5% real growth as requested by the Department of Defense and the President's budget request.

Member	Aye	No	Present	Member	Aye	No	Present
Mr. Smith		x		Mr. Thornberry	x		
Mrs. Davis		x		Mr. Wilson	x		
Mr. Langevin		x		Mr. Bishop	x		
Mr. Larsen		x		Mr. Turner	x		
Mr. Cooper		x		Mr. Rogers	x		
Mr. Courtney		x		Mr. Conaway	x		
Mr. Garamendi		x		Mr. Lamborn	x		
Ms. Speier		x		Mr. Wittman	x		
Ms. Gabbard		x		Mrs. Hartzler	x		
Mr. Norcross		x		Mr. Scott	x		
Mr. Gallego		x		Mr. Brooks	x		
Mr. Moulton		x		Mr. Cook	x		
Mr. Carbajal		x		Mr. Byrne	x		
Mr. Brown		x		Mr. Graves	x		
Mr. Khanna		x		Ms. Stefanik	x		
Mr. Keating		x		Dr. DesJarlais	x		
Mr. Vela		x		Dr. Abraham	x		
Mr. Kim		x		Mr. Kelly	x		
Ms. Horn		x		Mr. Gallagher	x		
Mr. Cisneros		x		Mr. Gaetz	x		
Ms. Houlahan		x		Mr. Bacon	x		
Mr. Crow		x		Mr. Banks	x		
Ms. Torres Small		x		Ms. Cheney	x		
Ms. Slotkin		x		Mr. Mitchell	x		
Ms. Sherrill		x		Mr. Bergman	x		
Ms. Hill		x		Mr. Waltz	x		
Ms. Escobar		x					
Ms. Haaland		x					
Mr. Golden		x					
Mrs. Trahan		x					
Mrs. Luria	x						
Roll Call Vote Total:	**27**	**30**	**0**				

COMMITTEE ON ARMED SERVICES

ROLL CALL VOTE NO. 26

H.R. 2500

On the Motion to Adopt the Chairman's Mark.

Member	Aye	No	Present	Member	Aye	No	Present
Mr. Smith	x			Mr. Thornberry		x	
Mrs. Davis	x			Mr. Wilson		x	
Mr. Langevin	x			Mr. Bishop		x	
Mr. Larsen	x			Mr. Turner		x	
Mr. Cooper	x			Mr. Rogers		x	
Mr. Courtney	x			Mr. Conaway		x	
Mr. Garamendi	x			Mr. Lamborn		x	
Ms. Speier	x			Mr. Wittman		x	
Ms. Gabbard	x			Mrs. Hartzler		x	
Mr. Norcross	x			Mr. Scott		x	
Mr. Gallego	x			Mr. Brooks		x	
Mr. Moulton	x			Mr. Cook		x	
Mr. Carbajal	x			Mr. Byrne		x	
Mr. Brown	x			Mr. Graves		x	
Mr. Khanna	x			Ms. Stefanik		x	
Mr. Keating	x			Dr. DesJarlais		x	
Mr. Vela	x			Dr. Abraham		x	
Mr. Kim	x			Mr. Kelly		x	
Ms. Horn	x			Mr. Gallagher		x	
Mr. Cisneros	x			Mr. Gaetz		x	
Ms. Houlahan	x			Mr. Bacon		x	
Mr. Crow	x			Mr. Banks		x	
Ms. Torres Small	x			Ms. Cheney		x	
Ms. Slotkin	x			Mr. Mitchell		x	
Ms. Sherrill	x			Mr. Bergman		x	
Ms. Hill	x			Mr. Waltz		x	
Ms. Escobar	x						
Ms. Haaland	x						
Mr. Golden	x						
Mrs. Trahan	x						
Mrs. Luria	x						
Roll Call Vote Total:	**31**	**26**	**0**				

COMMITTEE ON ARMED SERVICES

ROLL CALL VOTE NO. 27

H.R. 2500

On the Motion to Report the Bill Favorably to the House, As Amended.

Member	Aye	No	Present	Member	Aye	No	Present
Mr. Smith	x			Mr. Thornberry		x	
Mrs. Davis	x			Mr. Wilson		x	
Mr. Langevin	x			Mr. Bishop		x	
Mr. Larsen	x			Mr. Turner		x	
Mr. Cooper	x			Mr. Rogers		x	
Mr. Courtney	x			Mr. Conaway		x	
Mr. Garamendi	x			Mr. Lamborn		x	
Ms. Speier	x			Mr. Wittman		x	
Ms. Gabbard	x			Mrs. Hartzler		x	
Mr. Norcross	x			Mr. Scott		x	
Mr. Gallego	x			Mr. Brooks		x	
Mr. Moulton	x			Mr. Cook		x	
Mr. Carbajal	x			Mr. Byrne		x	
Mr. Brown	x			Mr. Graves		x	
Mr. Khanna	x			Ms. Stefanik	x		
Mr. Keating	x			Dr. DesJarlais		x	
Mr. Vela	x			Dr. Abraham		x	
Mr. Kim	x			Mr. Kelly		x	
Ms. Horn	x			Mr. Gallagher		x	
Mr. Cisneros	x			Mr. Gaetz		x	
Ms. Houlahan	x			Mr. Bacon	x		
Mr. Crow	x			Mr. Banks		x	
Ms. Torres Small	x			Ms. Cheney		x	
Ms. Slotkin	x			Mr. Mitchell		x	
Ms. Sherrill	x			Mr. Bergman		x	
Ms. Hill	x			Mr. Waltz		x	
Ms. Escobar	x						
Ms. Haaland	x						
Mr. Golden	x						
Mrs. Trahan	x						
Mrs. Luria	x						
Roll Call Vote Total:	**33**	**24**	**0**				

CHANGES IN EXISTING LAW MADE BY THE BILL, AS REPORTED

The committee has taken steps to make available the analysis of changes in existing law made by the bill, as required by clause 3(e) of rule XIII of the Rules of the House of Representatives, and will make the analysis available as soon as possible.

ADDITIONAL VIEWS OF MR. LARSEN

As a member of the Subcommittee on Intelligence and Emerging Threats and Capabilities, I am dedicated to promoting American leadership in critical emerging technologies that promise to transform military operations.

One such technology is artificial intelligence (AI). Several converging trends, including improvements in cloud computing, increases in the amount and types of data available to programmers, and advances in software and computing techniques have led to rapid growth in AI. As AI improves in sophistication and reliability, it has the potential to change many sectors of the global economy.

AI will also transform the Department of Defense. Potential applications include predictive maintenance, adaptive EW, and intelligence analysis. More sensitive uses, like targeting and missile defense, raise significant ethical issues that the Department must think about now. How can the Department ensure human authority in making life or death decisions without sacrificing the military advantage that AI promises?

Given the broad array of potential AI applications, the Department will need a workforce that possesses a common understanding of and familiarity with AI, its applications, and its strengths and weaknesses. Unfortunately, this is a real weakness for the Department. According to Chief Information Officer Dana Deasy, "while some people joining the military today may have skills suited for working with AI, overall we assess that the current state of the existing workforce and military recruitment pipeline is a critical shortfall for DoD."

I have introduced a provision to address this shortfall, and I thank Chair Langevin and Ranking Member Stefanik for including it in the Intelligence and Emerging Threats and Capabilities subcommittee mark. The bill requires the Department to develop an educational curriculum for servicemembers who use AI in performing their responsibilities. It also requires the curriculum to include several elements, including the impact of AI on strategy and doctrine, decision-making, ethical issues, and bias.

Other countries have adopted innovative approaches to training their workforces in the basics of AI. Finland has established a nationwide goal to educate I percent of the country's population in the basic elements of AI. I believe the United States should set a similar goal. Doing so will lead to more informed debate on critical technology issues and increase the competitiveness of American workers in the global economy.

I commend Chair Smith and Ranking Member Thornberry for their leadership on this committee and look forward to working

with them further on the Fiscal Year 2020 National Defense Authorization Act.

RICK LARSEN.

DISSENTING VIEWS OF THE REPUBLICAN MEMBERS OF THE HOUSE ARMED SERVICES COMMITTEE ON H.R. 2500, THE NATIONAL DEFENSE AUTHORIZATION ACT FOR 2020

The National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2020 contains important provisions that will enhance national security. However, we are deeply troubled by several crucial areas in which the bill fails to provide essential support to the Department of Defense and our men and women in uniform.

The bill ignores repeated, consistent testimony from former Secretary of Defense Mattis, Acting Secretary Shanahan, and General Dunford—as well as the conclusion of the bi partisan National Security Commission—that the Department of Defense requires 3–5% real growth through 2025 in order to restore readiness and maintain our competitive edge against Russia and China. In so doing, the bill would jeopardize modernization programs in key areas where the United States is at risk of falling behind our adversaries.

The bill would underfund the Department of Defense by $15 billion, embracing potentially devastating cuts. Over the past two years, the committee has fought hard to arrest the readiness degradation through targeted increases in resources. This bill, however, would cut billions from readiness programs and endanger these key recovery efforts, even as fatalities resulting from military aviation accidents hit a six-year high. Additionally, the number of facilities that meet the Pentagon's definition of failure has doubled in recent years. Despite the Committee's tradition of fully funding these projects, the bill would cut facilities sustaimnent funding, risking the safety of the facilities that our service members must live and work in.

The bill would also call for $1.2 billion in military personnel funding cuts from what the President's budget requested, making it more difficult for the military to meet its obligations to our service members and their families. In addition to failing to provide the resources senior commanders have repeatedly testified are required, this bill contains extreme limits to the Department's authority to wisely reallocate resources to meet mission requirements. If this bill was enacted into law, the cuts to military personnel funding alone could exhaust the department's reprogramming authority.

The bill also contains several policy provisions that raise serious concerns. For example, the bill contains a provision that would ban the transfer of additional detainees to Guantanamo Bay, Cuba, while also requiring the Attorney General to provide a plan that could ultimately lead to the transfer of current detainees to the United States. In addition, the bill is notable for what it does not contain. Specifically, the bill omits the long-standing prohibitions against transferring Guantanamo detainees to the United States. It also fails to include funding for a replacement facility for high

value detainees, despite the fact that the current facility is structurally unstable and is putting US military personnel at risk.

Despite previous bi-partisan efforts to modernize and recapitalize nuclear programs over the last several years, this bill would take us backward. It would prohibit the deployment of new low-yield weapons, cuts key elements of our nuclear deterrent, while also deferring essential safety upgrades. Many on our committee have criticized the administration for not being tough on Russia, and yet this bill would weaken our deterrent posture against Russia and China, while sending a confusing message to our allies.

Finally, one of the recurring themes throughout this bill is an emphasis on overly prescriptive policies and increased reporting requirements. The most significant example of this relates to the policy on the US southern border. The bill would institute a presumptive ban on construction projects that would terminate military construction funding for border barriers. This ban would also restrict traditional military counterdrug programs that have historically been considered non-controversial. In addition, the bill would eliminate the Department's ability to reprioritize military construction funds, which could negatively impact the Department's ability to respond to national emergencies. Simultaneously, the bill would increase the already voluminous number of reports required of the Department of Defense. While we are heartened that the bill would establish a uniform sunset date for all recurring reports, it also adds hundreds of new and costly reporting requirements.

Because of a particularly onerous sequential referral process this year, many of the amendments that would have addressed some of the fundamental flaws with this bill were deemed out of order and never debated. We remain concerned that the Armed Services Committee, through excessive referrals, may be ceding jurisdiction to other committees on issues that have historically been exclusively within this committee's jurisdiction. We hope that many of these amendments will be considered on the floor, so that Members may have a full and fair debate on these vital issues. As the bill process continues, we will continue to work to improve this important legislation.

WILLIAM M. "MAC" THORNBERRY,
Ranking Member.
DON BACON.
JACK BERGMAN.
MO BROOKS.
LIZ CHENEY.
MICHAEL CONAWAY.
MATT GAETZ,
RALPH ABRAHAM, M.D.
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