
DEPARTMENT OF DEFENSE

***AGENCY-WIDE
FINANCIAL STATEMENTS***

***REQUIRED SUPPLEMENTARY
STEWARDSHIP INFORMATION***

Required Supplementary Stewardship Information



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Required Supplementary Stewardship Information



National Defense Property, Plant and Equipment

Narrative Statement

As of the date these statements were prepared, the Federal Accounting Standards Advisory Board (FASAB) had not determined the final reporting requirements for National Defense Property, Plant & Equipment (ND PP&E). The Department cannot comply with existing requirements to report historical or latest acquisition cost of ND PP&E because many of the Department's accountability and logistics systems do not contain this information. These systems were designed to support accountability and logistics requirements and not for capturing the cost of ND PP&E.

Given the complexity of the existing temporary reporting requirements, the enormous cost of implementing these requirements and their temporary nature, the Department is suspending the reporting of ND PP&E information until such time as the FASAB adopts permanent reporting requirements.

DEPARTMENT OF DEFENSE CONSOLIDATED HERITAGE ASSETS For Fiscal Year Ended September 30, 2001					
Categories	Unit of Measure	As of 10/01/00	Additions	Deletions	As of 9/30/01
Museums	Each	250	18	11	257
Monuments & Memorials	Each	1,974	30	17	1,987
Cemeteries & Archeological Sites	Sites	25,252	252	48	25,456
Buildings & Structures	Each	19,304	788	531	19,561
Major Collections	Each	3	1	0	4

Narrative Statement

Heritage Assets are PP&E items that are unique due to their historical or natural significance; cultural, educational or artistic importance; and/or significant architectural characteristics. The Fiscal Year 2001 categories are defined as follows:

Museums. Buildings that house collection-type items including artwork, archeological artifacts, archival materials, and other historical artifacts. The primary use of such buildings is the preservation, maintenance and display of collection-type Heritage Assets.

Monuments and Memorials. Sites and structures built to honor and preserve the memory of significant individuals and/or events in history.

Cemeteries and Archeological Sites. Land on which gravesites of prominent historical figures and/or items of significance are located.

Buildings and Structures. Includes buildings and structures that are listed on, or are eligible for listing on, the National Register of Historic Places, including Multi-Use Heritage Assets. These buildings do not include museums.

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Major Collections. Significant collections that are maintained outside of a museum.

The processes used to establish items as having heritage significance vary between categories and type of assets. Subject matter experts, criteria such as listing on the National Register of Historic Places, and federal statutes, play a significant role in characterizing these assets.

The condition assessment of Heritage Assets is based on whether the assets are being cared for and safeguarded in accordance with relevant regulations. The Department's Heritage Assets are in acceptable or good condition and are appropriately safeguarded.

Multi-Use Heritage Assets are reported both as Heritage Assets and on the Balance Sheet.

Supplemental information pertaining to Army and Air Force Heritage Assets follows.

Department of the Army

In most cases, additions and deletions are the result of installations identifying cemeteries and historical facilities located on their installations as a result of Chief Financial Officer audits.

Department of the Air Force

The United States Air Force (USAF) Museum, located at Wright-Patterson Air Force Base, Ohio, houses the main collection of historical artifacts that are registered as historical property in the USAF Museum System. The other Air Force museums are considered Air Force Field Museums or Heritage Centers, which also contain items of historical interest; some however, are specific to the general locality.

The memorials and monuments reported by the Air Force, except for 28, are all located at the Air Force Academy in the Air Gardens and Honor Court. Most of these monuments and memorials honor specific individuals or cadet wings for various accomplishments. The remaining 28 memorials, are located on various Air Force bases throughout the United States (U.S.).

The Air Force has administrative and custodial responsibilities for 39 cemeteries on its bases. The cemeteries are maintained by the bases and are in good condition. The Air Force has 1,518 listed archeological sites. The Air Force also has 10,362 potentially eligible archeological sites that are not listed on this report.

The Air Force currently considers 4,340 buildings and structures as heritage assets. Most of these buildings and structures are considered Multi-use Heritage Assets and, as such, have also been reported as General PP&E on the Balance Sheet. The buildings and structures are maintained by each base civil engineering group and are considered to be in good condition.

The Air Force has 4 significant or major collections consisting of: (a) the Air Force Art Collection, and (b) three collections at the Air Force Academy containing historical items and memorabilia as well as distinctive works of art. During FY 2001, the Air Force Academy identified the Gimbel collection as a significant collection to be reported separately. The Air Force Art collection consists of original oils, drawings, sketches and sculptures. The major collections beginning balance of eight collections (FY 2000 ending balance) has been restated based on a change in policy. The Air Force now considers five heritage centers and their content as museums rather than collections.

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DEPARTMENT OF DEFENSE CONSOLIDATED STEWARDSHIP LAND For Fiscal Year Ended September 30, 2001 (Acres in Thousands)				
Land Use	As of 10/01/00	Additions	Deletions	As of 9/30/01
1. Mission	16,817	665	638	16,844
2. Parks and Historic Sites	1			1
Totals	16,818	665	638	16,845

Narrative Statement

Stewardship Land is land that is not acquired for, or in connection with, items of General PP&E. All land, regardless of its use, provided to the Department from the Public Domain, or at no cost, is classified as Stewardship Land. Stewardship Land is reported in physical units (acres) rather than cost or fair value.

Stewardship Land transactions during the year consisted of additions through donations and the identification of missing land records and deletions through the disposal of property through the Base Realignment and Closure process.

DEPARTMENT OF DEFENSE CONSOLIDATED NONFEDERAL PHYSICAL PROPERTY Annual Investments in State and Local Governments For Fiscal Years 1997 through 2001 (In Millions of Dollars)					
Categories	FY 1997	FY 1998	FY 1999	FY 1900	FY 2001
Transferred Assets:					
National Defense Mission Related	\$ 38	\$ 34	\$ 20	\$ 5	\$95
Funded Assets:					
National Defense Mission Related	-	-	\$ 17	\$ 7	\$20
Grand Total	\$ 38	\$ 34	\$ 37	\$12	\$115

Narrative Statement

Investments in Nonfederal Physical Property are incurred by the Department for the purchase, construction, or major renovation of physical property owned by state and local governments, including major additions, alterations, and replacements; the purchase of major equipment; and the purchase or improvement of other physical assets. In addition, Nonfederal Physical Property Investments include federally owned physical property transferred to state and local governments.

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Investment values included in this report are based on Non-Federal Physical Property outlays (expenditures). Outlays are used because current Department of Defense systems are unable to capture and summarize costs in accordance with the FASAB requirements.

Department of the Army

The total amount of reported transferred asset values are for noncash items that were transferred to state and local governments by the Department of the Army. These properties are essential in accomplishing the mission of the Army National Guard. The Army National Guard funds maintenance costs for these nonfederal assets.

Department of the Air Force

The total amount of reported funded asset values are Air National Guard investments in Military Construction Cooperative Agreements. These agreements involve the transfer of funds and allow joint participation with states, counties, and airport authorities for construction or repair of airfield pavements and facilities required to support the flying mission assigned to civilian airfields.

DEPARTMENT OF DEFENSE CONSOLIDATED INVESTMENTS IN RESEARCH AND DEVELOPMENT Annual Investments in Research and Development For Fiscal Years 1997 through 2001 (In Millions of Dollars)					
Categories	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001
1. Basic Research	\$1,479	\$ 1,258	\$ 1,115	\$ 812	\$1311
2. Applied Research	2,617	2,756	2,985	3,095	3,843
3. Development					
A. Advanced Technology Development	4,227	3,861	4,444	3,753	4,383
B. Demonstration and Validation	5,698	6,762	6,564	6,557	8,166
C. Engineering and Manufacturing Development	8,435	8,336	7,934	8,353	8,831
D. Research, Development, Test & Evaluation Management Support	3,409	3,331	3,146	2,954	2,946
E. Operational Systems Development	9,724	9,850	9,801	10,124	11,000
4. Other	1,732	1,585	1,636	1,906	-
Total	\$ 37,321	\$ 37,739	\$ 37,625	\$37,554	\$40,480

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Narrative Statement

The DoD Research and Development programs are classified in the following categories:

Basic Research is the systematic study to gain knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific applications, processes, or products in mind. Basic Research involves the gathering of a fuller knowledge or understanding of the subject under study. Major outputs are scientific studies and research papers.

Applied Research is the systematic study to gain knowledge or understanding necessary for determining the means by which a recognized and specific need may be met. This research points toward specific military needs with a view toward developing and evaluating the feasibility and practicality of proposed solutions. Major outputs are scientific studies, investigations, and research papers, hardware components, software codes, and limited construction of, or part of, a weapon system to include nonsystem specific development efforts.

Development takes what has been discovered or learned from basic and applied research and uses it to establish technological feasibility, assessment of operability and production capability. Development is comprised of five stages defined below:

1. Advanced Technology Development is the systematic use of the knowledge or understanding gained from research directed toward proof of technological feasibility and assessment of operational and producibility rather than the development of hardware for service use. Employs demonstration activities intended to prove or test a technology or method.
2. Demonstration and Validation evaluates integrated technologies in as realistic an operating environment as possible to assess the performance or cost reduction potential of advanced technology. Programs in this phase are generally system specific. Major outputs of Demonstration and Validation are hardware and software components, or complete weapon systems, ready for operational and developmental testing and field use.
3. Engineering and Manufacturing Development concludes the program or project and prepares it for production. It consists primarily of preproduction efforts, such as logistics and repair studies. Major outputs are weapons systems finalized for complete operational and developmental testing.
4. Research, Development, Test and Evaluation (RDT&E) Management Support is support for installations and operations for general research and development use. This category includes costs associated with test ranges, military construction, maintenance support for laboratories, operations and maintenance of test aircraft and ships, and studies and analyses in support of the Research and Development program.
5. Operational Systems Development is concerned with development projects in support of programs or upgrades still in engineering and manufacturing development, which have received approval for production, for which production funds have been budgeted in subsequent fiscal years.

Investment values included in this report are based on RDT&E outlays (expenditures). Outlays are used because current DoD systems are unable to capture and summarize costs in accordance with the FASAB requirements.

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Representative program examples for each of the major Research and Development categories are provided below:

Department of the Army

Basic Research

Defense Research Sciences: This program sustains scientific and technological superiority in U.S. Army land warfighting capability, provides new concepts and technologies for the Army's Objective Force and enables technologies that can significantly improve joint warfighting capabilities. The in-house program capitalizes on the Army's scientific talent and specialized facilities to expeditiously transition knowledge and technology into the appropriate developmental activities. The balance of the program leverages the research efforts of other government agencies, academia, and industry. Projects provide fundamental knowledge for the solution of military problems related to long-term national security needs.

University and Industry Research Centers: This program leverages research in the private sector through Federated Laboratories, Collaborative Technology Alliances (CTA), Centers of Excellence, and the University Affiliated Research Centers. A significant portion of the work performed within this program directly supports Objective Force requirements, providing the enabling technologies, which will make Objective Force equipment development possible. CTA are innovative alliances among government, industry and academic organizations, built to exploit scientific and technological breakthroughs and to transition them to exploratory development and applied research. The CTAs will be competitively established in the areas of Advanced Sensors, Advanced Decision Architecture, Communications and Networks, Power and Energy, and Robotics.

Applied Research

Combat Vehicle and Automotive Technology: This program develops component technology to improve automotive and survival capabilities of Army ground vehicle systems for the Objective Force and funds a portion of the Army's share of the Army/Defense Advanced Research Projects Agency (DARPA) collaborative Future Combat Systems (FCS) program. Funding supports both the FCS design and demonstration activities, and critical enabling technologies at the DARPA. To achieve the Army vision, systems must be more strategically deployable and agile, with a smaller logistical footprint. These lighter ground vehicles must also be more lethal, survivable, and tactically mobile.

Medical Technology: This program supports focused research consistent with the "Medical" "Survivability" and "Future Warrior" technology areas of the Objective Force. The primary goal is to sustain medical technology superiority, and improve protection for and survivability of U.S. forces. This program funds research into medical protection against naturally occurring diseases, combat dentistry, the Department of Army care of combat casualties, health hazard assessments, and medical factors enhancing soldier effectiveness.

Development

Comanche: This program provides for the development, operational testing and evaluation of the RAH-66 Comanche and the T800-801 growth engine. The Comanche is a multimission aircraft optimized for the critical battlefield mission of tactical armed reconnaissance. It provides a globally self-deployable attack platform for light/contingency forces. Comanche provides the solution to reconnaissance deficiencies (i.e. no night/adverse weather/high/hot/stand-off capability) and is a key component on the digitized battlefield in winning the information war. The Comanche is the Army's technology leader and provides significant horizontal technology transfer within the Army and DoD. This program also provides for the continued development and qualification of the T800-801 growth engine and air vehicle support for integration into the Comanche aircraft.

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Artillery Systems: This program supports efforts for the Crusader Advanced Development Program. The Crusader system is the Army's next generation self-propelled howitzer and Artillery Resupply Vehicle and is the first installment of the Objective Force in the Army Transformation. Crusader has significantly increased capabilities in the areas of lethality, mobility, survivability, resupply, command and control, and sustainability by capitalizing on mature, state-of-the-art technologies.

Department of the Navy

Basic Research

Electrical Power Switching Technology: The advancement of silicon carbide (SiC) technology, which is crucial to all-electric ship power switching devices, previously had been stymied by the inability of researchers to achieve high electron mobility in p-type material. Recently however, the Department of Navy supported researchers at Mississippi State University have demonstrated a ten-fold increase in electron mobility in p-type SiC. This accomplishment takes a major step towards the development of an all-electric ship.

Revolutionary Hearing Protection: A U. S. patent was issued for an invention that introduces antioxidants into the inner ear to promote the prevention or reversal of sensorineural hearing loss. Research to prevent and/or reverse hearing loss and inner ear damage due to noise and toxins is being conducted at the Naval Hospital center, San Diego and is funded by the Office of Naval Research.

Applied Research

Prototype Chemical Agent Detectors: For FY 2001, the Navy awarded contracts to develop two prototype chemical agent detectors, devices which must be inexpensive, portable and must function reliably in a chemically complex battlefield. The detectors are also expected to meet most Joint Chemical Agent Detection specifications and be capable of the following:

- Real-time detection with no preconcentration
- Identifying nerve, mustard, and blood agents by group
- Identifying "novel agents" by individual compound

Unmanned Air Vehicle (UAV): Draper labs and the Navy will research the state of avionics technology for Naval UAVs by developing a technology database, providing technical expertise to determine UAV capabilities and by performing a risk assessment. The cooperative project aims to reduce the need for human intervention during Naval UAV operations in dynamic and unstructured environments.

Development

Dragon Eye Robotic Airborne Sensor System: The Naval Research Lab (NRL) requested proposals to build its *Dragon Eye* airborne sensor system. The device is a man-portable, two-kilogram, hand-launched, fixed wing aerial reconnaissance vehicle. The *Dragon Eye*, which comes with a wearable Ground Control System, will provide Marines with the ability to see over obstacles and terrain.

Nuclear Quadrupole Resonance (NQR): NQR, a physical chemical technique that detects explosives and/or volatile traces buried beneath the surface, has seen limited use in chemistry labs for 50 years. Recently, the NRL has developed a workable NQR system that can find buried mines, regardless of the material they are encased in.

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Department of the Air Force

Basic Research

Funding was provided to twelve scientific projects. One of these projects focused on self-healing polymer composites, which will provide longer life for space structures and materials. Another involved the development of tracking algorithms, which will improve tracking of ground moving targets.

Applied Research

The Air Force's Applied Research program is developing technologies to support both an air and space force of the future. Technology developments are focused in those areas that are essential to future warfighting capabilities. This investment strategy recognizes the enabling technologies that are being developed by commercial industry and allows the Air Force to focus on those military-relevant technologies that are not being developed by industry. One example is the development of simulations of spontaneous magnetic field generation in plasma. This is a step toward three-dimensional prototyping of high-powered microwave sources. Another example is the cloning of the nitrate reductase gene of the anthrax bacteria into e. coli, providing a safe stimulant for the Agent Defeat weapons test program.

Development

The Air Force's Advanced Technology Development program demonstrates, in a realistic operational environment, integrated sets of technology to prove military worth and utility. One technology achievement includes demonstration of automatic intrusion detection environment capabilities at nine operational sites. This provides near-real-time cyber attack warning at local, regional, and global levels. Another achievement includes development of the only certified, nonpetroleum based, environmentally friendly, cost-effective deicer in the world.

Defense Advanced Research Projects Agency (DARPA)

Basic Research

University Opto-Centers: The University Opto-Centers program is establishing multiinvestigator university optoelectronic centers with programs closely coupled to photonic industry researchers to develop and demonstrate chip-scale optoelectronic integration technologies. The development of advanced, chip-scale optoelectronic modules is essential for future, high-performance military sensor and information processing systems. In FY 2001, the program evaluated specific chip-scale integrated module designs and assessed the success of engaging industry commitment to the program.

Magnetic Materials And Devices: Radiation hard, nonvolatile memory is very important for all of the DoD space and strategic systems. The memory currently deployed is heavy, bulky, and very low density; requires an enormous amount of power; and is very costly. The Spin Electronics program is developing magnetic memory and magnetic sensors based on the Giant Magneto-Resistance and Spin Dependent Tunneling effects in multilayer sandwiches of magnetic and nonmagnetic materials. This program has made significant progress in developing nonvolatile, radiation hard, random access, high speed, low power, high density magnetic memory that is expected to fulfill the DoD's requirements as well as compete with mainstream volatile and nonvolatile semiconductor memories. In FY 2001, the program demonstrated that spin information could propagate across boundaries between different semiconductors in a heterostructure without any loss of spin information.

Applied Research

Consequence Management: The DARPA Consequence Management program developed the Enhanced Consequence Management Planning and Support System (ENCOMPASS) for management of

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multisite Biological Warfare (BW) incidents. The ENCOMPASS provides accelerated situational awareness for BW events by detecting exposure to agents through an analysis of casualty electronic theater medical records. This system also identifies the most effective logistical support and pathogen-specific resources required to mitigate effects of the attack.

Genomic Sequencing: The DARPA worked with a number of governmental organizations to exploit recent advances in high throughput genetic sequencers to obtain complete genetic information on a number of important pathogens and their nonpathogenic nearest neighbors. This allowed development of an inventory of genes and proteins that distinguish pathogens from non-pathogens to identify pathogenic markers in any guise. This information will be used to provide superior molecular targets and enable new generations of detectors, diagnostics, and therapeutics. The genomic sequencing of high-threat known and potential biowarfare agents was completed during FY 2001.

Development

Affordable Moving Surface Target Engagement: The DARPA's Affordable Moving Surface Target Engagement (AMSTE) program is developing a network-centric targeting approach that will couple standoff airborne radar sensors and low-cost weapons in a real-time engagement network. Under the AMSTE approach, data from multiple airborne ground moving target indicator (GMTI) radar sensors are fused to provide weapons with real-time target position updates while in-flight. The AMSTE will provide a new strike capability to engage moving surface threats from standoff ranges, in all weathers, using affordable precision-guided munitions. In FY 2001, the AMSTE program demonstrated for the first time the ability to precisely engage moving surface targets with low-cost, precision stand-off guided weapons.

Genoa: Project Genoa provides the structured argumentation, decision making and corporate memory needed to rapidly deal with and adjust to dynamic crisis management. The project has completed development of future scenario generation and tailored presentation tools, and has developed and validated emerging concepts of collective reasoning applied to the asymmetric threat.

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