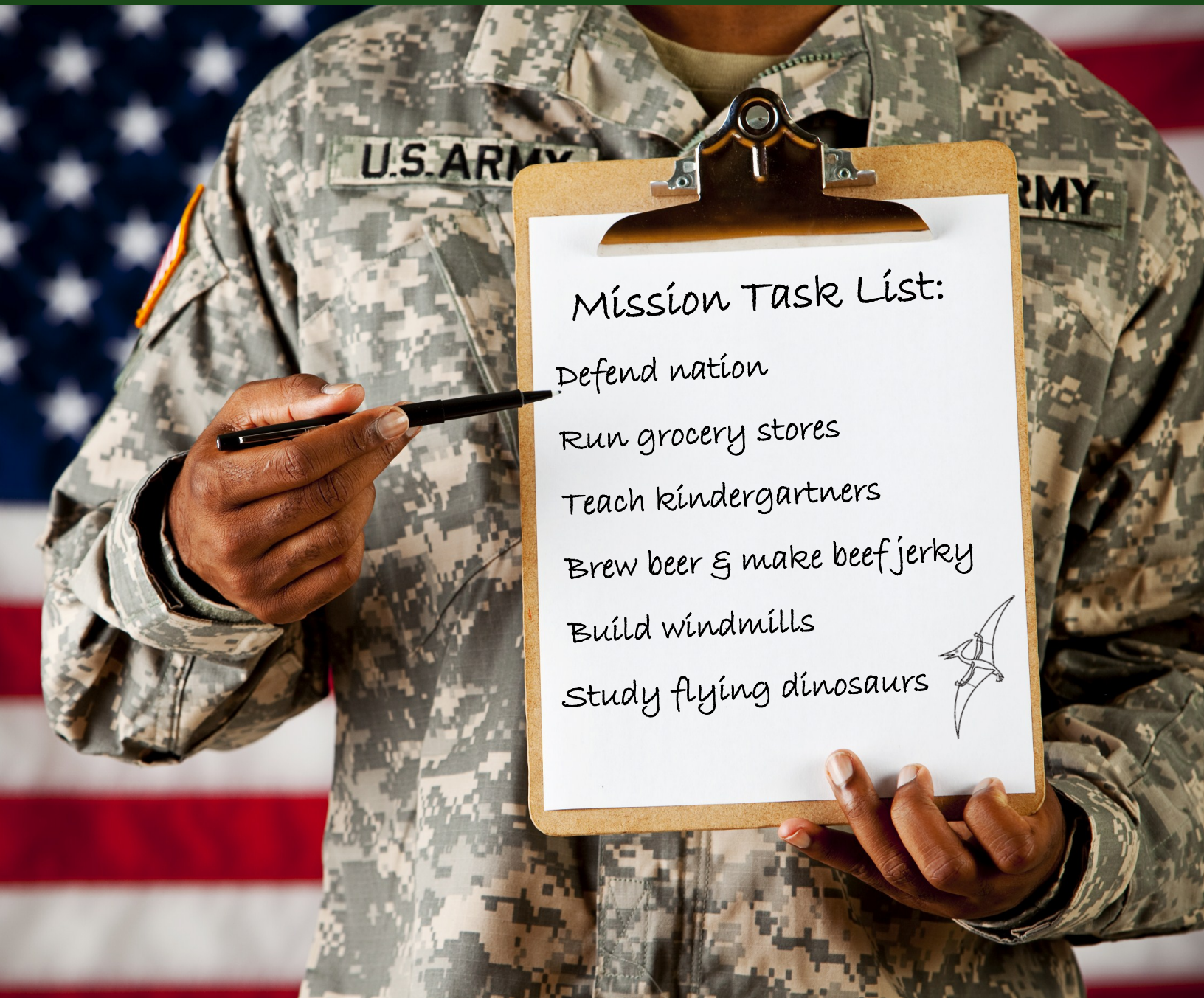


DEPARTMENT OF EVERYTHING



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Department of Everything:

Department of Defense Spending That Has Little to Do With National Security

Defending our nation and protecting the inalienable rights of every citizen guaranteed by our Constitution are the primary responsibilities of the U.S. federal government.

Over the past decade these missions have faced challenges due to both terrorist threats abroad and out-of-control spending in Washington. While defense spending increased over the last ten years to combat the threat from abroad, domestic spending—including non-defense spending at the Pentagon—has also increased to unsustainable levels. A former Joint Chief of Staff even warned “the single, biggest threat to our national security is our debt.”¹ Our nation’s \$16 trillion national debt is the new red menace, posing perhaps a greater threat to our nation than any military adversary.

The threat of our national debt can be defeated by reviewing every department, every program, and expenditure within the federal budget, including at the Department of Defense (DOD). We must eliminate waste and duplication to refocus the Pentagon to its true mission: fighting and winning the nation’s wars.

This report examines five areas of the Pentagon budget that have little to do with national security where taxpayer dollars could be saved and deficits reduced without impacting our national security.

- **Non-Military Research and Development:** Research projects that have little or nothing to do with national defense or medical needs related to military service (**\$6 billion**).
- **Education:** The Defense Domestic Dependent Elementary and Secondary Schools (DDESS) that educates children of military families here in the United States and the Science, Technology, Engineering, and Mathematics (STEM) programs that duplicate the work of the Department of Education and local school districts (**\$10.7 billion**). The Department of Defense Tuition Assistance Program which provides college funding for military members on active duty and duplicates the Department of Veterans Affairs (**\$4.5 billion**).
- **Alternative Energy:** Duplicative and unnecessary alternative energy research by the Department of Defense (**\$700 million**).
- **Grocery Stores.** Pentagon-run grocery stores here in the United States (**\$9 billion**).
- **Overhead, Support, and Supply Services.** Over 300,000 military members performing civilian-type job functions and too many general officers. (**\$37 billion**).

¹ Marshall, Tyrone, “Debt is Biggest Threat to National Security, Chairman Says,” American Forces Press Service, September 22, 2011, <http://www.defense.gov/news/newsarticle.aspx?id=65432>. Accessed February 13, 2012.

The recommendations outlined in *Department of Everything* could save as much as \$67.9 billion or more over ten years without cutting any Army brigade combat teams, Navy combat ships, or Air Force fighter squadrons.

These long overdue reforms could pay for a third of the cost of the planned fleet of new strategic bombers for the Air Force. It could, likewise, pay a third of the cost of the fleet of Ohio-class replacement nuclear submarines for the Navy. For the Army, \$16 billion over ten years could mean robust funding for modernization or purchase of new rifles, new ammunition, and new machine guns for infantry troops.

Adopting these recommendations could also help DOD reduce the need for cuts to National Guard troops, aircraft modernization, and shipbuilding.

Budgets represent choices and priorities. No agency has unlimited funding and an explicit decision to fund one program or benefit is an implicit decision not to fund other programs or benefits. Every decision to fund an unnecessary grant or program, such as those highlighted in this report, is a choice to not fund new long-range rifles for our troops in Afghanistan, new planes for our fighter pilots, or new ships and submarines for our Navy. In other cases it means fewer and smaller troop pay increases and possible reductions for training and operations and maintenance funding.

Most Americans, and even some so-called defense budget experts in Washington, likely believe the more than \$600 billion annual Pentagon budget is entirely directed towards the defense of our nation.² Yet, billions of Defense dollars are being spent on programs and missions with little or nothing to do with national security, many of which are already being performed by other government agencies or are completely unnecessary.

For example, DOD duplicates the role of the Department of Energy (DOE) and the Environmental Protection Agency (EPA) in funding basic and applied research into alternative energy.^{3 4} **The Department of Defense launched more than 100 renewable energy-related initiatives in 2010, more than any other federal agency including the Department of Energy.** Many of these DOD renewable energy projects were so poorly planned, they failed to be cost effective or even produce power, wasting millions of national security dollars.

² “Defense: FY2012 Budget Request, Authorization, and Appropriation,” CRS Report R41861, Congressional Research Service, February 13, 2012.

³ Strategic Environmental Research and Development Program, “About SERDP and ESTCP,” <http://www.serdp.org/About-SERDP-and-ESTCP/About-SERDP>, Accessed March 6, 2012.

⁴ \$64.5 million in funding for FY2012. Office of the Undersecretary of Defense (Comptroller), “Department of Defense Research, Development, Test&Evaluation, Defense-Wide Fiscal Year (FY) 2013 Budget Estimates,” February 2012; http://comptroller.defense.gov/defbudget/fy2013/budget_justification/pdfs/03_RDT_and_E/Office_Secretary_of_Defense_PB_2013_1.pdf.

Even though “improving global health is not one of its core objectives,” the Pentagon will spend at least \$580 million this year on global health activities, more than either the Centers for Disease Control and Prevention or the National Institutes of Health.⁵

While NIH may be the nation’s most prestigious medical research agency, each year Congress redirects funding within the Pentagon budget for non-military specific research into the very same diseases already being studied by NIH.⁶



An advertisement for Air Force Solar Power.

The Pentagon budget also funds other scientific research, duplicating the work by the National Science Foundation (NSF), the National Oceanic and Atmospheric Administration (NOAA), and other federal agencies. For example, the Navy recently funded research examining what the behavior of fish can teach us about democracy while also developing an app to alert iPhone users when the best time is to take a coffee break.^{7 8} The Air Force Office of Scientific Research funded a study last year examining how to make it easier to produce silk from wild cocoons in Africa and South America.⁹ Both the Navy and the Air Force funded a study that concluded people in New York use different jargon on Twitter than those living in California.¹⁰

With the military at war in Afghanistan and our nation facing a \$16 trillion debt, why are these priorities being funded and other priorities being ignored?

DOD also duplicates the role of the Department of Commerce and the Department of Housing and Urban Development (HUD) by providing “technical and financial assistance to plan and carry out economic and community development; land use planning; [and] real estate

⁵ Josh Michaud, Kellie Moss, and Jen Kates, “U.S. GLOBAL HEALTH POLICY: THE U.S. DEPARTMENT OF DEFENSE AND GLOBAL HEALTH,” Henry J. Kaiser Family Foundation, September 2012; <http://www.kff.org/globalhealth/upload/8358.pdf>.

⁶ Congressionally Directed Medical Research Programs, “2011 Annual Report,” September 30, 2011, <http://cdmrp.army.mil/pubs/annreports/2011annrep/2011annreport.pdf>, Accessed March 6, 2012.

⁷ “Less Knowledge, More Power: Uninformed Can Be Vital to Democracy, Study Finds,” Science Daily, December 15, 2011, <http://www.sciencedaily.com/releases/2011/12/111215141621.htm>, Accessed March 8, 2012.

⁸ “Best Time for a Coffee Break? There’s an App for That,” Science Daily, February 14, 2012, <http://www.sciencedaily.com/releases/2012/02/120214121856.htm>, Accessed March 8, 2012.

⁹ “New Method of Unreeling Cocoons Could Extend Silk Industry Beyond Asia,” Science Daily, <http://www.sciencedaily.com/releases/2011/05/110517132637.htm> Accessed May 17, 2012.

¹⁰ “Regional Dialects Are Alive and Well On Twitter: Slang Terms Like Y’all, Yinz, Koo, Coos and Suttin Predict Location of Tweet Authors,” Science Daily, <http://www.sciencedaily.com/releases/2011/01/110106171011.htm> Accessed May 21, 2012.

development.” The administration has requested over a quarter of a billion dollars next year for economic development to be administered by the military.¹¹

The DOD’s sheer size and involvement in all facets of the federal government requires the Pentagon to provide personnel to sort out issues arising with other federal and state agencies. The DOD, for example, has more than eight members serving on the Board of Geographic Names, an obscure agency under the U.S. Geological Survey in charge of naming streams, mountains, hills, and plains across the United States. One of the DOD representatives even serves as the Vice Chairman of the Board of Geographic Names.¹²

The DOD is also involved in both the education and feeding of children that are not necessarily on military bases or even those with military parents. The Defense Logistics Agency (DLA) has provided fresh fruits and vegetables to local schools in coordination with the Department of Agriculture through a program called DOD-Fresh for nearly twenty years, spending more \$66 million in Fiscal Year 2010.^{13 14}



At least eight members of the Pentagon serve on the Board of Geographic Names. Last year, the Board renamed Squaw Peak in the Inyo National Forest as Wunuppu Peak, which means “tall pine” or “pine-nut tree area.”

In addition to building roads in Iraq and Afghanistan, the Pentagon is funding some nation-building right here at home through the federal highway system.

DOD recently committed \$180 million as part of a congressional mandate to a project to widen part of a highway outside a nearby military base.¹⁵

¹¹ Office of the Undersecretary of Defense (Comptroller), “Department of Defense Office of Economic Adjustment: Operation and Maintenance, Defense-Wide Fiscal Year (FY) 2013 Budget Estimates,” February 2012, http://comptroller.defense.gov/defbudget/fy2013/budget_justification/pdfs/01_Operation_and_Maintenance/O_M_VOL_1_PARTS/O_M_VOL_1_BASE_PARTS/OEA_OP-5.pdf, Accessed March 6, 2012.

¹² U.S. Board on Geographic Names, “BGN Membership Directory,” http://geonames.usgs.gov/domestic/member_directory.htm, Accessed March 6, 2012.

¹³ Defense Logistics Agency, “Defense Logistics Agency Troop Support: DOD Fresh Program,” Defense Logistics Agency, <http://www.troopsupport.dla.mil/subs/produce/school/index.asp>, Accessed March 7, 2012.

¹⁴ “Department of Defense Fresh Fruit and Vegetable Program,” U.S. Department of Agriculture website, http://www.fns.usda.gov/fdd/programs/dod/DOD_FreshFruitandVegetableProgram2011.pdf, Accessed March 7, 2012.

¹⁵ “\$180 Million Released for Ft. Belvoir Route 1 Project,” Fairfax News, July 16, 2012, <http://fairfaxnews.com/2012/07/180-million-released-for-ft-belvoir-route-1-project/>.

The Department of Defense also has 127 separate programs for elementary and high school students to encourage the study of science, technology, engineering, and mathematics (STEM).¹⁶

The Pentagon recently joined the cooking show craze by partnering with the Department of Agriculture to produce a reality cooking show called *Grill It Safe* featuring two Grill Sergeants showing off their own “delicious recipes suitable for cooking outdoors” in a 46-minute video.¹⁷ The Pentagon even runs its own microbreweries¹⁸ and U.S. based liquor stores.¹⁹



The Pentagon hits its own reality cooking show for backyard barbecues.

The Army and Air Force National Guard Counterdrug School System operates five counterdrug training facilities across the country. These schools offer training for law enforcement personnel and community based organizations – not just for military police.²⁰ While many of the courses offered by the National Guard Counterdrug School System are related to drugs and drug violence, some of the programs are not. Some of the current courses offered by the DOD National Guard Counterdrug School System include:

- **Everest Challenge** – A half-day course at St. Petersburg College for local law enforcement for motivational speakers talk about how to overcome obstacles in life.²¹

¹⁶ Office of the Under Secretary of Defense, Acquisition, Technology, and Logistics, “Survey of DOD Science, Technology, Engineering, and Mathematics (STEM) Programs,” 2010.

¹⁷ The Pentagon Channel, “The Grill Sergeants,” <http://www.pentagonchannel.mil/thegrillsergeants/index.shtml>, accessed July 11, 2012.

¹⁸ Greenlee, Steve, “US Army looking for a Brewmaster,” Boston.com, May 9, 2011.

http://www.boston.com/lifestyle/food/blogs/99bottles/2011/05/us_army_looking_for_a_brewmast.html, Accessed February 13, 2012.

¹⁹ US Army Installation and Management Command, “Class Six Description,” U.S. Army Garrison – Detroit Arsenal, <http://garrison-michigan.army.mil/sites/self/classsix.asp>, Accessed March 12, 2012.

²⁰ National Guard “Counterdrug Program: Counterdrug Schools,” <http://ngbcounterdrug.ng.mil/programs/Pages/CounterdrugSchools.aspx>, Accessed May 16, 2011.

²¹ Multijurisdictional Counterdrug Task Force Training Course Description, “Everest Challenge,” http://www.mctft.com/traditional_training/view_course.aspx?pid=PDOX0053, Accessed May 16, 2011.

- **Ropes** – Three days at Camp Murray, Washington National Guard, for local law enforcement to use ropes courses to build “communication, trust, and social/emotional learning skills.”²²
- **Adventure Dynamics** – One day at Camp Murray, Washington National Guard, “The single day Adventure Dynamics challenge course experience fosters the development and understanding of three important human skills: commitment, self-confidence and teamwork.”²³

It is vitally important state and local police officers communicate well with each other and understand teamwork. However, it is not clear why the Department of Defense should use its resources to pay for ropes courses and team building for non-military local law enforcement.

The Pentagon has expanded the emphasis of the “tools of diplomacy” and international development, mirroring and sometimes overriding the role of the State Department and the United States Agency for International Development. In fact, DOD “oversees activities in virtually every country in the world.”²⁴

Many of these programs, initiatives or research projects, including the five areas highlighted in *Department of Everything*, may serve worthy interests, but should not be the job of our military tasked with fighting and winning the nation’s wars.

Unfortunately this mission creep has essentially transformed the Department of Defense into the *Department of Everything*.

The five missions examined by this report—research and development, education, alternative energy, grocery stores, and support and supply services—could be or already are being better delivered by more appropriate federal agencies or departments, civilian federal employees, or even the private sector.

Some of these functions have been performed by the military for decades. Others, such as the Congressionally Directed Medical Research Program, are more recent expansions to the Pentagon’s role and mission.²⁵ Three questions were asked when reviewing each of the programs and agencies profiled in this report:

²² Western Regional Counterdrug Training Center Course Description, “Ropes”, [http://www.wrctc.org/\(X\(1\)S\(sl0mz555vn425d3y53fuis45\)\)/default.aspx?act=EBCoursesDetail.aspx&startrow=1&coursesid=97&menuitemid=158&menuubid=](http://www.wrctc.org/(X(1)S(sl0mz555vn425d3y53fuis45))/default.aspx?act=EBCoursesDetail.aspx&startrow=1&coursesid=97&menuitemid=158&menuubid=), Accessed May 17, 2011.

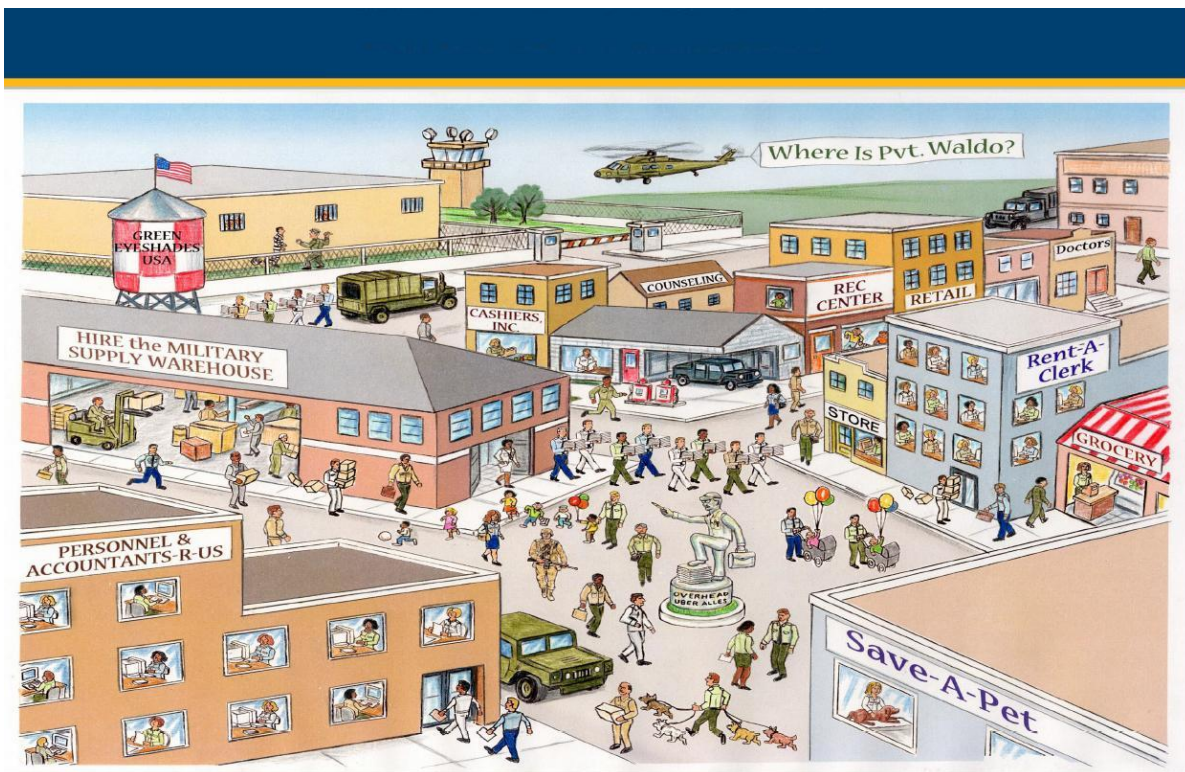
²³ Western Regional Counterdrug Training Center Course Description, “Adventure Dynamics,” [http://www.wrctc.org/\(X\(1\)S\(sl0mz555vn425d3y53fuis45\)\)/default.aspx?act=EBCoursesDetail.aspx&startrow=1&coursesid=84&menuitemid=158&menuubid=](http://www.wrctc.org/(X(1)S(sl0mz555vn425d3y53fuis45))/default.aspx?act=EBCoursesDetail.aspx&startrow=1&coursesid=84&menuitemid=158&menuubid=), Accessed May 17, 2011.

²⁴ Josh Michaud, Kellie Moss, and Jen Kates, “U.S. GLOBAL HEALTH POLICY: THE U.S. DEPARTMENT OF DEFENSE AND GLOBAL HEALTH,” Henry J. Kaiser Family Foundation, September 2012; <http://www.kff.org/globalhealth/upload/8358.pdf>.

²⁵ Congressionally Directed Medical Research Program, “About Us: Funding History,” www.cdmp.army.mil/about/fundinghistory.shtml, Accessed February 13, 2012.

- Does the mission of this program or agency directly relate to the mission of the Department of Defense?
- Does another federal agency or government or private entity already provide the services provided by this program or agency?
- Could these resources be better targeted towards higher priority defense needs, such as taking care of troops on the front lines or reducing our \$16 trillion national debt?

The five areas examined in this report are by no means an exhaustive list of non-defense spending programs at the DOD. These areas are merely a starting point for reviewing Pentagon spending that is unnecessary, duplicative, wasteful, or simply not related to defense. *Department of Everything* identifies more than \$67.9 billion in budget options to protect the nation against the rising tide of the red menace while enhancing the Pentagon's focus on its true mission, which is our nation's defense.²⁶



The Department of Everything, illustrating how military bases have a high proportion on non-military activity²⁷

²⁶ Savings are if budget options were adopted over a ten-year period.

²⁷ Illustration used in Defense Business Board recommendations to Secretary of Defense Robert Gates on "reducing overhead." Slide illustrates the large number of military personnel working in civilian-type jobs.

Research and Development

The federal government will spend about **\$138.9 billion** on research and development in 2012. The Department of Defense (DOD) will spend nearly \$73 billion, which is more than the combined total of every other federal agency and department.²⁸

Over the decades, DOD-sponsored research has ensured U.S. technological superiority, advanced knowledge across the fields of science, and transformed our society in profound ways. Defending our nation requires the DOD to seek out scientific discoveries that can be utilized to develop and improve weapons systems, hardware and software, detect threats, protect troops in combat, and better care for the wounded.

However, DOD supports other research with little association to the mission of the Pentagon, some of which overlaps with other federal agencies. Yet, there is no reliable system in place to prevent DOD and other agencies from funding the same exact research.

Little oversight has been given to how DOD research funding decisions are made by the Pentagon or Congress.

Scrutiny of the Defense Advanced Research Projects Agency's (DARPA) "\$3 billion budget is needed" as "DARPA gets wide latitude from the rest of the Pentagon— and from Congress— in how it hands out its contracts." A retired DARPA official recently said, **"You could pull a lot of money out of that place if you really wanted to," but "there really isn't any due diligence there."**²⁹ DARPA is different from other federal research agencies as it has historically been encouraged to pursue cutting edge technologies that may have a low percentage chance of success but could have massive payoffs in the way of military capability. **However, DARPA has abused this latitude and flexibility and used its resources to pursue research that has little to no connection to defending the country or increasing military capability.**

Questions surrounding the adequacy of the selection of R&D projects arose when the family business of the DARPA director was receiving millions of dollars for a dubious project. As a result, the DOD Inspector General launched an extraordinary review of the selection, award, and administration of every DARPA contract and grant awarded for research and development over the past two years.³⁰

²⁸ John F. Sargent Jr., "Federal Research and Development Funding: FY2013," Congressional Research Service, June 1, 2012.

²⁹ Noah Shachtman, "Exclusive: Pentagon Probe Will Review Every Darpa Contract," Wired, August 16, 2011; <http://www.wired.com/dangerroom/2011/08/pentagon-darpa-probe/>.

³⁰ "FY 2012 AUDIT PLAN: Office of the Deputy Inspector General for Auditing," Department of Defense Office of Inspector General, page 4, October 2011; http://www.dodig.mil/Audit/audit_plan.pdf.

The excesses with DOD's research budget extend beyond duplication and questionable management of funds. DOD is also funding research projects that have little to do with defense – some of these are the result of congressional earmarks or lax oversight.

Defending our nation has become increasingly high tech. Unmanned aerial vehicles controlled remotely or with pre-programmed flight plans launch strikes against enemy combatants. Civilians far from the battlefield defend our nation against cyber-attacks. Regardless of their roles, our men and women sailing the sea and flying in the sky, on and off of the front lines deserve the best technology we can provide to ensure success at their missions.

Developing innovative technologies and unlocking scientific mysteries related to these missions are unique DOD roles. This means Pentagon research needs to be focused in those areas vital to the defenses of our nation, protecting our troops, winning wars, and caring for our wounded warriors. It also means Congress and DOD need to exercise better oversight to ensure funding intended for DOD R&D is being properly prioritized.

This would remove duplication and reduce wasteful spending. Most importantly, it would ensure better targeting of research dollars intended for defense on supporting the unique needs of the Pentagon, such as developing new technologies for the future force, combating terrorism and other emerging threats, and providing the best care and protection for the men and women in the armed forces.

Most taxpayers, after all, would likely question some of the recent DOD funded research such as the determination of the colors of the feathers of prehistoric birds. Likewise, our soldiers in combat would benefit more from the development of technologies to detect and defeat improvised explosive devices (IEDs) than the creation of a smart phone app to alert users when to take a coffee break. While these discoveries may be scientifically intriguing, they do not enhance the technological superiority of our soldiers or improve the defense of our nation.

The following is an analysis of select case studies demonstrating how DOD's research programs—first basic science and then medical research—have lost some of this focus, often as a direct result of congressional directives or the failure by both Congress and the Pentagon to provide proper oversight.

Duplication and Lack of Coordination Means Taxpayers Can Pay Twice or Three Times for the Exact Same Research

A researcher who plagiarized a grant proposal and progress report received funding from the Defense Advanced Research Projects Agency (DARPA), the Air Force Office of Scientific Research, and the National Science Foundation (NSF) for the *same* exact project.

The Air Force approved funding for a proposal submitted by the Principal Investigator (PI). He “then submitted a proposal for the same project through his university to NSF’s Small Grants for Exploratory Research program, without disclosing to NSF that the Air Force had already approved funding for the project. NSF approved the project for funding, and the PI then submitted the same proposal through his wife’s business to DARPA, without disclosing either the Air Force or NSF award. DARPA also approved funding for the project. All three proposals contained the same significant plagiarism”³¹ from another research group’s work.³²

This 2010 case in which three separate agencies—two within the Department of Defense—funded the same research, exposes the overlapping and disjointed nature of federally funded research efforts.

The Pentagon administers a variety of research and development programs, including the Defense Advanced Research Projects Agency, the Air Force Office of Scientific Research, the Office of Naval Research, the Army Research Office, the Defense University Research Instrumentation Program, and the Office of the Congressionally Directed Medical Research Programs, which support a wide array of research and development. While these programs fund unique defense related research initiatives, they also can duplicate one another as well as other federal research agencies, such as the National Science Foundation, the Department of Energy, and the National Institutes of Health. The lack of coordination among these federal efforts puts resources at risk of being wasted while taxpayers pay twice for the same research.

“In general, agencies do not cross-check federal grants against their own new awards,” the scientific journal *Nature* recently noted.³³ Another recent case where a researcher accepted grants from two separate federal agencies—NSF and the Department of Energy—for the same research has “sparked renewed calls for funding agencies to work harder to avoid grant duplication.” According to *Nature*, currently “there is no way of knowing how prevalent the problem is, but that cases tend to come to light only if peer reviewers spot similarities in grant applications.”³⁴ The fact that these agencies are not aware of competing grant proposals and past awards is a direct violation of the Federal Funding Accountability and Transparency Act of 2006, which requires agencies to list all federal funds provided to outside organizations including all grant recipients.

³¹ “Semiannual Report to Congress,” National Science Foundation Office of Inspector General, September 2010, page 9; <http://www.nsf.gov/pubs/2011/oig11001/oig11001.pdf>.

³² Eugenie Samuel Reich, “Duplicate-grant case puts funders under pressure; Critics call for tighter checks to stop researchers being funded twice for the same work,” *Nature*, February 7, 2012; <http://www.nature.com/news/duplicate-grant-case-puts-funders-under-pressure-1.9984>.

³³ Ibid.

³⁴ Ibid.

If these agencies were following the law then these grants would be posted on www.usaspending.gov for everyone – including federal grant administrators – to see.

A recent Government Accountability Office (GAO) report found DOD, the Department of Veterans Affairs, and the National Institutes for Health “each lack comprehensive information on health research funded by the other agencies, which limits their ability to identify potential areas of duplication in the health research they fund.”³⁵

“The databases used to check for duplication in health research do not always provide comprehensive information needed to evaluate research for potential duplication across federal agencies during the funding decision process,” and officials at DOD, VA, and NIH confirmed “duplication may sometimes go undetected.”³⁶

GAO notes “As long as research on similar topics continues to be funded by separate agencies, it is incumbent on the agencies to coordinate effectively with each other,” but “because multiple federal agencies fund research on topics of common interest, there is potential for unnecessary duplication.”

Some of the questionable projects highlighted in this report obtained funding from multiple federal agencies, including the studies examining use of slang on Twitter, the lessons about democracy that can be learned from fish, and when is the best time to take a coffee break.³⁷ In total, the 12 case studies of questionable, duplicative and unnecessary research have little if anything to do with defense, yet were paid for with more than \$6 billion from the Department of Defense’s budget.

As we borrow trillions of dollars from potentially hostile foreign governments and our nation faces a \$16 trillion debt, why are these priorities being funded and other priorities being ignored?

It took the Department of Defense several months to disclose the dollars amounts and justifications for supporting the research studies listed in this report – despite the fact that this financial information for unclassified research and development is required by law to be posted in an online searchable website.^{38 39}

³⁵ “2012 Annual Report: Opportunities to Reduce Duplication, Overlap and Fragmentation, Achieve Savings, and Enhance Revenue,” Government Accountability Office, Report GAO-12-342SP, February 2012, page 97; <http://www.gao.gov/assets/590/588818.pdf>.

³⁶ Ibid.

³⁷ Science Daily, Is March Madness always the same? <http://www.sciencedaily.com/releases/2011/03/110301091115.htm>, March 7, 2011.

³⁸ Letter from Senator Coburn to the Honorable Zachary J. Lemnios, Assistant Secretary of Defense for Research and Engineering, Department of Defense, July 24, 2012.

³⁹ Public Law 109-329, Federal Funding Accountability and Transparency Act of 2006.

Bomb Detector Developed by the Family Business of the Agency Director Less Effective than “a Coin Flip” in Spotting Homemade Explosives; Leads to a Full Scale Audit of Every Contract of the Defense Advanced Research Projects Agency

Every Defense Advanced Research Projects Agency (DARPA) research contract awarded over the past two years is being audited by the DOD’s Office of Inspector General (OIG) as a result of millions of taxpayer dollars being sunk into the family business of a former agency director.⁴⁰

The OIG review is “not itself an accusation of wrongdoing; just an investigation to see if any occurred.”⁴¹ The audits were intended to “determine the adequacy” of DARPA’s “selection, award, and administration of contracts and grants awarded in FY 2010 and FY 2011 for research and development projects.”⁴²

The investigation was prompted after DARPA awarded a series of research contracts to the bomb detection and protection company RedXDefense “despite deep internal reservations about the technology involved. After years of work and millions spent, the company’s sensor was less effective than ‘a coin flip’ in spotting homemade explosives, in the words of one military insider.”⁴³

RedXDefense was co-founded by Regina Dugan, the director of DARPA from July 2009 to March 2012, along with her father, Vince Dugan, who is now the company’s CEO.

DARPA’s process for such potential ethical conflict of interest is to designate another official, “usually someone in a more senior position,” to make decisions about the merit of a project. However, in the case of RedXDefense these decisions were instead delegated “to a subordinate” which does not solve the problem as that official may be under pressure to make an award decision benefiting his supervisor.⁴⁴

Funding for the RedXDefense project began before Dugan became director. The firm received approximately \$4.3 million of DARPA funding prior to her serving as the agency’s director, but another \$1.8 million during her tenure as director.⁴⁵

The company had developed a prototype bomb detector but it was “a little large and clunky for the battlefield,” so DARPA gave RedXDefense a contract “to see if they could shrink

⁴⁰ Noah Shachtman, “Exclusive: Pentagon Probe Will Review Every Darpa Contract,” Wired, August 16, 2011; <http://www.wired.com/dangerroom/2011/08/pentagon-darpa-probe/>.

⁴¹ Ibid.

⁴² “FY 2012 AUDIT PLAN: Office of the Deputy Inspector General for Auditing,” Department of Defense Office of Inspector General, page 4, October 2011; http://www.dodig.mil/Audit/audit_plan.pdf.

⁴³ Noah Shachtman and Spencer Ackerman, “Darpa Backed Director’s Bomb Detector, Despite Failed Tests,” Wired, March 29, 2012; <http://www.wired.com/dangerroom/tag/regina-dugan/>.

⁴⁴ Noah Shachtman, “Exclusive: Pentagon Probe Will Review Every Darpa Contract,” Wired, August 16, 2011; <http://www.wired.com/dangerroom/2011/08/pentagon-darpa-probe/>.

⁴⁵ Adam Levine and Jennifer Rizzo, “Military unit behind hypersonic test flight probed,” CNN, August 16, 2011; <http://security.blogs.cnn.com/2011/08/16/pentagon-probes-possible-conflict-of-interest-by-research-group/>.

the detector and boost its reliability.”⁴⁶ The new device also had significant problems. It did not work well in conditions that were less than ideal and was not very reliable in detecting explosives. DARPA officials “decided to stop working with” RedXDefense.⁴⁷

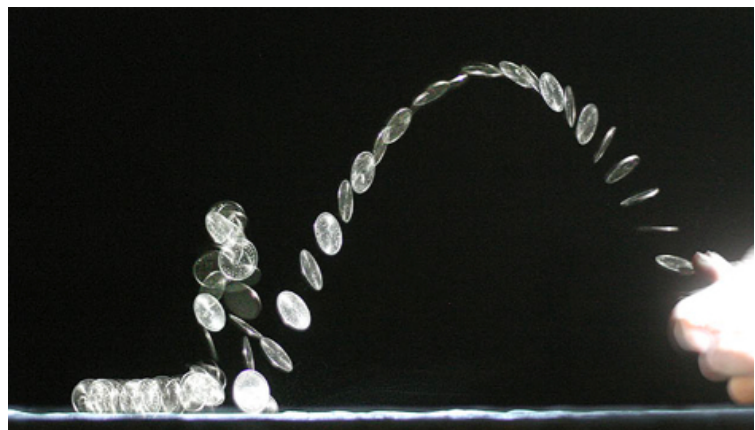
Soon after Dugan became director of DARPA, her family firm submitted a \$3.5 million proposal for a new, miniaturized bomb-detector called “Multi-Assay Enabled Widespread Sampling and Testing (MAE WEST).”

“The proposal ignited a firestorm within the agency, one source familiar with the inspector general’s investigation says. Not only was the company tied to the new director, there were glaring gaps in the proposal — everything from the schedule of experiments to the scientific approach involved. Nevertheless, this source contends, agency deputy director Ken Gabriel told employees to put the RedX[Defense] proposal at the ‘top of the list’.”⁴⁸

RedXDefense then received a \$400,000 contract from DARPA’s Defense Sciences Office, followed by another contract for \$1.4 million.

The new RedXDefense detector, according to investigative news reports, was no more effective than the previous models.

“In tests conducted in July of 2011, one military insider recounts, the device had a false positive rate of nearly one in three. It was pretty good at spotting conventional high explosives, picking them up about three times in four. But the gadget’s ability to detect homemade explosives — the kind most prevalent in Afghanistan today — was abysmal: just 47 percent. ‘That’s less than chance,’ the insider says. ‘You could flip a coin and do better’.”⁴⁹



The bomb detector developed by the family business of the DARPA director was less effective than “a coin flip” in spotting homemade explosives.

To Boldly Go Where No Man Has Gone Before...

The Defense Advanced Research Projects Agency has launched the 100 Year Starship effort to “foster a rebirth of a sense of wonder” to “make interstellar space travel practicable and feasible” within the next century.⁵⁰ The mission of the 100 Year Starship project

⁴⁶ Noah Shachtman and Spencer Ackerman, “Darpa Backed Director’s Bomb Detector, Despite Failed Tests,” *Wired*, March 29, 2012; <http://www.wired.com/dangerroom/2012/03/false-positive-darpa/all/1>.

⁴⁷ *Ibid.*

⁴⁸ *Ibid.*

⁴⁹ *Ibid.*

⁵⁰ “DARPA RELEASES REQUEST FOR INFORMATION FOR THE 100 YEAR STARSHIP STUDY,” Defense Advanced Research Projects Agency website, May 5, 2011;

is to “pursue national and global initiatives, and galvanize public and private leadership and grassroots support, to assure that human travel beyond our solar system and to another star can be a reality within the next century.”⁵¹

DARPA has provided \$500,000 to the Dorothy Jemison Foundation for Excellence to build “a community of space enthusiasts, engineers, technologists, futurists, scientists and dreamers to chip away at a panoply of technical, financial and social challenges — while seeking funds to keep the effort afloat.”⁵²

Further, DARPA paid nearly \$100,000 for a strategy planning workshop on the 100 Year Starship project last year included an interesting discussion involving the Klingons, a fictional alien species who were villains and then later allies of humanity in the Star Trek series. The session entitled “Did Jesus die for Klingons too?” featured philosophy professor Christian Weidemann of Germany’s Ruhr-University Bochum who pondered the theological conflict to Christianity if intelligent life was found on other planets.

This September, the 100-Year Starship organization spent \$21,000 from the Pentagon to host another gathering for space travel enthusiasts.⁵³ The focus of the meeting was to discuss how to get a manned spaceship to a planet in another solar system within the next century – a goal described as “most grandiose ... at a time when only two nations – neither of them the United States, at least currently – can send humans into space.”⁵⁴

Most of the sessions were out-of-this-world. Participants discussed very long-distance traveling that would take thousands of years, proposing either we need to create much faster spaceships or to manipulate space-time to accommodate our human needs.⁵⁵ The ship would likely be propelled by a “warp bubble,” but a scientist with the National Aeronautics and Space Administration (NASA) researching such a possibility cautioned “nobody should get excited at this point.”⁵⁶ He further noted the type of energy needed would cost tens of billions of dollars per gram to produce.⁵⁷

The conference examined a number of “issues that might otherwise be overlooked, like this simple but important one: what will interstellar explorers wear?”⁵⁸ A University of Rhode Island professor asked, “[C]an you really ask someone to dress in polos and khakis for 30

http://www.darpa.mil/NewsEvents/Releases/2011/2011/05/05_DARPA_Releases_Request_for_Information_for_the_100_Year_Starship_Study.aspx.

⁵¹ “100 Year Starship Initiative,” 100 Year Starship website, accessed May 24, 2012; <http://100yss.org/about>.

⁵² Brian Vastag, “Starship dreamers launch 100-year mission with DARPA grant,” The Washington Post, May 22, 2012; http://www.washingtonpost.com/national/health-science/starship-dreamers-launch-100-year-mission-with-darpa-grant/2012/05/22/gIQA2k8wiU_story.html.

⁵³ Information provided by 100-year Starship to the Office of Senator Coburn, May 31, 2012.

⁵⁴ Foust, Jeff. “Building a starship’s foundation,” *The Space Review*, September 24, 2012, <http://www.thespacereview.com/article/2161/1>.

⁵⁵ “2012 100YSS Symposium Proceedings,” Website of the 100-Year Starship Symposium, <http://symposium.100yss.org/symposium-proceedings>, accessed August 8, 2012.

⁵⁶ Foust, Jeff. “Building a starship’s foundation,” *The Space Review*, September 24, 2012, <http://www.thespacereview.com/article/2161/1>, accessed September 28, 2012.

⁵⁷ Ibid.

⁵⁸ Ibid.

years?”⁵⁹ He then suggested, “[W]e may need to rethink the idea of clothing altogether ... we might have to really reevaluate what constitutes being dressed or undressed.”⁶⁰ Others discussed what was described as the “necessary political, economic, social and cultural shifts that will enable our transition from a ‘near Earth’ society into an interstellar civilization.”⁶¹ One session questioned “what role, if any, religion should play on a multigenerational starship to identifying potential destinations for such missions.”⁶²



The Pentagon funded a symposium that included a session entitled “Did Jesus die for Klingons too?” Klingons are a fictional alien species who were villains and then later allies of humanity in the *Star Trek* series.

“Many of the conference attendees might be best classified as enthusiasts: people interested in the concept of developing a starship, but have, at most, only ideas for research topics.”⁶³ As a result, it might be easy to confuse the symposium for a Star Trek Convention. In fact, former Trekkies Levar Burton and Nichelle Nichols made special appearances.⁶⁴ The latter headlined an “intergalactic gala celebration.”⁶⁵ Attendees needed to wear “starship cocktail attire.”⁶⁶

The September 2012 gathering, held in a hotel in Houston, attracted 250 attendees, a sharp decline from the 700 who turned out for the conference held a year earlier.⁶⁷

To date, the Pentagon has spent more than \$1 million on the 100 Year Starship project.⁶⁸

⁵⁹ Foust, Jeff. “Building a starship’s foundation,” *The Space Review*, September 24, 2012, <http://www.thespacereview.com/article/2161/1>, accessed September 28, 2012.

⁶⁰ Foust, Jeff. “Building a starship’s foundation,” *The Space Review*, September 24, 2012, <http://www.thespacereview.com/article/2161/1>, accessed September 28, 2012.

⁶¹ “2012 100YSS Symposium Proceedings,” Website of the 100-Year Starship Symposium, <http://symposium.100yss.org/symposium-proceedings>, accessed August 8, 2012.

⁶² Foust, Jeff. “Building a starship’s foundation,” *The Space Review*, September 24, 2012, <http://www.thespacereview.com/article/2161/1>, accessed September 28, 2012.

⁶³ Foust, Jeff. “Building a starship’s foundation,” *The Space Review*, September 24, 2012, <http://www.thespacereview.com/article/2161/1>, accessed September 28, 2012.

⁶⁴ Moskowitz, Clare. “100 Year Starship Symposium Kicks Off to Ponder Interstellar Travel,” LiveScience.com, September 13, 2012, <http://www.livescience.com/23172-100-year-starship-symposium-kicks-off.html>, accessed October 11, 2012.

⁶⁵ “Special Events,” Website of the 100-Year Starship Symposium, <http://symposium.100yss.org/special-events>, accessed August 8, 2012.

⁶⁶ “Special Events,” Website of the 100-Year Starship Symposium, <http://symposium.100yss.org/special-events>, accessed August 8, 2012.

⁶⁷ Foust, Jeff. “Building a starship’s foundation,” *The Space Review*, September 24, 2012, <http://www.thespacereview.com/article/2161/1>, accessed September 28, 2012.

⁶⁸ Correspondence from the Congressional Research Service to the office of Senator Tom Coburn, June 19, 2012.

'Koo' Use of Slang in Twitter Messages Reveals 'Suttin'

The 340 million active users of Twitter, may be communicating much more than they intend with their allotted 140 character messages. Tweets often contain regional slang and dialects that reveal the region of the country in which the writer is located, according to research funded by the Air Force Office of Scientific Research and the Office of Naval Research.⁶⁹

"Postings on Twitter reflect some well-known regionalisms, such as Southerners' 'y'all,' and Pittsburghers' 'yinz,' and the usual regional divides in references to soda, pop and Coke," according to the study. "In northern California, something that's cool is 'koo' in tweets, while in southern California, it's 'coo.' In many cities, something is 'sumthin,' but tweets in New York City favor 'suttin.' While many of us might complain in tweets of being 'very' tired, people in northern California tend to be 'hella' tired."⁷⁰



The Pentagon analysis of regional slang and dialects by Twitter users may be koo to some and sumthin coo to others but yinz may consider it to be a hella waste of money.

The analysis was based upon a review of 380,000 messages tweeted by 9,500 Twitter users collected during a week of March 2010. The researchers could determine the locations of the Twitter users with geotags contained within messages that provided GPS coordinates.

While this may be interesting to linguists or even potentially federal law enforcement agencies like the FBI, it is difficult to see how spending limited resources to study the use of the slang and dialect by Twitters users in the United States advances the mission of either the Air Force or the Navy.⁷¹

⁶⁹ "CMU Research Finds Regional Dialects Are Alive and Well on Twitter," Carnegie Mellon School of Computer Science, January 7, 2011; <http://news.cs.cmu.edu/article.php?a=2133>.

⁷⁰ "CMU Research Finds Regional Dialects Are Alive and Well on Twitter," Carnegie Mellon School of Computer Science, January 7, 2011; <http://news.cs.cmu.edu/article.php?a=2133>.

⁷¹ The AFOSR says the grant it provided to the researchers "was funded to assess computational networks and did not include analysis of tweets in its statement of work." ONR says the grant it provided to the researchers "did not direct the Principal Investigator to perform research involving Twitter and had/has no knowledge of claims and associations made in" the press release issued by the researchers.

Correspondence from the Department of Defense to Senator Tom Coburn, October 12, 2012.

Is It Time for a Coffee Break? There's an App for That!

Most of us know when we need a pick-me-up, but now thanks to a Pentagon grant, there is a phone app to alert you when your caffeine level is low and it's time for another cup of coffee.

With support from the Office of Naval Research (ONR), Penn State University researchers have developed Caffeine Zone 2, an iPhone application “intended to help people manage their caffeine consumption to suit their lifestyles.”⁷²

To use the app, the type of beverage consumed—coffee or tea—is inputted with the amount and how fast the beverage was drank. Then “the app generates a line chart of predicted caffeine level for the next 24 hours. It shows a cognitive active zone, an area of caffeine level where most people will feel active, and a sleep zone, an area of caffeine level where most people will be able to sleep.”⁷³

The creators of Caffeine Zone 2 are working new features for the app, such as the addition of cola.⁷⁴ Frank Ritter, the cognitive scientist who came up with the concept for the app, says he “hasn't received any money from Starbucks, Coca-Cola, or any other corporate caffeine peddlers, though he'd take it if offered.”⁷⁵

There is a free version of Caffeine Zone 2 with ads and another that cost 99 cents, but without ads.

In addition to the DOD-sponsored app, there are at least two other caffeine-related smart phone apps available. Caffeine Tracker tracks caffeine levels based upon the information input by the consumer.⁷⁶ Caffeine Meter requires consumers to hold their device in the right hand, and “the power and stability of your hand shake (if any) will pulse the meter to show how your caffeine intake is. The higher the meter, clearly the more you are shaking.”⁷⁷



The CaffeineZone app developed by the Pentagon alerts users when to take their next coffee break.

⁷² “New iPhone app monitors caffeine intake,” The Pennsylvania State University College of Information Sciences and Technology, February 15, 2012; <http://ist.psu.edu/news/new-iphone-app-monitors-caffeine-intake>.

⁷³ “New iPhone app monitors caffeine intake,” The Pennsylvania State University College of Information Sciences and Technology, as modified February 15, 2012; <http://ist.psu.edu/news/new-iphone-app-monitors-caffeine-intake>.

⁷⁴ “An iPhone App for Coffee Consumption: How to Optimize Your Caffeine Level,” FOX News, March 13, 2012; <http://www.foxnews.com/scitech/2012/03/12/iphone-app-for-coffee-consumption-how-to-optimize-your-caffeine-level/#ixzz1wGwR14dn>.

⁷⁵ Drake Bennett, “Caffeine Zone, an App for Coffee Drinkers,” Bloomberg Businessweek, February 23, 2012; <http://www.businessweek.com/articles/2012-02-23/caffeine-zone-an-app-for-coffee-drinkers>.

⁷⁶ Google play, February 28, 2012; <https://play.google.com/store/apps/details?id=com.cafapppro#:t=W25lbGwsMSwxLDIxMiwY29tLmNhZmFwcHBybyJd>.

⁷⁷ iTunes store, accessed May 25, 2012; <http://itunes.apple.com/us/app/caffeine-meter/id325358020?mt=8>.

“Caffeine Zone 2 was developed by the Applied Cognitive Science Lab at the College of Information Sciences and Technology and spun out through a small company started by Ritter with the permission of the Office of Naval Research and Penn State. The app is based on research sponsored by ONR,” according to Pennsylvania State University College of Information Sciences and Technology.⁷⁸ According to DOD, ONR did provide a grant to the researchers but “did not direct or request the Principal Investigator to develop a ‘New iPhone app.’”⁷⁹

Pentagon Researchers Study Fish to Determine if Ignorance Can Save Democracy

Fish could show the nation how to overcome political polarization and promote democracy, according to Pentagon-funded research.⁸⁰

The Princeton researchers trained golden shiner fish to swim towards a blue target while a “strongly ‘opinionated’ minority group” was “driven by a natural attraction to the color

yellow.” The minority group won out when uninformed individuals were not present,” but as more and more “untrained” fish were added they “consistently put the group on course toward the blue target.”⁸¹



Can this fish show the way to achieve democratic consensus? Pentagon supported researcher believe so.

“The researchers report that in animal groups, uninformed individuals— as in those with no prior knowledge or strong feelings on a situation’s outcome— tend to side with and embolden the numerical majority. Relating the results to human political activity, the study challenges the common notion that an outspoken minority can manipulate uncommitted voters.”⁸²

The experiments on fish paired with mathematical models and computer simulations “can ultimately provide insights into humans’ political behavior,” according to the researchers.⁸³

⁷⁸ “New iPhone app monitors caffeine intake,” The Pennsylvania State University College of Information Sciences and Technology, February 15, 2012; <http://ist.psu.edu/news/new-iphone-app-monitors-caffeine-intake> .

⁷⁹ Correspondence from the Department of Defense to Senator Tom Coburn, October 12, 2012.

⁸⁰ “Less Knowledge, More Power: Uninformed Can Be Vital to Democracy, Study Finds,” ScienceDaily, December 15, 2011; <http://www.sciencedaily.com/releases/2011/12/111215141621.htm>

⁸¹ “Less Knowledge, More Power: Uninformed Can Be Vital to Democracy, Study Finds,” ScienceDaily, December 15, 2011; <http://www.sciencedaily.com/releases/2011/12/111215141621.htm> .

⁸² Ibid.

⁸³ Morgan Kelly, “Less knowledge, more power: Uninformed can be vital to democracy, study finds,” Princeton University, December 15, 2011; <http://www.princeton.edu/main/news/archive/S32/37/23Q43/index.xml?section-topstories> .

“We think of being informed as good and being uninformed as bad, but that’s a human construct. Animal groups are rarely in a fractious state and we see consensus a lot,” said lead author Iain Couzin. “These experiments indicate there is an evolutionary function to being uninformed that perhaps is as active as being informed,” he stated, noting “we shouldn’t think of it as a bad thing, but look at advantages animals exhibit to being uninformed in natural circumstances.”⁸⁴

The Princeton-based research team concluded uninformed members of society with “the least interest in a specific outcome can actually be vital to achieving a democratic consensus.”⁸⁵

How is this study comparing fish to democracy and politics possibly be linked to the defense of this nation? How can this study be considered as necessary to help our military fight and win the nation’s wars?

The Pentagon claims the research provides “a better understanding of how individuals with low stake impact achieve a democratic consensus” and this “effort supports Military Information Support Operations (MISO) mission area.”⁸⁶

The researchers received grants from two DOD agencies, the Office of Naval Research (ONR) and Defense Advanced Research Projects Agency. The DARPA grant totaled \$5.2 million.⁸⁷

Pentagon Raids Weapons Program Funding to Develop Beef Jerky Roll-ups

Beef jerky so good it will shock and awe your taste buds. That is the goal of an ongoing Pentagon project, which is attempting to develop its own brand of jerky treats that are the bomb! Only, the money is coming from a program specially created to equip soldiers with the weapons they need.

The Foreign Comparative Testing (FCT) program has spent more than \$1.5 million to develop the savory snacks.⁸⁸ This is a highly unusual initiative since the purpose of the FCT is

⁸⁴ Ibid.

⁸⁵ “Less Knowledge, More Power: Uninformed Can Be Vital to Democracy, Study Finds,” ScienceDaily, December 15, 2011; <http://www.sciencedaily.com/releases/2011/12/111215141621.htm>.

⁸⁶ Correspondence from the Department of Defense to Senator Tom Coburn, October 12, 2012.

⁸⁷ Ibid.

⁸⁸ “Department of Defense Fiscal Year (FY) 2013 President’s Budget Submission,” Justification Book Volume 3, Research, Development, Test & Evaluation, Defense-Wide, Office of Secretary of Defense, volume 3, February 2012, page 724. Available at http://comptroller.defense.gov/defbudget/fy2013/budget_justification/pdfs/03_RDT_and_E/Office_Secretar_of_Defense_PB_2013_1.pdf, accessed October 13, 2012.

“Department of Defense Fiscal Year (FY) 2012 Budget Estimates,” Justification Book Volume 3, Research, Development, Test & Evaluation, Defense-Wide, Office of Secretary of Defense, Volume 3, February 2011, page 855. Available at http://comptroller.defense.gov/defbudget/fy2012/budget_justification/pdfs/03_RDT_and_E/OSD.pdf, accessed October 13, 2012.

“Department of Defense Fiscal Year (FY) 2011 Budget Estimates,” Volume 3B, Research, Development, Test and Evaluation, Defense-Wide, Office of Secretary of Defense, Volume 3, February 2010, page 459. Available at

“to improve the U.S. warfighter’s capabilities” by testing “items and technologies of our foreign allies that have a high Technology Readiness Level (TRL)” that could satisfy “mission area shortcomings.”⁸⁹ One of the program’s stated objectives is “eliminating unnecessary duplication.”⁹⁰

“In the last 12 years, enhanced body armor from Germany; a mine-clearing system from Denmark; and a bunker-busting, multi-purpose rocket warhead from Norway were a few of the 105 items tested and deployed by U.S. forces that originated in the FCT program. Other examples include advances in lightweight body armor and lighter, longer-lasting rechargeable batteries,” according to the U.S. Army website.⁹¹

Now beef jerky will be added to this list.

“I was told this is the first time FCT has funded a project that wasn’t related to weaponry or combat systems. Mine was the first one related to food. FCT was happy to fund this novel technology,” said Tom Yang, a South Carolina-based senior food scientist on the Food Processing, Engineering and Technology team at the Combat Feeding Directorate.⁹²

The U.S. Army Natick Soldier Research, Development and Engineering Center, Department of Defense Combat Feeding Directorate is “partnering” with the food processing company FPL Food to develop the new meat snacks.⁹³

The DOD meat treats will differ from traditional jerky, since they will be developed using osmotic dehydration, a process developed in France. As part of that process, “the meat is extruded into a thin sheet on a sheet of parchment paper on a conveyor system.”⁹⁴ According to the Pentagon, the result is “a meat roll-up that can be consumed as a savory snack or used as a

http://comptroller.defense.gov/defbudget/fy2011/budget_justification/pdfs/03_RDT_and_E/OSD%20RDTE_PB_2011_Volume%203B.pdf, accessed October 13, 2012.

⁸⁹ “Foreign Comparative Testing (FCT) Program,” U.S. Navy website, <http://www.onr.navy.mil/Science-Technology/Directorates/Transition/Technology-Transition-Initiatives-03TTX/Foreign-Comparative-Testing-FCT.aspx>, accessed October 9, 2012.

⁹⁰ Ibid.

⁹¹ Teel, Roger. “DOD considers foreign technologies to save dollars,” U.S. Army website, June 22, 2012, http://www.army.mil/article/82386/DOD_considers_foreign_technologies_to_save_dollars/, accessed October 9, 2012.

⁹² Teel, Roger. “‘Where’s the beef?’ -- DoD finds answers in osmotic dehydration process,” U.S. Army website, September 17, 2012, http://www.army.mil/article/87419/Where_s_the_beef_DoD_finds_answers_in_osmotic_dehydration_process/, accessed October 10, 2012.

⁹³ Ibid.

⁹⁴ Ibid.



Meat Roll-Ups: Defense research dollars are being spent to create a new form of beef jerky that comes in thin flat pieces like a Fruit Roll-Up. This is first time the Pentagon's Foreign Comparative Testing program has ever funded a project not related to weaponry or combat systems.

filling for a shelf stable sandwich."⁹⁵ "The finished product resembles a Fruit Roll-up" rather than a traditional meat stick such as the popular Slim Jim.⁹⁶

A variety of flavors are being developed, including salami, chipotle, turkey, pork, and smoked ham. There is also a product made from fish, but "the recipe needs to be tweaked to make it less fishy," according to Yang.⁹⁷

Several flavors are already available from a number of commercial producers. In fact, the jerky market is flourishing. "Sales of jerky increased by 13.6% to \$760.2 million for the year ended Aug. 12, according to SymphonyIRI Group, a Chicago market research firm. That follows several years of growth, including a 13.4% sales jump in 2011."⁹⁸

And while our men and women in uniform certainly would welcome new menu options, these dollars could be better spent at this time when sequestration imposed by the Budget Control Act is set to cut billions of dollars from our national defense budget.

While this may be the first time a Pentagon weapons research program has spent dollars on developing meat treats, a number of federal programs are also involved in the jerky industry.

⁹⁵ "Department of Defense Fiscal Year (FY) 2011 Budget Estimates," Volume 3B, Research, Development, Test and Evaluation, Defense-Wide, Office of the Secretary of Defense (OSD), Office of Secretary Of Defense, Volume 3, page 459, February 2010;
http://comptroller.defense.gov/defbudget/fy2011/budget_justification/pdfs/03_RDT_and_E/OSD%20RDTE_PB_2011_Volume%203B.pdf.

⁹⁶ Teel, Roger. "'Where's the beef?' -- DoD finds answers in osmotic dehydration process," U.S. Army website, September 17, 2012,
http://www.army.mil/article/87419/Where_s_the_beef_DoD_finds_answers_in_osmotic_dehydration_process/.

⁹⁷ Ibid.

⁹⁸ "Gourmet flavors beef up beef jerky," Snack Food and Wholesale Bakery Magazine, September 28, 2012,
<http://www.snackandbakery.com/articles/85997-gourmet-flavors-beef-up-beef-jerky>.

This year, the Department of Housing and Urban Development's Community Development Block Grant program provided \$356,000 to pay for infrastructure improvements to help the expansion of Link Snacks Inc., which boasts being "the fastest-growing meat snack manufacturer in the world" that sells "more than 100 different meat snack products."^{99 100 101}

The Department of Agriculture (USDA) has also been providing meat jerky grants for years. This year, the Sunburst Trout Farms, which produces trout jerky as well as smoked trout dip and trout caviar, received a \$283,884 USDA Value-Added Producer Grant to help expand the market for its products.¹⁰²

Perception of Size Matters: Guys with Guns Appear Bigger, Stronger and More Masculine

A man holding a gun appears taller, stronger and more masculine than he would otherwise, according to research supported by the U.S. Air Force.¹⁰³

For the study, hundreds of people were asked to match a series of pictures. The first was a set of different men's hands holding a single item, including a caulk gun, an electric drill, a large saw and handgun. Participants were then asked to match the hands with images of progressively taller and more muscular men. "Study participants consistently judged pistol-



packers to be taller and stronger than the men holding the other objects, even though the experiment's four hand models were recruited on the basis of their equivalent hand size and similar hand appearance."¹⁰⁴

"Knowing that an individual possesses a gun or a large kitchen knife leads observers to conceptualize him as taller, and generally larger and more muscular, than

Participants in an Air Force study rated the height, size, and muscularity of men holding an array of items including several types of handguns, a drill, a handsaw, a caulk gun, a kitchen knife, a paintbrush, and a toy squirt gun.

⁹⁹ "Minong receives Community Development Block Grant," Wisconsin Economic Development Corporation, November 28, 2011, <http://inwisconsin.com/blog/2011/11/28/minong-community-development-grant/>, accessed October 13, 2012.

¹⁰⁰ "Grant to help pave way for Jack Link's expansion in Minong," Duluth News Tribune, December 5, 2011, <http://www.duluthnewstribune.com/event/article/id/216379/>, accessed October 9, 2012.

¹⁰¹ "ABOUT US: Our History," Jack Link's Snacks Inc. website, http://www.jacklinks.com/#SubChannel_AboutUs_OurHistory, accessed October 10, 2012.

¹⁰² "SUNBURST TROUT ADDS SMOKER WITH NCVACS, USDA AWARDS," North Carolina State University website, posted February 22, 2012, <http://plantsforhumanhealth.ncsu.edu/2012/02/22/sunburst-trout-farms/>, accessed October 9, 2012.

¹⁰³ The study was conducted by the U.S. Air Force Office of Scientific Research

¹⁰⁴ "Do I Look Bigger With My Finger On a Trigger? Yes, Says Study," ScienceDaily, April 11, 2012; <http://www.sciencedaily.com/releases/2012/04/120411205425.htm>.

individuals who possess only tools or similarly mundane objects,” researchers from UCLA concluded in the study published in *Public Library of Science*.¹⁰⁵ The concept for the study was motivated when David Fessler, the lead author “noticed something strange one day on his way to go mountain biking. Decked out in biker’s body armor as he drove up to a trailhead in the Southern California hills, the UCLA anthropology professor says he ‘just felt badass.’” Fessler observed “I’m wearing all this gear, I felt powerful, I felt big. I thought, ‘That’s really weird. Where does that come from?’”¹⁰⁶

“That question sparked a series of Air Force-funded experiments that seem to confirm what most warriors long have known: Brandishing a weapon makes a man appear bigger and stronger.”¹⁰⁷

Recruited from Craigslist and other websites, the participants in the study were only chosen from those living in the United States.¹⁰⁸ The findings, therefore, may not necessarily translate to perceptions held by enemy combatants in other countries or cultures, like Iraq or Afghanistan, where suicide bombers or terrorists who conceal their weapons.

So does the study on who looks bigger holding what tool really provide new revelations to improve the Air Force’s combat tactics? “I think they did a pretty good job of convincing me they have a reasonable hypothesis,” said Edward Hagen, a biological anthropologist at Washington State University Vancouver who was not involved in the study. “Have they convinced me that it’s correct? No, but I think it’s a good start.”¹⁰⁹ The studies were paid for as part of a \$681,387 grant from the Air Force Office of Scientific Research.¹¹⁰

Close Encounters and Space Weather

The completion of a secretive mission by an Air Force robotic space plane that orbited the Earth for more than a year demonstrated that even though the manned NASA space fleet has

¹⁰⁵ Daniel M. T. Fessler, Colin Holbrook, and Jeffrey K. Snyder, “Weapons Make the Man (Larger): Formidability Is Represented as Size and Strength in Humans,” *PLoS ONE*, April 11, 2012;

<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0032751#s6>.

¹⁰⁶ Jon R. Anderson, “Air Force study reveals weapons make you look bigger, stronger,” *Army Times*, May 3, 2012;

<http://www.armytimes.com/offduty/health/air-force-study-weapons-make-you-look-bigger-050312/>.

¹⁰⁷ *Ibid.*

¹⁰⁸ Researchers recruited participants using advertisements on the websites Craigslist.org and MechanicalTurk.com. Some participants were offered a raffle incentive to win a \$100 Amazon.com gift certificate; Daniel M. T. Fessler, Colin Holbrook, and Jeffrey K. Snyder, “Weapons Make the Man (Larger): Formidability Is Represented as Size and Strength in Humans,” *PLoS ONE*, April 11, 2012;

http://www.plosone.org/article/showImageLarge.action?uri=info%3Adoi%2F10.1371%2Fjournal.pone.0032751.g002&representation=PNG_L.

Daniel M. T. Fessler, Colin Holbrook, and Jeffrey K. Snyder, “Weapons Make the Man (Larger): Formidability Is Represented as Size and Strength in Humans,” *PLoS ONE*, April 11, 2012;

<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0032751#s6>.

¹⁰⁹ Amina Khan, “A gun in hand makes a man look taller, study says,” *Los Angeles Times*, April 12, 2012;

<http://articles.latimes.com/2012/apr/12/science/la-sci-weapons-height-20120412>.

¹¹⁰ Information provided by the Air Force to the Congressional Research Service for Air Force Office of Scientific Research Award # FA9550-10-1-0511.

been grounded for the foreseeable future, the United States is still a leader in the field of space flight and exploration.

“National security space programs, conducted by the Department of Defense and the intelligence community, are much less visible than NASA, but their budgets are comparable to NASA’s,”¹¹¹ according to the non-partisan Congressional Research Service. Some analysts even believe the government spends more on military and intelligence space initiatives than on civilian space efforts.¹¹²

From spy satellites to the Missile Defense Agency (MDA) which is charged with developing a missile defense system using space-based sensors, there are obvious a role for the Pentagon in space.

The Government Accountability Office (GAO), however, has found a lack of coordination between DOD and other agencies involved in space science and technology (S&T), such as NASA and National Oceanic and Atmospheric Administration (NOAA). GAO notes DOD space “strategy developers stated that they did not coordinate with NASA or NOAA in developing the strategy because the statute did not direct that these agencies be involved” even though “NASA and NOAA are both involved in significant space S&T efforts.”¹¹³

Other DOD supported space projects, however, are unnecessary, duplicative, and wasteful, such as directing millions of dollars to test the accuracy of the telescopes of an organization seeking extraterrestrial life on other planets.

The Search for Extraterrestrial Intelligence (SETI) Institute was founded to explore the universe for other forms of intelligent life. Using its Allen Telescope Array (ATA), SETI scans the skies for “electromagnetic signals that could hint at the presence of an intelligent alien civilization.”¹¹⁴

SETI projects have been sponsored by an array of federal government agencies including NASA, National Science Foundation (NSF), Department of Energy, the U.S. Geological Survey, and the U.S. Air Force. But in 2011, the Allen Telescope Array was temporarily closed because of a lack of private or federal interest. At the time, Tom Pierson, CEO of the SETI Institute said the ATA, “has been placed into hibernation due to funding shortfalls for operations.”¹¹⁵

¹¹¹ Daniel Morgan, “The Future of NASA: Space Policy Issues Facing Congress,” Congressional Research Service, January 27, 2011.

¹¹² Joel Achenbach, “NASA gets two military spy telescopes for astronomy,” Washington Post, June 4, 2012; http://www.washingtonpost.com/national/health-science/nasa-gets-military-spy-telescopes-for-astronomy/2012/06/04/gJQAsT6UDV_story.html.

¹¹³ “SPACE RESEARCH: Content and Coordination of Space Science and Technology Strategy Need to Be More Robust,” Government Accountability Office, July 2011; <http://www.gao.gov/assets/330/321406.pdf>.

¹¹⁴ “SETI Back On Track After US Military Funding,” redOrbit.com, December 7, 2011; <http://www.redorbit.com/news/space/1112435819/seti-back-on-track-after-us-military-funding/>.

¹¹⁵ Michael D. Lemonick, “ET, Call Us – Just Not Collect,” Time Magazine, April 28, 2011, <http://www.time.com/time/health/article/0,8599,2067855,00.html>, accessed July 8, 2012.

The Air Force resuscitated the telescope in late 2011 by providing \$2 million “to complete a Military Utility Assessment on the Allen Telescope Array as a potential capability to augment the Space Surveillance Network” (SSN).¹¹⁶

The Space Surveillance Network utilizes optical and radar sensors around the world to provide on-orbit positional data to the U. S. Strategic Command’s Joint Space Operations Center Space Situational Awareness Operations Cell, which is located at Vandenberg Air Force Base in California.¹¹⁷ The Ground-Based Electro-Optical Deep Space Surveillance System (GEODSS) is currently responsible for tracking objects in space, including everything from weather and GPS satellites to manmade space junk. The GEODSS Deep STARE system can track objects as small as a basketball more than 20,000 miles away.¹¹⁸

According to SETI, “the initial task completed” for the Air Force “was an assessment of the capability of the array to accurately track orbiting objects, specifically GPS satellites. The GPS satellite constellation was selected because the location of these satellites in space is well known.”¹¹⁹

“To be utilized as a viable long-term sensor for the SSN, the ATA has to demonstrate many characteristics besides accurately being able to observe orbiting satellites. Its data have to be consistent, timely, precise, sensitive, and have a throughput that makes it worth the cost of a long-term investment by the Air Force. If these factors demonstrate themselves, the ATA may be integrated into the SSN to help to ensure the safety of flight of objects in space.”¹²⁰

Even though it is spending millions of dollars on this test, the Air Force concedes “the Allen Telescope Array has limited capability to augment the Space Surveillance Network due to its currently configuration and location.”¹²¹

Knowing this limited capability, how is using military dollars to fund a civilian agency to study tracking GPS satellites, which are already heavily tracked, a priority when our nation is \$16 trillion in debt?

¹¹⁶ Correspondence from the Assistant Secretary of the Air Force (Acquisition) Directorate of Space Programs to the office of Senator Tom Coburn, January 4, 2012.

¹¹⁷ “GROUND-BASED ELECTRO-OPTICAL DEEP SPACE SURVEILLANCE,” United States Air Force website, September 15, 2010; <http://www.af.mil/information/factsheets/factsheet.asp?id=170>.

¹¹⁸ Ibid.

¹¹⁹ “AFSPC explores Allen Telescope Array for Space Surveillance,” SETI website, accessed June 19, 2012; <http://www.seti.org/afspc>.

¹²⁰ “AFSPC explores Allen Telescope Array for Space Surveillance,” SETI website, accessed June 19, 2012; <http://www.seti.org/afspc>.

¹²¹ Correspondence from the Assistant Secretary of the Air Force (Acquisition) Directorate of Space Programs to the office of Senator Tom Coburn, January 4, 2012.



E.T. phone DOD: The Pentagon is spending millions to test the accuracy of the Search for Extraterrestrial Intelligence Institute's telescopes.

The Pentagon is also one of 17 federal departments involved in space weather monitoring, research, and forecasts. NOAA, NASA, and DOD all operate environmental research satellites.

While there are unique circumstances that require the Pentagon to monitor space weather for defense purposes, GAO found the products of DOD's Air Force Weather Agency and NOAA "are similar, and the majority of the space weather data they use are the same."¹²²

Despite this duplication and overlap among DOD and other agencies, GAO noted these agencies "lack a strategy for the long-term provision of space weather data" and "without a comprehensive long term strategy for the provision of space weather data, agencies may make ad hoc decisions to ensure continuity in the near term and risk making inefficient investment decisions."¹²³

The joint space weather program National Polar-orbiting Operational Environmental Satellite System (NPOESS), in fact, has been "hemorrhaging money without having left the ground, forcing the Defense Department to reexamine the program.

Originally estimated to cost about \$6.5 billion through its 24-year life, by 2006 NPOESS's cost estimate was about \$12.5 billion, even after critical climate monitoring instruments were cut."¹²⁴

¹²² "ENVIRONMENTAL SATELLITES: Strategy Needed to Sustain Critical Climate and Space Weather Measurements," Government Accountability Office, April 2010; <http://www.gao.gov/new.items/d10456.pdf>.

¹²³ "ENVIRONMENTAL SATELLITES: Strategy Needed to Sustain Critical Climate and Space Weather Measurements," Government Accountability Office, April 2010; <http://www.gao.gov/new.items/d10456.pdf>.

¹²⁴ Emmarie Huettelman, "Aging and failed satellites jeopardize efforts to collect data on climate change," The Washington Post, January 24, 2011; <http://www.washingtonpost.com/wp-dyn/content/article/2011/01/24/AR2011012405139.html>.

Some Department of Defense leaders and advocates wrongly claim that there is no area of their budget that can be further cut. This program – identified by the nonpartisan Government Accountability Office – is yet another example how our nation’s debt has risen to \$16 trillion and how our military dollars are being spent in a way that does not increase our national security.

DOD Hunts Ten Red Balloons

“The war machine springs to life. Opens up one eager eye, focusing it on the sky, 99 red balloons go by.”¹²⁵

So goes the 1980s song by Nena, “99 Red Balloons” which tells the apocalyptic tale about how nuclear war erupts when faulty radars are unable to identify 99 red balloons released by two children.

Twenty-five years later, the U.S. Department of Defense was, in fact, hunting red balloons. Those who found the balloons first even received a financial reward from the Pentagon.

The effort was part of the Red Balloon Challenge launched in 2009 by the Defense Advanced Research Projects Agency (DARPA). A \$40,000 prize was awarded to the first team to correctly identify the locations of 10 red weather balloons placed in undisclosed locations across the country.¹²⁶ The purpose of the project was to explore “how the Internet and social networking can be used to solve a distributed, time-critical, geo-location problem.”¹²⁷

A team from the Massachusetts Institute of Technology (MIT) won the contest after correctly locating all ten of the balloons in eight hours, 52 minutes, and 41 seconds.¹²⁸

The Red Balloon Challenge was not an entirely new concept. In August 2009, *Wired Magazine* launched the Vanish Competition, in which one of the magazine’s contributors was in hiding, offered a \$5,000 prize to whoever could find him first.¹²⁹ Similar to the Red Balloon



Ten red balloons go by.

¹²⁵ English lyrics to “99 Red Balloons” by Nena; http://german.about.com/library/blmus_nena99redb.htm .

¹²⁶ Correspondence from the Department of Defense to Senator Tom Coburn, October 12, 2012.

¹²⁷ John C. Tang, Manuel Cebrian, Nicklaus A. Giacobe, Hyun-Woo Kim, Taemie Kim, and Douglas “Beaker” Wickert, “Reflecting on the DARPA Red Balloon Challenge,” *Communications of the Association for Computing Machinery*, volume 54, number 4, April 2011, page 78; <http://web.media.mit.edu/~cebrian/p78-tang.pdf> .

¹²⁸ *Ibid* .

¹²⁹ Evan Ratliff, “Author Evan Ratliff Is on the Lam. Locate Him and Win \$5,000,” *Wired*, August 14, 2009; <http://www.wired.com/vanish/2009/08/author-evan-ratliff-is-on-the-lam-locate-him-and-win-5000/> .

Challenge, the participants in the Vanish Competition “extensively used social networking tools such as Facebook and Twitter to connect and share information.”¹³⁰

While the Red Balloon Challenge—like *Wired*’s Vanish Competition before it—demonstrated social networks can be effectively applied to searches, “it could be argued that the social networking model of problem solving is not as efficient as it appears for a number of reasons.” First, “there were hundreds of unsuccessful teams.” The social networking approach could also be “easily corrupted” with “individuals targeted” manipulating the system with false information.¹³¹ Additionally, “DARPA selected readily accessible public sites where the balloons would be visible from nearby roads,” and therefore relatively easy to spot.¹³² The locations included prominent locations in Miami and San Francisco.¹³³

Some described the Red Balloon Challenge as a “high tech treasure hunt” that “almost sounds like it’s too much fun to have been hatched by the military.”¹³⁴

Robots as Children’s Playmates

Warfare involving robots is no longer science fiction.

“War robots with fierce names, e.g., Harpy and Global Hawk, currently perform a range of duties in the military theater, such as spying or surveillance (air, land, underwater, space), defusing bombs, assisting the wounded, inspecting hideouts, and attacking targets—in other words, they perform the ‘three Ds’: jobs that are dull, dirty, or dangerous.”¹³⁵

The Pentagon and other federal agencies, including the National Science Foundation, the National Institutes of Health, U.S. Department of Agriculture, and the National Aeronautics and Space Administration, are collaborating on the National Robotics Initiative.¹³⁶ A number of DOD components including the Army Research Office, the Office of Naval Research, the Air

¹³⁰ Christopher M. Ford, “Twitter, Facebook, and Ten Red Balloons: Social Network Problem Solving and Homeland Security,” *Homeland Security Affairs*, volume 7, February 2011; <http://www.hsaj.org/?fullarticle=7.1.3>.

¹³¹ *Ibid.*

¹³² John C. Tang, Manuel Cebrian, Nicklaus A. Giacobe, Hyun-Woo Kim, Taemie Kim, and Douglas “Beaker” Wickert, “Reflecting on the DARPA Red Balloon Challenge,” *Communications of the Association for Computing Machinery*, volume 54, number 4, April 2011, page 79; <http://web.media.mit.edu/~cebrian/p78-tang.pdf>.

¹³³ Matthew Rivera, “MIT Team Wins Darpa’s Balloon-Spotting Contest,” *Wall Street Journal*, December 7, 2009; <http://blogs.wsj.com/digits/2009/12/07/mit-team-wins-darpas-balloon-spotting-contest/>.

¹³⁴ Ki Mae Heussner, “What’s With the Red Balloons? Military Offers \$40k in Contest,” *ABC News*, December 5, 2009; <http://abcnews.go.com/Technology/red-balloons-military-offers-40k-contest/story?id=9252014#T85jwOtYsR4>.

¹³⁵ Patrick Lin, “Robots, Ethics & War: Military 2.0: Ethical Blowback from Emerging Technologies,” Center for Internet and Society at Stanford Law School, December 15, 2010; <http://cyberlaw.stanford.edu/node/6571>.

¹³⁶ John F. Sargent Jr., “Federal Research and Development Funding: FY2013,” Congressional Research Service, June 14, 2012.

Force Office of Scientific Research, and the Office of the Secretary of Defense, are contributing to the initiative.¹³⁷

Robots are serving increasingly vital national defense roles and therefore DOD support for this initiative and other R&D in robotics makes sense. However, not all robot research is defense related or is it necessary, such as a Defense Department funded study on babies' reactions to robots.

According to research funded by the Office of Naval Research, babies are more likely to pay attention to a robot capable of interacting with humans.¹³⁸

As part of the experiment, a group of 18-month-old babies were watched as each individually observed the interactions between researchers and a robot named "Morphy." The small "metallic humanoid robot with arms, legs, a torso and a cube-shaped head containing camera lenses for eyes" was "controlled by a researcher hidden from the baby" while it interacted with another researcher the child could see. The robot waved and pointed to its torso and head when asked "Where is your tummy?" and "Where is your head?"¹³⁹ The researchers also made arm movements which Morphy the Robot imitated. The babies looked back and forth between the researcher and robot "as if at a ping pong match."¹⁴⁰

After 90 seconds, the researcher left the room so the babies' reaction to Morphy could be observed. "The robot beeped and shifted its head slightly—enough of a rousing to capture the babies' attention. The robot turned its head to look at a toy next to the table where the baby sat."¹⁴¹

Most babies who had watched the robot interact with the research "followed the robot's gaze." But "in a control group of babies who had been familiarized with the robot but had not seen Morphy engage in games, only three of 16 turned to where the robot was looking."¹⁴²

"It is not just what something looks like, but how it moves and interacts with others that gives it special meaning to the baby," according to Andrew Meltzoff, who led the project.¹⁴³

The study concluded "communication with other people is a fundamental feature of being human" and "if you want to build a companion robot, it is not sufficient to make it look human...the robot must be able to interact socially with humans."¹⁴⁴ Of course an interactive

¹³⁷ "Supporting the President's National Robotics Initiative," Executive Office of the President, Office of Science and Technology Policy, website, August 3, 2011, <http://www.whitehouse.gov/blog/2011/08/03/supporting-president-s-national-robotics-initiative>.

¹³⁸ "I Want to See What You See: Babies Treat 'Social Robots' as Sentient Beings," ScienceDaily, October 14, 2010; <http://www.sciencedaily.com/releases/2010/10/101014100009.htm>. The National Science Foundation also supported the study.

¹³⁹ Ibid.

¹⁴⁰ Ibid.

¹⁴¹ Ibid.

¹⁴² Ibid.

¹⁴³ Ibid.

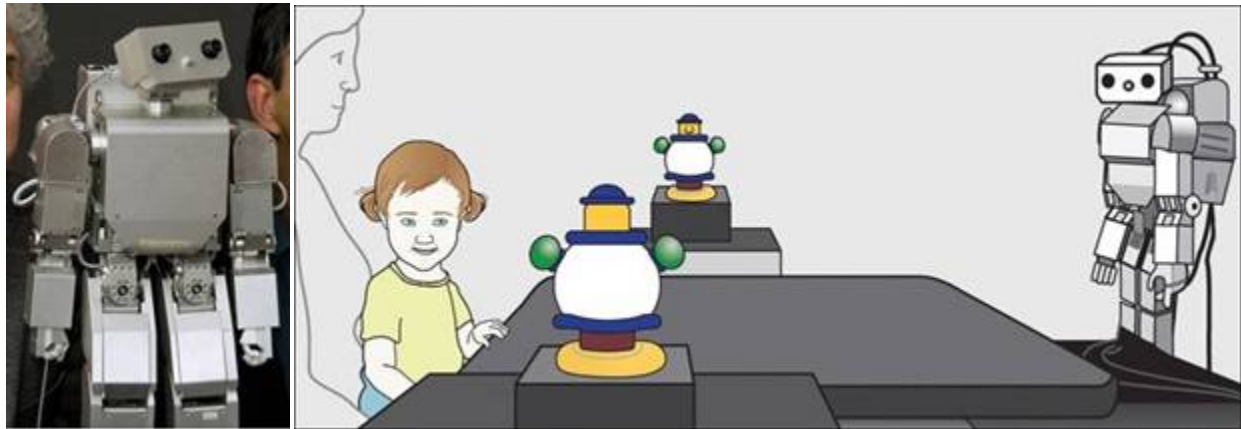
¹⁴⁴ "I Want to See What You See: Babies Treat 'Social Robots' as Sentient Beings," ScienceDaily, October 14, 2010, <http://www.sciencedaily.com/releases/2010/10/101014100009.htm>.

robot would be more noticed by infants much more so than one that was not interactive. It is absurd to think that anyone seriously considered that there would be another outcome to this study.

While robotics and computer science play an increasingly critical role in defense and warfare, the relevance of this particular study - that merely confirmed common sense - to our national security is extremely unclear.

DOD claims the “research aims to enhance and improve warfighter ability to interact with, e.g., thousands of ‘PackBots’ already on station with U.S. and coalition forces in Afghanistan.”¹⁴⁵ A “Packbot” is a small military robot with a gripping hand, audio and visual sensors, and treads.¹⁴⁶

The Office of Naval Research spent \$450,000 on this study from 2009 to 2012.¹⁴⁷



Research funded by the Office of Naval Research observed the social interaction between babies and Morphy, a metallic robot.

¹⁴⁵ Correspondence from the Department of Defense to Senator Tom Coburn, October 12, 2012.

¹⁴⁶ Ed Grabianowski, “How Military Robots Work,” HowStuffWorks.com, accessed October 24, 2012; <http://science.howstuffworks.com/military-robot3.htm>.

¹⁴⁷ Correspondence from the Department of Defense to Senator Tom Coburn, October 12, 2012.

First Bird Likely Had Black Feathers, Air Force Research Concludes

Archaeopteryx, which existed 150 million years ago and long considered to be the first bird, probably had black feathers which may have helped it fly, according to research funded by the Air Force Office of Scientific Research (AFOSR).

The study was conducted by Brown University and the research group “identified the color of the raven-sized creature’s fossilized wing feather, determining it was black. The color and the structures that supplied the pigment suggest that Archaeopteryx’s feathers were rigid and durable, which would have helped it to fly.”¹⁴⁸

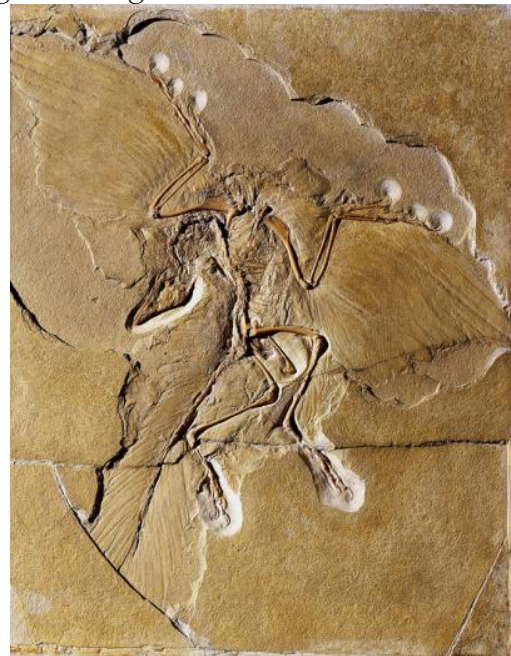
After comparisons with 87 species of living birds,¹⁴⁹ the researchers predicted the original color of Archaeopteryx’s feathers “was black, with 95 percent probability,” concluded the study published in *Nature Communications*.¹⁵⁰

“What the pigment was used for is less clear. The black color of the Archaeopteryx wing feather may have served to regulate body temperature, act as camouflage or be employed for display. But it could have been for flight, too.”¹⁵¹

“We can’t say it’s proof that Archaeopteryx was a flier,” the study’s lead author says, but notes the similarities identified with modern birds suggest the first known bird may have been capable of flight.

The study of the iconic dinosaur, which was also supported by the National Geographic Society, may advance paleontology and the understanding of birds and dinosaurs, but is unlikely to improve the defense of our nation against any existing threat. Other federal agencies, including the National Science Foundation provide grants for paleontology research.

AFOSR spent nearly \$300,000 on this study and, according to the Pentagon, the “research goal was to identify structures and mechanisms of color production in bio-optical



The first bird, which existed some 150 million years ago, most likely had black feathers, according to a study supported by the Air Force Office of Scientific Research.

¹⁴⁸ “Winged dinosaur Archaeopteryx dressed for flight,” Brown University, January 24, 2012; <http://news.brown.edu/pressreleases/2012/01/archaeopteryx>.

¹⁴⁹ Ibid.

¹⁵⁰ Ryan M. Carney, Jakob Vinther, Matthew D. Shawkey, Liliana D’Alba and Jörg Ackermann, “New evidence on the colour and nature of the isolated Archaeopteryx feather,” *Nature Communications*, January 24, 2012; http://www.nature.com/ncomms/journal/v3/n1/full/ncomms1642.html?WT.ec_id=NCOMMS-20120124.

¹⁵¹ “Winged dinosaur Archaeopteryx dressed for flight,” Brown University, January 24, 2012; <http://news.brown.edu/pressreleases/2012/01/archaeopteryx>.

tissue materials useful for military applications including new surface coatings and photonic crystal fibers.”¹⁵²

The Science of Storytelling

There is an art to telling a good story, and now the Pentagon is spending taxpayer dollars to know if perhaps there is a science behind telling a great tale too.

How a story is told can have significant impact on the understanding, consequence, and the comprehension of listeners.

So what is the science behind telling a good story? The real story may be how much taxpayers are spending to find out!



Defense Department officials and others gathered at the Sheraton Fisherman's Wharf Hotel in San Francisco to share stories about the art and science of telling a good story.

Over the past two year, the Defense Advanced Research Projects Agency (DARPA) has spent about \$6 million to explore this question with 12 grants¹⁵³ including a two day workshop entitled “Neurobiology of Narratives.”

“Understanding how narratives inform neurobiological processes is critical if we are to ascertain what effect narratives have on the psychology and neurobiology of human choices and behaviors,” according to DARPA and can help in “better understanding the thoughts and feelings of others.”¹⁵⁴

Examining the impact of storytelling from a scientific point of view is not a new area of inquiry. “Over the last several decades psychology has begun a serious study of how story affects the human mind. Results repeatedly show that our attitudes, fears, hopes, and values are strongly influenced by story.”¹⁵⁵

Of course this gathering was more storytelling and talk, than actual science in action since it took place at a hotel and not in a research setting.

¹⁵² Correspondence from the Department of Defense to Senator Tom Coburn, October 12, 2012.

¹⁵³ Correspondence from the Department of Defense to Senator Tom Coburn, October 12, 2012.

¹⁵⁴ “Narrative Networks (N2): The Neurobiology of Narratives,” Defense Advanced Research Projects Agency Solicitation Number 11-25, Federal Business Opportunities website, March 31, 2011; <https://www.fbo.gov/index?s=opportunity&mode=form&id=f7cc131cc2dffa859aelad6fb952a581&tab=core&cview=0>.

¹⁵⁵ Jonathan Gottschall, “Why Storytelling Is The Ultimate Weapon,” Co.Create, May 2012; <http://www.fastcocreate.com/1680581/why-storytelling-is-the-ultimate-weapon>.

The event was held April 2011 at the Sheraton Fisherman's Wharf Hotel in San Francisco.¹⁵⁶ The hotel is "located in the heart of San Francisco's most popular neighborhood," just "steps away from Pier 39, Ghirardelli Square, Alcatraz Island, and the world famous San Francisco Cable Car lines."¹⁵⁷

As the Pentagon and Congress consider cutting active duty Army infantry brigades, it should consider whether or not keeping storytelling conferences is a good use of Department of Defense funding.

¹⁵⁶ "Narrative Networks (N2): The Neurobiology of Narratives," Defense Advanced Research Projects Agency Solicitation Number 11-25, Federal Business Opportunities website, March 31, 2011; <https://www.fbo.gov/index?tab=documents&tabmode=form&subtab=core&tabid=01c380d441fd9bbca2c7a0173935ebcb>.

¹⁵⁷ Sheraton Fisherman's Wharf Hotel website, accessed June 22, 2012; <http://www.sheratonatthewharf.com/>.

Medical Research

The Pentagon is fighting terrorists in Afghanistan, securing the future of democracy in Iraq, and maintaining the peace on the Korean peninsula. Around the world, the armed forces are poised and ready to defend America wherever and whenever duty calls. But the Department of Defense is also fighting other wars far from any battlefield, without bombs or guns, and right here in the United States.

The enemies are actually very familiar adversaries whose threats precede modern warfare, armies, or even nations. **They include osteoporosis, cancer, and other diseases and medical afflictions.**

While these diseases certainly kill millions of Americans every year, medical research into their causes and possible cures do not seem obvious missions for the United States military. In fact, DOD's health care research duplicates the work of other federal agencies whose missions include addressing these problems, such as the Department of Health and Human Services and the Department of Veterans Affairs.



Tactical combat casualty care is markedly different than civilian settings and there is an urgent need to improve focused research knowledge in this area to reduce preventable deaths.

It may not initially seem like a bad idea to have multiple agencies each trying to advance scientific knowledge in the same areas, but in practice the duplicated efforts are siphoning resources from DOD specific challenges. **This has real life and death implications for wounded soldiers on the battlefield and for our country's defense needs.**

“Prehospital trauma care in tactical settings is markedly different from civilian settings” and the “principles are different than the civilian training,” according to the National Association of Emergency Medical Technicians (NAEMT). This is extremely important as “approximately 18 percent of combat deaths today are potentially preventable.”¹⁵⁸

Over the years, well intentioned politicians in Congress have steered billions of dollars from DOD's budget to non-defense related medical research already receiving the attention of other government health agencies. The practical result is fewer resources are available for DOD to address those specific health challenges facing members of the armed forces for which no other agencies are focused.

¹⁵⁸ “Introduction to Tactical Combat Casualty Care,” National Association of Emergency Medical Technicians, slide 38, February 2009; <http://www.naemt.org/Education/IGa%20Intro%20to%20TCCC%20with%20Notes%202-17-09.pdf>.

Washington Lobbyists and Politicians Use Defense Budget as a Trojan Horse for Political Pork

U.S. Army Medical Research Command focuses on various areas of biomedical research directly related to the battlefield, including military infectious diseases, combat casualty care, military operational medicine, medical chemical and biological defense, and clinical and rehabilitative medicine.¹⁵⁹ This clearly is an appropriate use of military funding.

However, within the DOD medical research portfolio, Congress created programs that “have never been requested in any presidential budget, and are outside the Pentagon’s traditional mission of battlefield medicine and research.”¹⁶⁰ The overhead costs alone are overwhelming, in 2010 the Department of Defense ‘withheld’ or otherwise used for overhead and bureaucracy more than \$45,000,000 in taxpayer funding that did not go for our national security or for actual medical research and development.¹⁶¹

So why does the Department of Defense, whose mission is to win wars, oversee billions of dollars of medical research totally unrelated to combat or military service?

It’s a classic story of lobbyists and Washington politicians exploiting good intentions and budget controls to steer money towards their favored causes regardless of the impact.

According to the explanation provided in the Congressionally Directed Medical Research Programs Annual Report, “a grassroots advocacy movement in the early 1990s campaigned for an increase in breast cancer research funding, and the U.S. Congress responded with an initial congressional appropriation in 1992 of \$25 million to be managed by the Department of Defense U.S. Army Medical Research and Materiel Command (USAMRMC). The following year Congress appropriated \$210M to the DOD for extramural, peer-reviewed breast cancer research. These appropriations marked the beginning of the Congressionally Directed Medical Research Programs (CDMRP). The Congressionally Directed Medical Research Program (CDMRP), began in 1992 as a congressional earmark for breast cancer research, exists to ‘find and fund the best research to eradicate diseases and support the troops for the benefit of the American public.’”¹⁶² Since its creation through fiscal year 2010, CDMRP has been responsible for managing more than \$6 billion appropriated by Congress.¹⁶³

This is a case study of how Washington politicians and special interests groups establish themselves as “leaders” on an issue without regard to the consequences for

¹⁵⁹ “About MRMC,” U.S. Army Medical Research and Materiel Command website, accessed March 8, 2012; <https://mrmc.amedd.army.mil/index.cfm?pageid=about.overview>.

¹⁶⁰ Walter Pincus, “Pentagon cancer research budget comes under scrutiny,” Washington Post, March 13, 2011; http://www.washingtonpost.com/world/pentagon-cancer-research-budget-comes-under-scrutiny/2011/03/10/ABq7S5R_story.html.

¹⁶¹ Department of Defense, “Congressionally Directed Medical Research Program: Annual Report,” September 30, 2011.

¹⁶² U.S. Army Medical Research and Materiel Command, “Congressionally Directed Medical Research Programs: Annual Report,” September 30, 2010, page 1, <http://cdmrp.army.mil/pubs/annreports/2010annrep/2010annreport.pdf>.

¹⁶³ Ibid.

taxpayers or the patients for whom they advocate, such as squandering resources and causing bureaucratic perplexity with the creation of duplicative programs.

In 1992, Congress more than tripled funding for breast cancer research over the previous year. Despite this dramatic increase, the amount fell short of the \$300 million goal set by the National Breast Cancer Coalition (NBCC). To avoid compliance with the Budget Enforcement Act of 1990—which set limits on discretionary spending to control the deficit—or reduce lower priority discretionary spending elsewhere within the budget to pay for increases in breast cancer research, Senator Tom Harkin (D-Iowa) offered an amendment to a Department of Defense appropriations bill to earmark the research funding out of the budget for the Pentagon.

In order to avoid making tough choices and complying with the law regarding deficit spending, the Senate instead decided to engage in dishonest accounting gimmicks to fund a program through the Department of Defense that had absolutely nothing to do with our national security. Twenty years and trillions of dollars in deficits and debt later it is difficult to see how Congress has changed at all.

At the time, Senator Harkin stated during the debate over the amendment that the Department of Defense would collaborate with NIH. Yet, the Army—which was put in charge of the program—created a new, separate bureaucracy now known as the Congressionally Directed Medical Research Program (CDMRP) to administer breast cancer research. CDMRP is funded and managed entirely through the Department of Defense.^{164 165} But a recent Government Accountability Office (GAO) report found NIH and DOD “each lack comprehensive information on health research funded by the other agencies, which limits their ability to identify potential areas of duplication in the health research they fund.”¹⁶⁶

In a history of this unlikely source of medical research funding, *The Washington Post* reported “the inclusion of funds on programs that are outside of the Pentagon’s core mission highlights the persistence of grass-roots organizations that have come to depend on the defense budget as a sacrosanct source of funding.”¹⁶⁷ Again, these organizations are not related to our national security.

The success of one advocacy group to carve out part of the Pentagon’s budget quickly caught the attention of similar groups, lobbyists, and politicians in Congress. *The Washington*

¹⁶⁴ Michael McGeary and Kathi Hanna, “Strategies to Leverage Research Funding: Guiding DOD’s Peer Reviewed Medical Research Programs,” National Academies Press, 2004, pages 12-14.
http://www.nap.edu/catalog.php?record_id=11089.

¹⁶⁵ Senator Harkin stated on the floor of Senate during the amendment debate: “Let me make it clear, the Army is not doing this research. The Army is taking this money and they are contracting out to do the research. They can do it with the National Cancer Institute at NIH. They can do it through peer review, and they can have NIH set this up for them.” September 22, 1992.

¹⁶⁶ “2012 Annual Report: Opportunities to Reduce Duplication, Overlap and Fragmentation, Achieve Savings, and Enhance Revenue,” Government Accountability Office, Report GAO-12-342SP, February 2012, page 97;
<http://www.gao.gov/assets/590/588818.pdf>.

¹⁶⁷ Walter Pincus, “Pentagon cancer research budget comes under scrutiny,” *Washington Post*, March 13, 2011;
http://www.washingtonpost.com/world/pentagon-cancer-research-budget-comes-under-scrutiny/2011/03/10/ABq7S5R_story.html.

Post traced the network of special interests and current and former government officials, all of whom aligned to micromanage disease research dollars outside of the preeminent federal medical research agency, the NIH.

ZERO — The Project to End Prostate Cancer successfully lobbied to earmark funding for prostate cancer research in DOD’s budget. The group’s senior vice president for public policy is a former staff member of the Senate Appropriations Committee that determines the funding for government agencies and programs.¹⁶⁸ In an internal memo obtained by *The Washington Post*, he states his “first couple of years with ZERO was spent fortifying our position on Capitol Hill through existing relationships that I built through the years of working there.”

In 2010 when then-Secretary of Defense Robert Gates called for a reduction in DOD health programs, an officer of one of ZERO’s constituent organizations expressed concern the funds for non-military research could be at risk. ZERO’s senior vice president for public policy replied “there are far too many votes for Members of Congress who DO control the funding of this program to not continue this funding — this is one of the reasons that Members who like to talk about waste, fraud and abuse who want to cut programs have such a hard time doing so — the political scaffold that supports these programs is often too complicated to bring them down.”¹⁶⁹

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Accomplishments

Federal Research Funding

Over the past 15 years, ZERO has increased the federal investment in prostate cancer research from \$80 million to more than \$450 million annually. Nearly every treatment breakthrough in prostate cancer in the last five years has been funded by, at least in part, federal funding secured by ZERO.

ZERO spearheaded the creation of the Congressionally Directed Medical Research Program for Prostate Cancer at the Department of Defense. The program funds \$80 million in research each year. The program specializes in speeding new treatments from the science bench to the patient’s bedside. Every dollar donated to ZERO is leveraged into \$80 for research at the DOD.



ZERO — The Project to End Prostate Cancer claims credit for “the creation” of prostate cancer research at the Department of Defense and claims every dollar donated to the organization “is leveraged into \$80 for research at the DOD.”¹⁷⁰ The group’s senior vice president for public policy is a former congressional staffer with the committee that earmarks the funds.

¹⁶⁸ Kevin Johnson “served for eight years on Capitol Hill as a staffer on the Senate Committee on Appropriations, and then as Legislative Director for Oklahoma Congressman Ernest J. Istook (R-OK),” according to his biography on the ZERO — The Project to End Prostate Cancer website.

“About ZERO/ Staff,” ZERO — The Project to End Prostate Cancer website, accessed March 1, 2012; <http://zerocancer.org/about/staff/>.

¹⁶⁹ Walter Pincus, “Pentagon cancer research budget comes under scrutiny,” *Washington Post*, March 13, 2011; http://www.washingtonpost.com/world/pentagon-cancer-research-budget-comes-under-scrutiny/2011/03/10/ABq7S5R_story.html.

¹⁷⁰ “About ZERO/ Accomplishments: Federal Research Funding,” ZERO — The Project to End Prostate Cancer website, accessed March 1, 2012; <http://zerocancer.org/about/accomplishments/>.

Politicians who earmark DOD funding for the preferred research of a special interest group are then often publicly honored with awards intended to impress voters. The National Breast Cancer Coalition presents various members of Congress with an award for their support. It also maintains a 'Public Policy Hall of Fame.' In 2008, ZERO created its own award: the Golden Glove Award for Prostate Cancer.¹⁷¹ The late Senator Ted Stevens (R-Alaska) was nominated for the first Golden Glove Award for Prostate Cancer, as Senator Stevens "advocated the creation of the Congressionally Directed Medical Research Program for Prostate Cancer at the Department of Defense."¹⁷²

Carving out funding for disease research from the DOD's budget quickly became so popular with lobbyists and politicians, the requests began to add up to billions of dollars a year. But in an unexpected twist, Senator Ted Stevens, the very champion of the prostate cancer research earmark at DOD, began opposing efforts to set aside funding for other research projects, confessing it was a mistake to do so in the first place.

During consideration of the annual defense appropriations bill in August 2006, the senators from Illinois sought to offer an amendment to earmark \$2 million of DOD funds to the University of Chicago for traumatic brain injury research. Then-Chairman of the Senate Appropriations Subcommittee on Defense Ted Stevens objected, noting there were \$3 billion in requests for medical research from other senators, all of which were turned down because the money would "be going to medical research instead of going to the needs of the military" and that "medical research is basically a function of NIH."¹⁷³

"I confess," Stevens stated, "I am the one who made the first mistake years ago. The Senator just reminded me. I am the one who suggested that we include some money for breast cancer research," even though that research had "nothing to do with the Department of Defense" but "with the shortage of money we have now, we are now over the budget by about \$78 billion in emergency money."¹⁷⁴

Stevens argued that if the \$2 million earmark for traumatic brain injury research were included, he would have to accept the \$3 billion worth of medical research earmarks requested by other senators. "One of the reasons we turned this one down is we could not in good faith take the one from the University of Chicago in Illinois and take down the others. We had neuromuscular research. I could go on and on. The things all added up to \$3 billion. This is just the tip of the iceberg. It is \$2 million, but it leads into, Why should we take this amendment of the Senator from Illinois and turn down all these other amendments? We turned them down, not because they were not worthy. We didn't turn them down because they were not necessary. We turned them down because **this is not the place to fund them**" (emphasis added).¹⁷⁵

¹⁷¹ Walter Pincus, "Pentagon cancer research budget comes under scrutiny," Washington Post, March 13, 2011; http://www.washingtonpost.com/world/pentagon-cancer-research-budget-comes-under-scrutiny/2011/03/10/ABq7S5R_story.html.

¹⁷² Friends of Cancer Research website, accessed March 2, 2012; <http://www.focr.org/senator-ted-stevens.html>.

¹⁷³ Debate and consideration of the Fiscal Year 2007 Department of Defense appropriations bill, Congressional Record, August 2, 2006, page S8584.

¹⁷⁴ Ibid.

¹⁷⁵ Debate and consideration of the Fiscal Year 2007 Department of Defense appropriations bill, Congressional Record, August 2, 2006, page S8584.

“I do not want to be accused of being against brain research or ignorant of the fact that there is an enormous number of brain injuries to our military people,” Stevens said, concluding “but no one, again, has told me we need money in this bill for brain research beyond what is there already and beyond what is being made available by NIH.”¹⁷⁶

Senator Stevens’ reversal on the issue of earmarking medical research in the Department of Defense budget was remarkable because he was one of the first to do it. But when other politicians followed suit by seeking to earmark funds for their own favored areas of medical research, the price tag added up quickly. The requests may have had good intentions, but were clearly out of place in the Pentagon’s budget and ultimately designed to bypass budget controls put in place to control government spending.

And while research into these diseases is warranted and widely supported, trusting the political headwinds of Congress rather than allowing science to guide medical experts to determine medical research priorities is inappropriate and ineffective. By listing out funding allocations for specific diseases, the congressional defense committees are micromanaging disease-specific medical spending far outside their expertise.¹⁷⁷

In contrast, the appropriations bills that provide funding for the National Institutes of Health – written by committees responsible for oversight of medical research – do not appropriate specific levels of research funding for specific diseases.¹⁷⁸ The names alone—the Congressionally Directed Medical Research Programs and the National Institutes of Science—provide a clear enough contrast as to whom or what guides the research decisions.

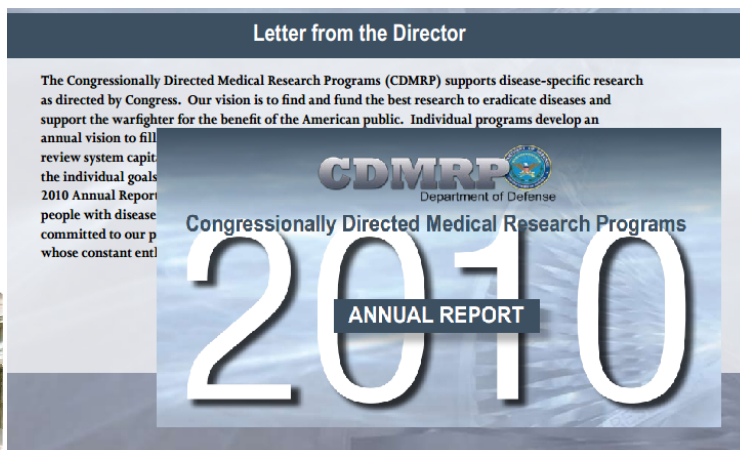
While Congress has the responsibility of setting overall funding levels for research and conducting oversight on how the money is being spent, allowing politics to dictate science has always been a dangerous gambit.

Career politicians, fearful of cutting any program that may offend an interest group, have shown no ability to set priorities for our nation. As a result, our national security is harmed twice – first by military funding for non-military uses and second by the ever-increasing debt to potentially hostile foreign governments that can use their influence to affect the safety and security of all Americans.

¹⁷⁶ Debate and consideration of the Fiscal Year 2007 Department of Defense appropriations bill, Congressional Record, August 2, 2006, page S8584.

¹⁷⁷ CRS Report RL33537, “Military Medical Care: Questions and Answers,” page 16, May 14, 2009, <http://www.fas.org/sgp/crs/misc/RL33537.pdf>.

¹⁷⁸ CRS Report R41705, “The National Institutes of Health (NIH): Organization, Funding, and Congressional Issues,” Congressional Research Service, March 16, 2011, <http://www.crs.gov/pages/Reports.aspx?PRODCODE=R41705&Source=search>.



The Department of Defense's research only focuses on "disease specific research as directed by Congress," meaning the research priorities are handpicked by politicians rather than scientists.¹⁷⁹

Congressionally Directed DOD Medical Research Duplicates the Mission of Other Federal Agencies and May Result in Inefficient and Unnecessary Spending

Most Americans would expect such research to be conducted or overseen by experts at the National Institutes of Health (NIH) or by other agencies within the Department of Health and Human Services (HHS). In fact, they would be right since NIH does conduct research into these same medical menaces. The Office of Research Development (ORD) within the Department of Veterans Affairs (VA) conducts extensive medical research as well.

The Government Accountability Office (GAO) issued a report February 28, 2012 identifying duplication of health research funding between these three agencies. "In fiscal year 2010, NIH, DOD, and VA obligated about \$40 billion, \$1.4 billion, and \$563 million, respectively, for activities related to health research," according to GAO.¹⁸⁰ "NIH, DOD, and VA each lack comprehensive information on health research funded by the other agencies, which limits their ability to identify potential areas of duplication in the health research they fund," GAO found.¹⁸¹ As a result, the agencies "may use available funds inefficiently due to duplication of effort,"¹⁸² including "potential for unnecessary duplication."¹⁸³

¹⁷⁹ "Letter from the Director," E. Melissa Kaime, M.D., Captain, Medical Corps, U.S. Navy, Director, CDMRP, "Congressionally Directed Medical Research Programs Annual Report 2010," September 30, 2010; <http://cdmrp.army.mil/pubs/annreports/2010annrep/2010annreport.pdf>.

¹⁸⁰ "2012 Annual Report: Opportunities to Reduce Duplication, Overlap and Fragmentation, Achieve Savings, and Enhance Revenue," Government Accountability Office, Report GAO-12-342SP, February 2012, page 96; <http://www.gao.gov/assets/590/588818.pdf>.

¹⁸¹ "2012 Annual Report: Opportunities to Reduce Duplication, Overlap and Fragmentation, Achieve Savings, and Enhance Revenue," Government Accountability Office, Report GAO-12-342SP, February 2012, page 97; <http://www.gao.gov/assets/590/588818.pdf>.

¹⁸² Ibid.

¹⁸³ "2012 Annual Report: Opportunities to Reduce Duplication, Overlap and Fragmentation, Achieve Savings, and Enhance Revenue," Government Accountability Office, Report GAO-12-342SP, February 2012, page 99; <http://www.gao.gov/assets/590/588818.pdf>.

“One program manager at NIH and several VA officials said that they had difficulty knowing who to contact at DOD to obtain further information on specific applications.” Even with databases containing some information about the agencies’ research, information to identify overlap remains difficult. The databases “do not always allow for efficient, comprehensive searches to identify unnecessary duplication of research,” GAO found. “Information on health research funded by NIH, DOD, and VA is in different databases with varying types and amounts of information.”¹⁸⁴

The reason for this lack of coordination is extremely puzzling. In 2010 the Department of Defense ‘withheld’ or otherwise spent for overhead and management costs more than \$45,000,000.¹⁸⁵ For the sum of \$45 million per year in overhead and management costs, taxpayers at least deserve to know that scarce medical research dollars at the Pentagon are not spent duplicating the exact same research elsewhere in the federal government.

In addition to overhead that does not go for medical research, universities and other institutions can claim anywhere between a quarter and a third of the funding they ultimately receive from the grant toward overhead and not toward research on top of what the Defense Department already kept for overhead.¹⁸⁶

This can amount to hundreds of millions or potentially billions of taxpayer dollars each year not being spent on medical research.

DOD and VA officials told GAO that, in general, when searching multiple databases for potential duplication, the large number of funded applications on related topics makes comprehensive checks difficult and time-consuming. Because of this, officials at NIH, DOD, and VA told GAO that they often limit searches to principal investigators’ other federally funded research projects, which they are generally required to list on their applications.”¹⁸⁷

Support for medical research for diseases affecting the public is unquestionably a national priority, but the Department of Defense is not the appropriate federal agency to lead this effort, especially since the research it supports duplicates the efforts of other government agencies. As a result, resources that could be invested in medical research are vulnerable to being wasted on inefficiency and unnecessary duplication.

¹⁸⁴ Ibid.

¹⁸⁵ Department of Defense, “Congressionally Directed Medical Research Program: Annual Report,” September 30, 2011.

¹⁸⁶ Government Accountability Office, “University Research: Policies for the Reimbursement of Indirect Costs Need to Be Updated,” September 2010, <http://www.gao.gov/new.items/d10937.pdf>, accessed September 12, 2012.

¹⁸⁷ “2012 Annual Report: Opportunities to Reduce Duplication, Overlap and Fragmentation, Achieve Savings, and Enhance Revenue,” Government Accountability Office, Report GAO-12-342SP, February 2012, pages 98- 99; <http://www.gao.gov/assets/590/588818.pdf>.



The Department of Defense's Congressional Directed Medical Research Program duplicates the missions of the National Institutes of Health at the Department of Health and Human Service and well as the Office of Research Development within the Department of Veterans Affairs.

Dramatic Increases In Federal Medical Research Spending Makes The Congressional Directed Medical Research Programs Unnecessary

When the Congressional Directed Medical Research Program was created in 1992, the federal government spent about \$145 million on breast cancer research.¹⁸⁸ In 2012, at least six different federal government agencies will spend over \$1 billion on breast cancer research including the National Cancer Institute, the National Institutes of Health, the Centers for Disease Control and Prevention, the Food and Drug Administration, the Department of Energy, and the Department of Defense.¹⁸⁹

Over the past two decades, Congress has appropriated nearly \$6.5 billion for CDRMP to research a variety of diseases or medical conditions with an additional \$1.2 billion in fiscal year 2012. Some of the CDMRP has an obvious connection to the military, such as the \$463 million spent on psychological health and traumatic brain injury. Some other research subjects, such as \$2.6 billion for breast cancer, \$47.8 million for lung cancer, \$113 million for prostate cancer, and \$4.4 million for food allergies, have a less clear connection to military service.¹⁹⁰

But within the entire federal budget, medical research funding through DOD is a mere fraction of such funding provided by NIH.

NIH spent \$769 million on breast cancer research in 2010, while DOD spent \$150 million. NIH spent \$102 million on ovarian cancer, while DOD spent less than a fourth of that amount. And NIH provided \$307 million for prostate research while DOD spent \$80 million.¹⁹¹

¹⁸⁸ Institute of Medicine, "Report on Sources of Cancer Research in the United States," June 1999, page 4, <http://iom.edu/-/media/Files/Activity%20Files/Disease/NCPF/Fund.pdf>.

¹⁸⁹ American Association for Cancer Research, "Federal Agencies and Cancer Research Programs," <http://www.aacr.org/home/public-media/science-policy-government-affairs/advocacy-tools/federal-agencies.aspx>

¹⁹⁰ U.S. Army Medical Research and Materiel Command, "Congressionally Directed Medical Research Programs: Funding History," <http://cdmrp.army.mil/about/fundinghistory.shtml>, Accessed May 16, 2011.

¹⁹¹ Janet Kinzer, "Cancer Research: Selected Federal Spending and Morbidity and Mortality Statistics," Congressional Research Service, September 3, 2009.

DOD Congressionally Directed Research Spending Adds Up to Only a Fraction of NIH's Funding for Each Type of Cancer Studied¹⁹²

	National Institutes of Health	DOD Congressional Directed Medical Research Programs
Breast Cancer Research	\$769 million	\$150 million
Ovarian Cancer Research	\$102 million	\$25 million
Prostate Cancer Research	\$307 million	\$80 million

All numbers are Fiscal Year 2010 estimates provided by the Congressional Research Service.

DOD cancer research, as well as other medical research not directly related to military service, should be transferred to NIH where efforts could be consolidated and better coordinated. Such efficiencies would reduce administrative costs and would ensure greater resources for research funding while returning scientific decisions to scientists rather than members of Congress or Pentagon officials who are trained to fight and win wars against foreign invaders rather than cure diseases. Transferring the mission of cancer research back to NIH would allow the Department of Defense leaders to focus on diseases and ailments that are directly connected to our military.

While some advocates claim CDMRP focuses on near-term results versus the more basic research than the National Cancer Institute, the main agency for cancer research at NIH¹⁹³ and others contend CDMRP projects are “high risk-high reward” and more long term, implying that NIH would not fund that type of project,¹⁹⁴ it is unclear whether the medical research at CDMRP is more or less effective than the research conducted at NIH. What is clear is much of the research conducted by DOD is not directly related to its mission of defending the nation against attack and fighting and winning the nation's wars.

Last year the House Armed Services Committee held a hearing to examine the President's budget request for DOD science and technology programs. Subcommittee Chairman Mac Thornberry (R-Texas) noted “a lot of medical research that is done at the Department of Defense has been—has a tenuous connection to the warfighter or even our service people. A lot of it's been foisted upon the department by Congress.”

Deputy Assistant Secretary of the Army for Research and Technology **Dr. Marilyn Freeman concurred, stating “you're absolutely right, we're going to have to tighten our belt”** (emphasis added). Dr. Freeman noted the challenge of meeting the growing demands of the earmarks for specific research projects demanded by Congress and special interest groups.

¹⁹² Janet Kinzer, “Cancer Research: Selected Federal Spending and Morbidity and Mortality Statistics,” Congressional Research Service, September 3, 2009.

¹⁹³ Casscells, S. Ward, “Fighting Cancer is a Defense Department Obligation,” Huffington Post, March 18, 2011, http://www.huffingtonpost.com/s-ward-casscells-md/fighting-cancer-is-our-co_b_837535.html

¹⁹⁴ National Alliance of State Prostate Cancer Coalitions, “Department of Defense Prostate Cancer Research Information,” http://www.naspc.org/index.php?option=com_content&view=article&id=42&Itemid=39, Accessed May 16, 2011.

“The Medical Research Command has gotten a tremendous amount of adds over the years—earmarks over the years. And in fact, they had to stand up in order to handle the very large volume of those; they had to stand up an organization basically to handle all of that,” according to Dr. Freeman.¹⁹⁵

This organization that needed to be created just to handle earmarks and special interest programs now keeps \$45 million per year in overhead and management funding from these programs.

The Pentagon should not be put in a position where it must stand up to advocacy groups seeking to use the nation’s defense budget for their own special interests, no matter how worthy the cause. The Congressional Directed Medical Research Programs should be eliminated with any promising ongoing research consolidated to the most appropriate government agency. Transferring DOD funded research not directly related to military service to NIH would help both soldiers by letting the military focus on soldier-related research and those suffering from disease by keeping politics out of scientific funding.

¹⁹⁵ “Fiscal Year 2012 Budget request for DOD Science and Technology Programs” hearing, U.S. House of Representatives Armed Services Committee’s Subcommittee on Emerging Threats and Capabilities of the, March 1, 2011.

Education

Many citizens are unaware of this fact but the Department of Defense operates 64 schools on 16 military installations in the United States for children of troops in a Pentagon funded agency called the Domestic Dependent Elementary and Secondary Schools (DDESS). Over nineteen thousand students are taught by over two thousand teachers and staff in DDESS at a cost of over \$50,000 per student.¹⁹⁶ In contrast, the Department of Education has found the average annual cost per student in America is around \$11,000 per student.¹⁹⁷ The Department of Defense has a staff (teachers plus overhead/management) to student ratio of 9.5 while in the United States the average is more than 15.¹⁹⁸

As stated, the military only operates these schools at 16 military installations here in the United States. At all the other military installations children in military families attend the locally funded and administered schools on the base or in the community.

A number of these schools were originally justified because the post-World War II military was racially integrated while some of the local schools where military bases were located were still segregated.¹⁹⁹ The schools are located in Alabama, Georgia, Kentucky, New York, North Carolina, and South Carolina. Again, children of military members stationed in states with large military populations such as California and Texas attend local public schools, many of which are located on the base.

The overseas schools in non-English speaking countries in Europe and Asia are justified for obvious reasons.

However, setting aside the overseas schools and looking at just the funding for the stateside (not overseas) military-run schools, the Domestic Dependent Elementary and Secondary Schools received \$468.8 million in fiscal year 2010 for education of students here in the United States.

According to the Department of Defense, their schools scored slightly above the national average in the 2009 National Assessment of Educational Progress, which assessed 4th and 8th graders in reading, writing, math and science.²⁰⁰ However, students throughout the Department

¹⁹⁶ National Commission on Fiscal Responsibility and Reform, "Illustrative List – Option 58," November 10, 2010, http://www.fiscalcommission.gov/sites/fiscalcommission.gov/files/documents/Illustrative_List_11.10.2010.pdf.

¹⁹⁷ Department of Education, National Center for Education Statistics. (2011). <http://nces.ed.gov/fastfacts/display.asp?id=66>

¹⁹⁸ National Center for Education Statistics, 2011, http://nces.ed.gov/programs/digest/d11/tables/dt11_069.asp?referrer=report.

¹⁹⁹ Domestic Dependent Elementary and Secondary Schools, "DDESS/DODDS – Cuba History," http://www.am.dodea.edu/ddessasc/aboutddess/description_history.html, Accessed May 12, 2011.

²⁰⁰ Department of Defense Education Activity, "NAEP Scale Scores 2009," <http://www.dodea.edu/datacenter/tdNaep.cfm#naep2009>, Accessed May 12, 2011.

of Defense (including schools in America, Europe, and the Pacific) taking the Scholastic Aptitude Test scored lower than the national average in 2009 and 2010.^{201 202}

The Department of Defense must provide quality educational opportunities for the children of our men and women in uniform serving overseas where English-speaking schools are not available. Current overseas schools appear to be meeting that goal. However, the rationale for a separate system of Pentagon-run schools here in the United States at four times the cost with no discernible difference in educational output no longer exists. One Pentagon-run school not too far from Washington in particular illustrates this point.

Case Study – Naval Surface Warfare Center, Dahlgren Virginia

The Naval Surface Warfare Center (NSWC) in Dahlgren, Virginia is 50 miles from the Pentagon on the Potomac River. The base dates back to 1918 and was mainly used to test naval guns prior to World War II. Due to its remote location the Navy provided on-base housing and recreational facilities for the sailors and their families as well as its own Department of Defense schools system.²⁰³ Over time, the Naval Surface Warfare Center at Dahlgren has transitioned from a mostly military presence to an almost completely contractor and civilian run military base. There are roughly 4,500 civilian employees, 2,700 contractor employees, and around 500 uniformed military personnel permanently stationed at Dahlgren.

The Pentagon-run elementary and junior high school at Dahlgren was established in 1921, earlier than most other DOD schools.²⁰⁴ It is a small school with only 90 students total for kindergarten through eighth grade. **There are only five students in the entirety of the fifth grade at Dahlgren and only three seventh-grade students.**²⁰⁵

Due to the small size of the school, the Dahlgren art teacher also teaches social studies and the physical education teacher teaches science for the fifth grade class.

The Department of Defense administered school in Dahlgren is only for the children of military personnel on the base while children of base contractor and civilian personnel attend the nearby non-DOD school.

The DOD school makes even less sense when considering that the city (not the base) of Dahlgren has its own school funded by the state of Virginia, the Potomac Elementary School,

²⁰¹ Department of Defense Education Activity, "DODEA Wide 2010 SAT Scores,"

<http://www.dodea.edu/datacenter/tdSystem.cfm?dodaac=DODEA&year=2010&dId=sat>, Accessed May 12, 2011.

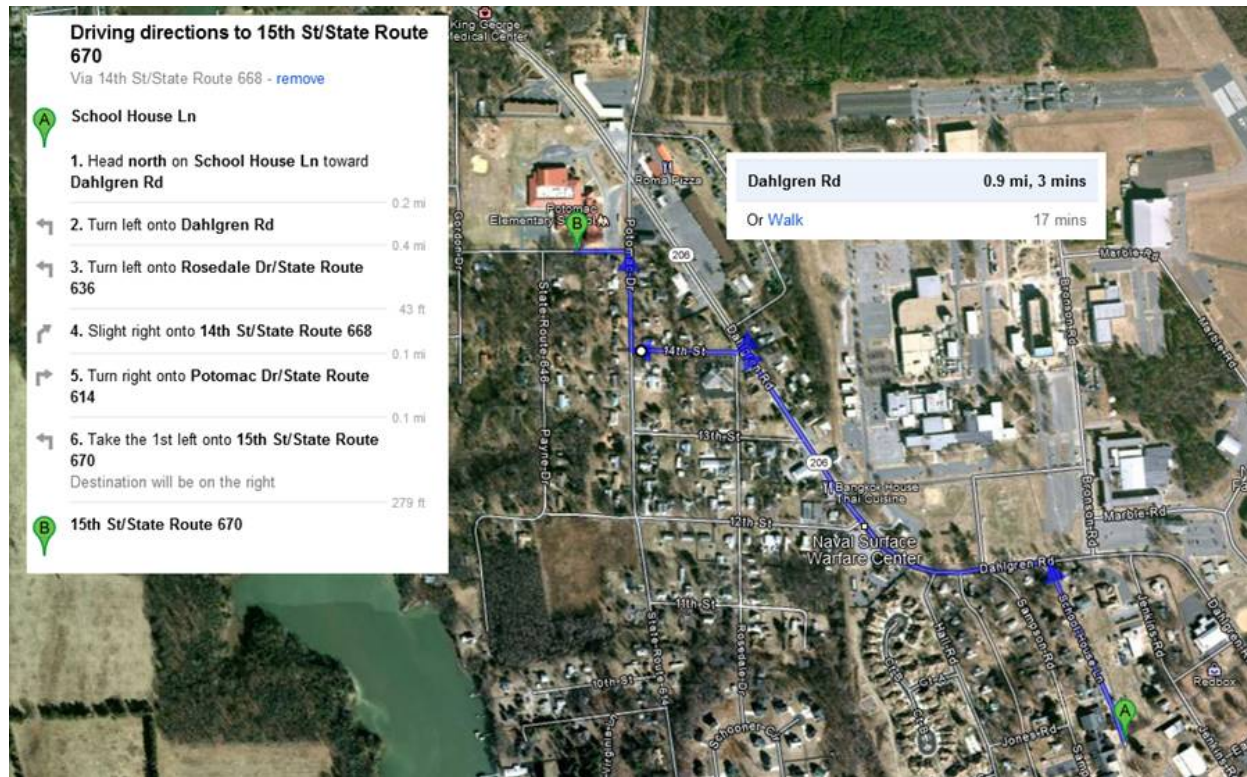
²⁰² Marklein, Mary Beth, "Average SAT scores fluctuate slightly within class of 2010," USA Today, September 14, 2010, http://www.usatoday.com/news/education/2010-09-13-satscores_ST_N.htm.

²⁰³ NSWC Dahlgren Division Website, "History of the Dahlgren Laboratory," <http://www.navsea.navy.mil/nswc/dahlgren/PAO/history.aspx>.

²⁰⁴ Department of Defense Education Activity (DODEA), "Dahlgren Virginia – About our School," http://www.am.dodea.edu/ny_va/dahlgren/about/index.html

²⁰⁵ DODEA Data Center, "Virginia/New York Schools Enrollment Report for DDESS as of August 17, 2012," http://www.dodea.edu/datacenter/enrollment_display.cfm#Virginia/NewYork, Accessed August 22, 2012.

less than one mile away from the Pentagon-run school.²⁰⁶ It is so close that bus service might not even be required as some Virginia schools prohibit students living within one mile of a school from riding the bus on the premise that these students should walk to school.²⁰⁷



Children on NSWC Dahlgren would walk less than one mile to attend the local public school which, unlike the military public school that costs \$50,000 per student, has a cafeteria.

Since the NSWC – Dahlgren elementary school is completely separate from the town’s public elementary school, the overhead that comes with administering a separate school district must be paid for out of Pentagon funding. For example, the NSWC – Dahlgren school requested and Congress approved a \$1.48 million upgrade for a new kitchen facility and a nearly half-million dollar room for computer storage and maintenance (not for student use).^{208 209}

At \$1.48 million, the Department of Defense will spend around \$16,000 per student on a new kitchen and eating area. For that price each student could have an entirely new kitchen of their own, complete with separate ovens, dishwashers, refrigerators, and granite

²⁰⁶ Potomac Elementary School, “Directions,” King George County School District, <http://www.kgcs.k12.va.us/pes/directions.htm>.

²⁰⁷ “Arlington parents miffed about new school bus rules,” Washington Examiner, August 19, 2012, <http://washingtonexaminer.com/arlington-parents-miffed-about-new-school-bus-rules/article/2505334#.UDURhNilSac>.

²⁰⁸ FY2012 Military Construction Program, “DODEA Naval Support Facility Dahlgren, VA: Dahlgren Elementary/Middle School Addition,” February 2011, page 108.

²⁰⁹ Public Law 112-74: Consolidated Appropriations Act of 2012.

countertops. The locally funded Virginia-run school less than a mile away also has an existing cafeteria for students.²¹⁰

It is also unclear how a cafeteria for ninety students should cost nearly \$1.5 million dollars when a similar project for a school in Missouri serving over 350 students was completed at one-third of the cost.²¹¹ Also, spending nearly a half-million dollars on a technology server room for ninety elementary students raises several questions such as cost and need. A brand new server with support, cabling, and environmental controls should be far less than \$100,000 much less half-a-million.²¹² Also, this purchase of a separate server room may not comply with DOD and Office of Management and Budget policies on cloud computing.²¹³

In comparison to the nearly \$2 million that DOD does not need for this school, the Army recently canceled its procurement of lightweight machine guns for our troops in Afghanistan²¹⁴ and has stated in the past that it is concerned that “the increasingly constrained fiscal environment” is challenging its ability to buy military equipment for our troops under fire in Afghanistan.²¹⁵

With the \$1.98 million DOD is spending on kitchens for elementary students and questionable information technology spending on staff, it is making a choice not to spend more on military small arms like the lightweight machine gun pictured below.



Instead of buying 50 more lightweight machine guns for Afghanistan, DOD will pay for a million dollar kitchen for elementary school students. Soldiers in combat today will continue to use a heavy machine gun dating back to World War II.²¹⁶

²¹⁰ Potomac Elementary School Menu June 2012,

<http://www.kgcs.k12.va.us/pes/PDF/PES%20june%202012%20menu.pdf>

²¹¹ “New R-II cafeteria unveiled Saturday” Webster County Citizen, August 8, 2012,

http://www.webstercountycitizen.com/news/article_5d944186-e190-11e1-8806-0019bb30f31a.html

²¹² Marks, Gene, “Price of the Cloud Still Out of Reach for Small Businesses,” January 23, 2012,

<http://www.forbes.com/sites/quickerbetteertech/2012/01/23/price-of-the-cloud-still-out-of-reach-for-small-businesses/>.

²¹³ VanRoekel, Steven, “A Year of Change in Federal IT,” December 8, 2011,

<http://www.whitehouse.gov/blog/2011/12/08/year-change-federal-it>.

²¹⁴ Senate Report 112-173 to S. 3254, National Defense Authorization Act for FY2013.

²¹⁵ US Army, “Affordable and Integrated Army Equipment Modernization White Paper,” May 26, 2011,

http://www.g8.army.mil/pdf/AIMS_white_paper.pdf.

²¹⁶ Federation of American Scientists, M2 .50 Caliber [12.7mm] Machine Gun, <http://www.fas.org/man/dod-101/sys/land/m2-50cal.htm>.

How can the Department of Defense state that sequestration of the defense budget poses a national security threat while it proposes to spend millions on a cafeteria for elementary school students when an existing school cafeteria is less than a mile away?

President Obama's National Commission on Fiscal Responsibility and Reform, also known as the Fiscal Commission, recommended closing schools in the Domestic Dependent Elementary and Secondary Schools (DDESS) system and allowing those students to attend local schools or have local school districts administer the existing schools.

The Fiscal Commission's recommendation on this subject is presented below:

Integrate children of military personnel into local schools in the United States. The Department of Defense currently runs two school systems for children of military personnel – one for children of military personnel stationed overseas, and another, the Domestic Dependent Elementary and Secondary Schools (DDESS) system, which operates 58 primary and secondary schools for 19,324 students in Alabama, Georgia, New York, North Carolina, South Carolina and Virginia.

These domestic schools exist despite the fact that nearly all military members live off base and send their children to local schools. The program was initially established when schools in the South were segregated, however it is no longer clear why the system is still necessary, or why the Defense Department plans to spend \$1.2 billion for FY2011-FY2015 to rebuild these schools, raising the cost per student from \$51,000 in FY2011 to \$81,000 in FY2015.

Instead, these students could be integrated into local schools and the rebuilding plans cancelled, which would achieve \$1.1 billion of savings in 2015. To reimburse school districts for these additional students, the option includes \$14,000 for an allowance to cover the cost of additional students as well as Impact Aid, a payment to compensate local governments for the loss of property tax revenues because of military bases.

In some cases, there will be only a small number of additional students. In other cases, DOD may be able to turn over schools located at the edge of military bases to the local educational district.²¹⁷

If adopted, this option could save over \$1.1 billion per year and over \$10 billion between now and 2022.²¹⁸

²¹⁷ National Commission on Fiscal Responsibility and Reform, "Illustrative List – Option 58," November 10, 2010, http://www.fiscalcommission.gov/sites/fiscalcommission.gov/files/documents/Illustrative_List_11.10.2010.pdf.

²¹⁸ Email with Congressional Research Service, "Budget Estimate for Fiscal Commission Option #58," February 14, 2012.

Energy

The Department of Defense spends more than \$15 billion on all types of energy a year,²¹⁹ and is the largest consumer of energy within the federal government. By some estimates “is the largest organizational user of petroleum in the world.”²²⁰

Our nation’s dependency on foreign oil is a significant national security threat and a great cost to taxpayers. It should, therefore, be a top priority to make the United States energy independent. This is, in fact, a primary mission of the Department of Energy (DOE), which has an annual budget of more than \$25 billion.²²¹

Yet, in clearly overlapping efforts, the Pentagon continues to spend billions in federal alternative energy research efforts. While all government agencies should seek to reduce unnecessary energy use and costs, in some cases, DOD’s energy research projects have resulted in millions of dollars of waste, unnecessary and duplicative initiatives, and increased energy costs.

When measured against other federal agencies, including DOE, the number of DOD renewable energy projects stands out.

The Department of Defense should be forced to explain in detail how these programs should not be primarily funded and administered by the Department of Energy.

The federal government launched 679 renewable energy initiatives in 2010 including those at the Department of Energy. The Department of Defense accounted for 116 initiatives, more than any other department or agency. By contrast, DOE started less than 100.²²²

Instead of identifying lower priority and duplicative energy research programs to eliminate, the Department of Defense is choosing to reduce our ground troop levels, buy fewer planes, and acquire fewer ships.

How is the Department of Defense setting its priorities?

The analysis, conducted by the Government Accountability Office, does not determine whether or not these hundreds of renewable energy initiatives are wasteful or redundant and

²¹⁹ “RENEWABLE ENERGY PROJECT FINANCING: Improved Guidance and Information Sharing Needed for DOD Project-Level Officials,” Government Accountability Office, April 2012; <http://www.gao.gov/assets/590/589883.pdf>.

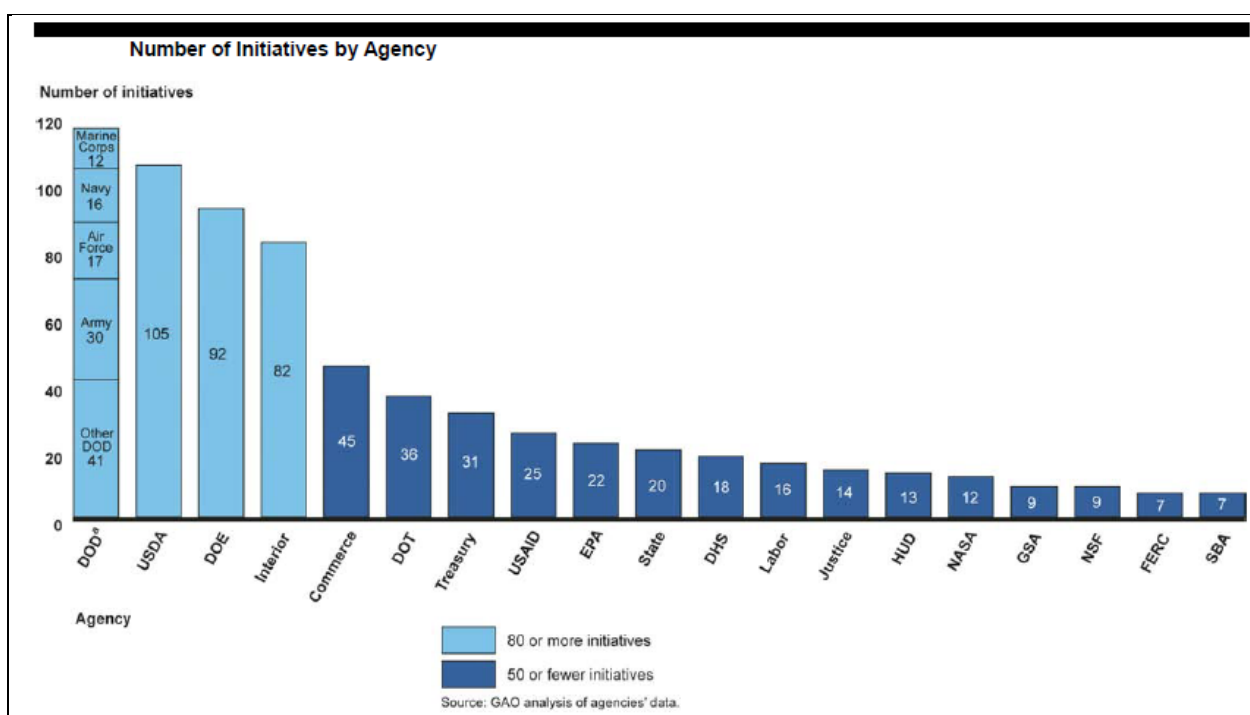
²²⁰ Moshe Schwartz, Katherine Blakeley, and Ronald O'Rourke, “Department of Defense Energy Initiatives: Background and Issues for Congress, Congressional Research Service, June 26, 2012.

²²¹ Carl E. Behrens, “Energy and Water Development: FY2012 Appropriations,” Congressional Research Service, February 6, 2012.

²²² “RENEWABLE ENERGY: Federal Agencies Implement Hundreds of Initiatives,” Government Accountability Office, February 2012; <http://www.gao.gov/assets/590/588876.pdf>.

notes there is a lack of information about the projects. “The wide range of federal activities related to renewable energy and the recent increase in these efforts have raised congressional concerns about the number of agencies implementing such activities, as well as the roles of agencies responsible for regulating and providing funding to various segments of the renewable energy industry,” according to GAO.²²³

“There is currently no comprehensive inventory of which federal agencies are implementing renewable energy-related initiatives and the types of initiatives they are implementing. In light of efforts to balance the federal budget and target spending on activities that will most effectively meet national needs, the lack of available information on agencies’ renewable energy initiatives has further raised congressional concerns about the ability to identify whether efforts are fragmented, duplicative, or operating at cross-purposes.”²²⁴



The Department of Defense launched more than 100 renewable energy-related initiatives in 2010, more than any other federal agency – including the Department of Energy.

The Department of Defense is also expanding the number of electric vehicles in its non-tactical fleet as part of the Pentagon’s “green initiative.” DOD already operates 3,000 electric vehicles, but “most of the battery-powered cars used by the DOD to date have been ‘neighborhood’ or ‘low-speed’ electric vehicles that resemble golf carts and are not suited for the open road.”²²⁵

²²³ Ibid.

²²⁴ Ibid.

²²⁵ Seth Robson, “Military adding more electric vehicles to fleet,” Stars and Stripes, August 5, 2012; <http://www.stripes.com/news/military-adding-more-electric-vehicles-to-fleet-1.184928>.

The Pentagon has 168 “road-capable” electric vehicles and is planning to add about 1,500 more.²²⁶ While electric vehicles cost less to maintain, the purchase price is greater than conventional vehicles. The Chevy Volt, for example, which has a “steep \$39,995 base price” but “costs as much as \$89,000 to produce” is one of the electric cars being purchased by the Department of Defense.²²⁷

While sale of the Chevy Volt has been a priority for this administration, consumers have shown little interest in the car. As part of the administration’s green energy agenda, the government is providing a \$7,500 tax credit for the purchase of the vehicle. But even that financial incentive has failed to move sales. As a result of consumers’ “lack of interest in the car,” General Motors (GM) has sold fewer than half of the 40,000 cars the company hoped to sell in 2012.

The President of the Automotive Consulting Group says “the Volt is over-engineered and over-priced.”²²⁸

Nonetheless, the government is now using the power of Pentagon’s procurement to help GM recoup its losses from the Volt by using taxpayer dollars to purchase the cars, while simultaneously using the tax code to entice consumers with tax credits to purchase the vehicles.

The price of the cars is not the only cost incurred with a massive fleet of thousands of electric cars. The vehicles require high voltage stations where the cars can be plugged and charged. “A typical commercial charging station costs several thousand dollars to purchase” and the services have already installed some and plan to add more.²²⁹

Each one of these \$40,000 Chevy Volts represents the choice not to provide an entire infantry platoon with all new rifles or 50,000 rounds of ammunition that cannot be used for realistic training.

DOD plans to spend \$1.4 billion in 2013 to improve energy use in military operations, ten percent of which is related to alternatives and renewable energy.²³⁰ DOD should make efforts to reduce unnecessary energy use and to utilize alternative energy when it saves money and reduces foreign energy dependency. However, the Department of Defense’s alternative and renewable energy funds should be reduced by 50 percent in order with the savings directed towards paying for higher priorities, including debt reduction.

Not all of the Pentagon’s renewable energy projects are cost efficient or effective. A GAO review found “renewable energy is often more expensive than nonrenewable energy and using

²²⁶ Ibid.

²²⁷ Bernie Woodall and Paul Lienert and Ben Klayman, “Insight: GM’s Volt: The ugly math of low sales, high costs,” Reuters, September 10, 2012; <http://www.reuters.com/article/2012/09/10/us-generalmotors-autos-volt-idUSBRE88904J20120910>.

²²⁸ Ibid.

²²⁹ Seth Robson, “Military adding more electric vehicles to fleet,” Stars and Stripes, August 5, 2012; <http://www.stripes.com/news/military-adding-more-electric-vehicles-to-fleet-1.184928>.

²³⁰ Robert F. Service, “Senate Committee Wants to Sink Military’s Biofuels Program,” Science, May 25, 2012; <http://news.sciencemag.org/scienceinsider/2012/05/senate-committee-wants-to-sink.html>.

renewable energy can be at odds with DOD and Department of Energy guidance that calls for DOD to invest in energy projects when cost-effective. These higher costs are because of the relatively high up-front capital costs of renewable energy technologies and the fact that some sources operate intermittently, which results in less energy generated compared to the equipment's energy-generation capacity. For example, solar energy can be generated only during daytime hours and wind energy can be generated only during periods of sustained wind activity."²³¹

Furthermore, DOD should not be duplicating the work of the Department of Energy or allowing mission creep to siphon funds away from national defense to pay for unrelated matters, such as 'green vehicle convoys' to promote alternative fuels. This is especially the case at a time when the Army plans to cut 80,000 troops from its active duty forces while also planning to spend over \$7 billion on renewable energy projects over the next decade.²³²

One of the green energy programs will spend \$170 million for the Navy to pioneer the development of algae as a fuel for its surface ships and fighter jets. As a result the Navy is now paying over \$15 per gallon – four times the cost of regular fuel – in order to conduct its required training.²³³ The Navy recently celebrated paying more for its fuel by showing off a "green fleet" of ships in Hawaii running on a blend of biofuel. The celebration included t-shirts for sale that said "Keeping the Earth Green, One Bag of Biofuel at a Time."²³⁴ A recent MIT study concluded that even if the Navy produced biofuels at or near maximum potential, prices would still cost twice as much as regular fuels.²³⁵



A Navy Blue Angel is shown here being refueled with biofuel at four times the price of regular fuel. Navy pilots could use funding spent on experimental biofuels on additional combat flight training.

Algae research by the U.S. Navy may be completely unnecessary given that other agencies of the federal government and even the private sector are already researching its development. The Exxon Mobil Company expects to spend \$600 million – more than half a billion dollars – for biofuel production from photosynthetic algae.²³⁶

²³¹ "RENEWABLE ENERGY PROJECT FINANCING; Improved Guidance and Information Sharing Needed for DOD Project-Level Officials," Government Accountability Office, page 2, April 2012; <http://www.gao.gov/assets/590/589883.pdf>.

²³² Leipold, J.D., "Army to Partner with industry for up to \$7 billion in renewable energy projects," Army website, March 19, 2012, http://www.army.mil/article/75960/Army_to_invest_7_billion_in_renewable_energy_projects/.

²³³ Shachtman, Noah, "Navy's Big Biofuel Bet: 450,000 Gallons at 4 times the price of oil," Wired.com, <http://www.wired.com/dangerroom/2011/12/navy-biofuels/>.

²³⁴ Steele, Jeanette, "Navy Shows Off Green Fleet," UT San Diego, July 18, 2012, <http://dailycaller.com/2012/07/20/congress-questions-efficiency-of-navy-biofuels/>.

²³⁵ Shachtman, Noah, "Navy's Big Biofuel Bet: 450,000 Gallons at 4 times the price of oil," Wired.com, <http://www.wired.com/dangerroom/2011/12/navy-biofuels/>.

²³⁶ Exxon Mobil, "Algae Biofuels Research and Development Program: Fact Sheet," http://www.exxonmobil.com/corporate/files/news_pub_algae_factsheet.pdf, Accessed September 19, 2012.

The Pentagon should decide to let the Navy do what it is best at: keeping our nation protected and the oceans safe for commerce and travel – and let Exxon do what it is best at – developing innovative and groundbreaking research into alternative fuel sources.

The Government Accountability Office recently found certain DOD installations' approaches to renewable energy projects were "not developing cost analyses or not analyzing different financing approaches for projects." GAO also identified "uncertainty about how to account for some benefits in the analyses, because the military services generally do not have guidance to ensure that business case analyses are completed and that analyses fully consider the costs and benefits of different financing approaches" for renewable energy projects.²³⁷

The DoD Inspector General (IG) found "tainted" projects "gobbled up more than a third of the \$335.7 million" provided for renewable energy efforts at military bases by the American Recovery and Reinvestment Act (Recovery Act). The report found the Pentagon spent at least "\$117 million of stimulus funds on hastily planned renewable energy projects" with "lackluster returns on investments and now face major delays" or cancelation.²³⁸

A \$14 million Air Force construction project to convert three Alaskan radar stations from diesel to wind turbine energy was begun without any assurances it was properly planned or would result in any cost savings.²³⁹

A test wind turbine was built without a 12-month wind study and produced only "sporadic, unusable power," according to auditors.²⁴⁰

It will take more than 15 years for each of two other wind turbines that were completed to pay for themselves according to Air Force estimates, but the IG could not substantiate these estimates since the Air Force "did not provide support for the predicted/estimated fuel consumption numbers (a key component to calculate the estimated gallons of diesel fuel saved)."²⁴¹

The Air Force undertook the project with stimulus money earmarked for "shovel-ready" projects. But the IG found the turbine idea was not "shovel-ready" when the Air Force committed to it. DoD "did not ensure that the three wind turbine projects ... were adequately planned," the IG found. "As a result, DoD cannot ensure that the three wind turbine projects are

²³⁷ "RENEWABLE ENERGY PROJECT FINANCING; Improved Guidance and Information Sharing Needed for DOD Project-Level Officials," Government Accountability Office, April 2012; <http://www.gao.gov/assets/590/589883.pdf>.

²³⁸ Annie Snider, "RENEWABLE ENERGY: Haste made waste as DOD dashed to tap stimulus for green projects," Greenwire, October 20, 2011; <http://www.eenews.net/public/Greenwire/2011/10/20/1>.

²³⁹ "American Recovery and Reinvestment Act Wind Turbine Projects at Long-Range Radar Site in Alaska Were Not Adequately Planned," Department of Defense Office of the Inspector General, September 30, 2011, Report no. D-2011-116, <http://www.dodig.mil/audit/reports/fy11/11-116.pdf>.

²⁴⁰ Joling, Dan, "Audit Faults Air Force's Alaska Wind Turbines," Associated Press, November 14, 2011, <http://news.yahoo.com/audit-faults-air-forces-alaska-wind-turbines-151253556.html>.

²⁴¹ "American Recovery and Reinvestment Act Wind Turbine Projects at Long-Range Radar Site in Alaska Were Not Adequately Planned," Department of Defense Office of the Inspector General, September 30, 2011, Report no. D-2011-116, <http://www.dodig.mil/audit/reports/fy11/11-116.pdf>.

viable, that [DoD] personnel appropriately selected the projects for Recovery Act funding, and that Recovery Act funds were appropriately used.”²⁴²

The Inspector General told the Air Force to shut down their construction efforts at one station altogether, and to consider ending the other two before spending more taxpayer funds on the botched effort. This pressured the Air Force to cancel construction on one of the turbines. But the unspent money from that turbine won't be saved -- they will use part of it to pay for cost overruns on the other two turbines. If there is any money left over after that, the Pentagon says, it won't go back to the Treasury, but will be spent on “additional, appropriate ... project(s) yet to be identified.”²⁴³



Due to shoddy planning, the Air Force wasted millions of dollars on a wind turbine that produced only “sporadic, unusable power.”

The Alaska wind turbines were not an isolated mishap as the DOD IG also identified shoddy management and inefficient oversight of other DOD Recovery Act renewable energy projects.

A \$9.12 million Geothermal project at Naval Air Station Fallon, Nevada was found to be “inadequately planned, funds to support the research were not distributed in a timely manner, and contract execution was not always sufficient.” Because it lacked a comprehensive exploration plan, “the Government lacked assurance that the risks associated with geothermal exploration were mitigated and that the [Geothermal Program Office] would use Recovery Act funds in an effective, economical, and timely manner.”²⁴⁴

Naval Facilities Engineering Command (NAVFAC) Mid-Atlantic (MIDLANT) officials did not properly plan, manage, or document the use of funds for a solar and lighting Recovery Act project at the Naval Station Norfolk, Virginia. “Without documented support for the potential investment costs and energy and non-energy savings on the ELCCA, DoD cannot ensure whether the calculations were correct,” the IG stated. Officials did not “adequately consider the environmental impact of the Recovery Act project and, as a result, the project’s effects on the environment are unknown.”²⁴⁵

More than \$50 million was spent by the Navy and Marine Corps on three photovoltaic (PV) projects, at 12 sites without considering costs or savings. An IG report stated “Navy and

²⁴² Ibid.

²⁴³ Ibid.

²⁴⁴ “Geothermal Energy Development Project at Naval Air Station Fallon, Nevada, Did Not Meet Recovery Act Requirements,” Department of Defense Inspector General, Report No. D-2011-108, September 19, 2011; <http://www.dodig.mil/audit/reports/fy11/11-108.pdf>.

²⁴⁵ “American Recovery and Reinvestment Act Project - Solar and Lighting at Naval Station Norfolk, Virginia,” Department of Defense Inspector General, Report No. D-2011-045, February 25, 2011; <http://www.dodig.mil/audit/reports/fy11/11-045.pdf>.

Marine Corps officials lacked the tools to help ensure that the projects they selected and planned were good investments” and “during project planning and selection, officials did not consider whether projects were cost-effective or analyze different types of energy projects to determine the best investments for meeting legislative energy goals. Instead, they relied upon project titles, location, cost, and amount of time to award contracts to select projects.”²⁴⁶ According to the IG, “none of those projects met the cost-effectiveness test—with the Navy expecting it would fail to recover nearly half its \$50.8 million and the Marines losing 61 percent of their \$8.4 million. Moreover, the report says, base managers in California failed to claim utility rebates that were worth a potential \$3.34 million.”²⁴⁷

The string of poorly planned projects showed the Pentagon “was not equipped to handle such a massive cash infusion for energy projects” and “project planners appeared confused about the need for the cost-effectiveness of energy ventures.”²⁴⁸

Even Pentagon personnel admitted the return on investment, especially for solar projects, is hard to prove. “Ninety percent of them won’t meet the return on investment that was advertised,” said a former Navy public works officer whose base won stimulus funds for several energy initiatives, noting “there are ways to cook the numbers with these projects.”²⁴⁹

In yet another example of wasted funds on unnecessary and duplicative promotional activities regarding alternative energy, the Army opened its “greenest lab,”²⁵⁰ dedicated to developing alternative energy sources for combat vehicles earlier this year.²⁵¹ The Ground Systems Power and Energy Laboratory, a new 30,000-square-foot lab, is located in Warren, Michigan, “will focus on developing energy technologies that will not rely on traditional gasoline or fuel.”²⁵² The facility will launch a “green warrior convoy” of vehicles in 2013 that “will stop at schools, colleges, communities and military facilities along the way to demonstrate vehicle energy and educate the value of science and technology in vehicles.”²⁵³

²⁴⁶ “The Department of the Navy Spent Recovery Act Funds on Photovoltaic Projects That Were Not Cost-Effective,” Department of Defense Inspector General, Report No. D-2011-106, September 22, 2011; <http://www.dodig.mil/Audit/reports/fy11/11-106.pdf>.

²⁴⁷ Annie Snider, “RENEWABLE ENERGY: Haste made waste as DOD dashed to tap stimulus for green projects,” Greenwire, October 20, 2011; <http://www.eenews.net/public/Greenwire/2011/10/20/1>.

²⁴⁸ Ibid.

²⁴⁹ Ibid.

²⁵⁰ John W. Wray, “Top Michigan construction firms, Army COE bring Army’s ‘greenest’ lab to life,” Army website, April 9, 2012; <http://www.army.mil/article/77461/>.

²⁵¹ Andy Medici, “Military sets ambitious goals for renewable energy use,” Federal Times, April 11, 2012; <http://www.federaltimes.com/article/20120411/FACILITIES04/204110303/>.

²⁵² Ibid.

²⁵³ Dennis K. Bohannon, “Green Warrior Convoy Announced – “It’s about saving Soldiers’ lives,” Army website, April 12, 2012; http://www.army.mil/article/77690/Green_Warrior_Convoy_Announced [It s about saving Soldiers lives /](http://www.army.mil/article/77690/Green_Warrior_Convoy_Announced)



The Green Warrior Convoy will travel from Detroit to Washington, stopping at schools and communities along the way to educate the value of science and technology in vehicles. The Army also has a Science, Technology, Engineering and Mathematics (STEM) Asset Vehicle “designed to publicize STEM careers.”

The Green Warrior Convoy mimics the Army Science, Technology, Engineering and Mathematics (STEM) Asset Vehicle which was launched in January. Like the green warrior convoy, the STEM Asset Vehicle “is designed to publicize STEM careers and demonstrate how civilian scientists and engineers help to ensure America’s national security, along with uniformed Soldiers.”²⁵⁴

It does not make much sense to fund multiple unnecessary vehicle fleets whose sole purpose is promoting energy conservation and green fuels. **This task can and should be done by the Department of Energy and the private sector.**

DOD is also holding numerous conferences around the country sponsored by multiple branches of the service to talk about alternative fuels.

A three-day Army Net Zero Energy Installations Conference was held in Chicago earlier this year. The event was “really all about networking and learning from each other,” said Katherine Hammack, the assistant secretary of the Army for installations, environment and energy.²⁵⁵ The U.S. Army Tank Automotive Research, Development and Engineering Center hosted “the inaugural Renewable Energy Rodeo and Symposium” in June 2010.²⁵⁶ In June, the Air Force hosted the Renewable Energy Industry Symposium at the Lowes Ventura Canyon Resort in Tucson, Arizona.²⁵⁷ It is unknown how much traditional fossil fuel was used in getting to these resorts and conferences to talk about renewable energy, or how much was spent having civilian staff network instead of on training for our military soldiers.

A month later, the Army and Air Force co-hosted an Energy Forum to provide “an opportunity for attendees to hear the views of and interact with senior leadership from the Department of Defense, federal agencies, Congress and industry regarding the strategic importance and future direction of Army and Air Force energy.”²⁵⁸

The Pentagon should be commended for its efforts to reduce energy costs. However, while there may be a use for military-specific energy technology, such as initiatives to reduce

²⁵⁴ Ibid.

²⁵⁵ C. Todd Lopez, “Net Zero conference begins in Chicago,” Army News Service, January 18, 2012; <http://www.army.mil/article/72130/>.

²⁵⁶ Stephen Baack, “Bliss hosts inaugural ‘energy rodeo,’” Army website, June 9, 2010; <http://www.army.mil/article/40557/fort-bliss-hosts-inaugural-renewable-energy-rodeo-and-symposium/>.

²⁵⁷ “Air Force officials to host renewable energy symposium at Davis-Monthan AFB,” Air Force website, June 8, 2011; <http://www.af.mil/news/story.asp?id=123259157>.

²⁵⁸ The 2011 Army-Air Force Energy Forum website, <http://usarmyusairforceenergyforum.com/information.html>.

fuel use in Afghanistan, the DOD should not duplicate the efforts of the Department of Energy and the private sector in funding the development of these technologies. Also, in an era when Army generals are warning about how many infantry brigades will be cut, the Department of Defense should continue to review its spending on conferences and travels to resorts.

Every single one of these projects should have been questioned by military leaders evaluating if funding was more crucial than a true military priority. They should also ask whether or not this investment is worth going further into debt.

Failure to do so has wasted more than a hundred million dollars on poorly planned renewable energy projects and unnecessary promotional activities that have siphoned funds and attention from true national defense needs and priorities.

College Tuition Assistance

The Department of Defense Tuition Assistance Program provides active duty service members financial support to take college courses prior to becoming veterans. At the same time these service members can utilize GI Bill benefits through the Department of Veterans Affairs.

Under the current law, the Department of Defense Tuition Assistance program provides any active duty service member who wishes to take classes a benefit equivalent to \$250 per credit hour, but no more than \$4,500 per year.²⁵⁹ Active duty troops are allowed to take courses that exceed the payment limits, but must pay the difference out-of-pocket or through student loans. In fiscal year 2010, DOD spent \$542 million on the program.

Military Tuition Assistance benefits are paid out on a reimbursable basis, after a service member successfully completes his or her approved courses and must earn a “C” or better for undergraduate courses and a “B” or better for graduate classes.

Soldiers can also borrow from the GI Bill benefits (administered by the Department of Veterans Affairs) they have earned.²⁶⁰

Since the Tuition Assistance program requires service members to stay on or close to their base to continue to fulfill their active duty service requirements, distance learning and online schools have become popular recent choices for service members.

The DOD supports the Tuition Assistance program because it “provide[s] lifelong learning opportunities for the off-duty military community, contributing to enhanced unit readiness for our Nation.”²⁶¹

Last year the Government Accountability Office issued a report critical of the Department of Defense’s oversight of the Tuition Assistance Program.²⁶² GAO found the Department of Defense had no centralized system to track fraud and abuse of these programs. They also found the Pentagon would only review schools on military bases and not online

²⁵⁹ DOD Voluntary Education Office “Tuition Assistance payments,” <http://apps.mhf.dod.mil/pls/psgprod/f?p=VOLED:SUB:0:::COHE,TITLE,IMG:257590,Programs,257789>, Accessed February 16, 2012.

²⁶⁰ Dortch, Cassandra, “CRS Report R40723 - Educational Assistance Programs Administered by the U.S. Department of Veterans Affairs”, Congressional Research Service, February 1, 2010. <http://www.crs.gov/Products/r/pdf/R40723.pdf>

²⁶¹ Gordon, Robert, “Statement before the Federal Financial Management, Government Information, Federal Services, and International Security Subcommittee of the Senate Homeland Security and Governmental Affairs,” http://hsgac.senate.gov/public/index.cfm?FuseAction=Hearings.Hearing&Hearing_id=60flee5f-2466-4134-9440-bade4daf5df2, Accessed May 17, 2011.

²⁶² GAO Report 11-300, “DOD Education Benefits: Increased Oversight of Tuition Assistance is Needed,” March 2011, <http://www.gao.gov/new.items/d11300.pdf>.

schools where nearly 75% of the students were attending. Further, the Pentagon made no follow up reviews at schools where they found initial problems.

The military's tuition assistance program's purpose is to enhance recruiting, readiness, and retention for the military. However, the Pentagon's separate tuition assistance program may not be meeting these goals in a cost-effective manner compared to the tuition benefits offered through the Department of Veterans Affairs. Young people joining the military for the education benefits join because of the generous and well-known GI Bill, not for the less-known (but just as expensive) Pentagon-run tuition assistance program.

In order to improve recruiting, the military often highlights a number of the benefits available to those in the military but generally the GI bill benefit—tuitions and stipends in exchange for military service administered by the Department of Veterans Affairs—is generally known as the primary education benefit.²⁶³ The Tuition Assistance program pays up to 100 percent tuition reimbursement for courses that cost no more than \$250 per semester hour and \$4,500 per year.²⁶⁴ ²⁶⁵ For any amounts over this, military personnel have been told that they can apply for federally funded Pell grants.²⁶⁶ The Department of Defense college tuition assistance program is clearly duplicative of the existing federal programs run by both the Departments of Defense and Education.

With regards to military retention, the most cost-effective way to retain soldiers is to pay them targeted cash bonuses. A RAND study found that cash bonuses could be scaled up or down as needed and directed to soldiers that need to be retained, such as those with certain language skills.²⁶⁷ In contrast, the DOD Tuition Assistance program is paid to all soldiers without any determination by the Pentagon as to whether the investment is effective for retention or even if the Department of Defense wants to retain an individual member of the military.

The DOD Tuition Assistance program may not pass its own 'readiness' requirements either. The RAND Corporation also examined the Navy Funded Graduate Education Program, which is a similar but separate program from the DOD Tuition Assistance program. This program selects certain Navy officers, those showing the most potential for advancement, to attend graduate school full time to prepare them for higher rank. This differs from the Tuition Assistance program which generally funds all members of the military. Similarly, RAND found the Navy was unable to determine whether their selective graduate school program provided a positive or negative return on investment. Rand found that for some, "it is simply not possible

²⁶³ Military.com, "Money for School: Education Benefits," <http://www.military.com/education/content/money-for-school/education-benefits-in-the-military.html>, Accessed May 17, 2011.

²⁶⁴ Department of the Army, "Army Tuition Assistance Program," <http://www.army-portal.com/benefits/ta.html>, Accessed May 17, 2011.

²⁶⁵ About.com U.S. Military Information, "What the Recruiter Never Told You: Part 8 – Education Benefits and Enlisted College / Commissioning Programs," http://usmilitary.about.com/cs/joiningup/a/recruiter8_2.htm, Accessed May 17, 2011.

²⁶⁶ US Military "Army College Tuition Assistance Program," About.com, <http://usmilitary.about.com/library/milinfo/blarmyta.htm>, Accessed March 8, 2012.

²⁶⁷ Asch et al. "Cash Incentives and Military Enlistment, Attrition, and Reenlistment," RAND National Defense Research Institute, 2010.

to recoup the costs” of graduate school. The Rand study also concluded the only way to justify DOD funded graduate school from a financial and readiness perspective is to target it toward those likely to stay in the service for a full career.²⁶⁸ Unfortunately the inability to effectively measure the usefulness of civilian education for military members is not limited to the Navy. The Navy as well as the Army, Air Force, and Marine Corps allow many officers to participate in fellowship and “training with industry” programs intended to improve the professional education of its officer corps.

The Government Accountability Office (GAO) recently concluded the Department of Defense has “limited visibility” over these professional education programs due to the fact that **the Pentagon does not does not have an inventory of such programs, does not evaluate them, and does not know the benefits of these programs nor their cost.**²⁶⁹

Finally, proponents of the military Tuition Assistance program may contend it is a necessary program because it rewards those that have served our nation at war. Though all soldiers who have deployed to a warzone are eligible for the VA Post 9/11 GI Bill, which may be used while on active duty. So the nation already provides this compensation for military service. In fiscal year 2010, the Department of Veterans Affairs spent over \$9.5 billion for education and training benefits for veterans **which can be used while on active duty** and up to ten years after the veteran leaves active duty service.²⁷⁰

The taxpayer funding for the Department of Veterans Affairs GI Bill and Post-9/11 GI Bill are appropriately generous but underscore the urgent need for the Department of Defense to examine and review its tuition assistance program and whether it is still needed at the same levels given the other available benefits.

	2010 Funding Total	Students	Funding per Student ²⁷¹
GI Bill	\$1.6 billion	247,075	\$6,717
Post 9/11 GI Bill	\$5.5 billion	365,640	\$14,466

As clearly stated here, the Post 9/11 GI Bill administered by the Department of Veterans Affairs more than doubled the educational benefit and widened the eligibility for veterans and their spouses for tuition assistance.

²⁶⁸ Kamarck, Kristy; Thie, Harry; Adelson, Marisa; Krull, Heather, “Evaluating the Navy’s Funded Graduate Education Program: A Return-on-Investment Framework,” 2010, <http://www.rand.org/pubs/monographs/MG995.html>.

²⁶⁹ GAO Report 12-367, “Improved Oversight and Management Needed for DOD’s Fellowship and Training with Industry Programs,” Government Accountability Office, April 2012, <http://gao.gov/assets/600/590242.pdf>.

²⁷⁰ CRS Report R40723, “Educational Assistance Programs Administered by the U.S. Department of Veterans Affairs,” March 15, 2011, http://www.crs.gov/pages/Reports.aspx?PRODCODE=R40723&Source=search#_Toc288034370.

²⁷¹ CRS Report, “Educational Assistance Programs Administered by the U.S. Department of Veterans Affairs,” Congressional Research Service, August 17, 2011. Numbers are obligations for one year – 2010.

The Pentagon-run Tuition Assistance program is not targeted toward those who served in combat zones or tours in Iraq or Afghanistan. **In fact, those in the military who deploy often are sometimes least able to take advantage of this benefit as they generally cannot take courses while deployed in combat units.** Military units that deploy on a less frequent schedule, for shorter durations, or whose deployments are to larger bases versus austere, smaller outposts are more able to take advantage of this benefit. GAO found in their report that usage of this program, based on dollars expended, is about the same for the Air Force and the Army, despite the fact that the active duty Army is twice the size of the active duty Air Force.²⁷²

The Department of Defense, with regards to Military Tuition Assistance, has stated the program is to enable learning for our troops for its own sake and not necessarily in a way connected to military service.²⁷³ **This is the exact purpose of the GI bill which is funded through Department of Veterans Affairs, raising the question of why the Pentagon should pay twice for this benefit which is available to active duty servicemembers.** This recommendation would reduce the amount of funding for Tuition Assistance by 90 percent from over \$500 million per year to \$50 million per year.²⁷⁴ Such a reform would produce savings of \$4.5 billion over the next ten years while still allowing limited use for actual needs of the military to retain select individuals or provide military required training that may be available from an academic institution.

²⁷² CRS Report R40121, "U.S. Military Stop Loss Program: Key Questions and Answers," Congressional Research Service, April 7, 2010.

²⁷³ Gordon, Robert, "Testimony before the Federal Financial Management, Government Information, Federal Services, and International Security Subcommittee of the Senate Homeland Security and Governmental Affairs," http://hsgac.senate.gov/public/index.cfm?FuseAction=Hearings.Hearing&Hearing_id=60flee5f-2466-4134-9440-bade4daf5df2, Accessed May 17, 2011.

²⁷⁴ Funding for Fiscal Year 2009 was \$517 million. GAO Report 11-300, "Increased Oversight of Tuition Assistance Program is Needed," Government Accountability Office, <http://www.gao.gov/assets/320/316196.pdf>.

Grocery Stores

The U.S. military has operated on-post grocery stores for officers since 1825 and commissaries were open for all military members (officer and enlisted) and their families since 1867.²⁷⁵ They were designed to benefit “members of the uniformed services, retired members and dependents of such members, and to support military readiness, recruitment, and retention.”²⁷⁶ This was obviously well before the proliferation of large retail grocers and retail stores that are now located near almost all military communities across the nation.

The Defense Commissary Agency (DeCA) operates a worldwide chain of 254 grocery stores for military members, their families, and retirees. In fiscal year 2009 the Defense Commissary Agency had nearly \$6 billion in sales.²⁷⁷ If the Pentagon run grocery stores were a national chain, they would easily be one of the ten largest grocery store chains in the United States.²⁷⁸



Which of the above photos depict where the Pentagon spent more money in 2012? Correct Answer – Grocery Stores received \$1.2 billion in Pentagon funding in 2012. Despite being at war in Afghanistan and continuing to have nearly 30 year old weapons, last year the Army spent less than \$700 million on assault rifles, carbine rifles, sniper rifles, grenade launchers, light and heavy machine guns, and shotguns combined, a little more than half of the sum spent to keep open Pentagon-run grocery stores.²⁷⁹

According to a Department of Defense self-reporting survey of military members, 90 percent of the active duty military uses the commissaries. The survey did not count retirees.²⁸⁰

²⁷⁵ Defense Commissary Agency, “History,” www.commissaries.com/history.cfm, Accessed May 10, 2011.

²⁷⁶ Defense Commissary and exchange systems: existence and purpose,” 10 USC 2481

²⁷⁷ Defense Commissary Agency, “Annual Report 2009,”

http://www.commissaries.com/press_room/documents/AnnualReport.pdf, Accessed May 10, 2011.

²⁷⁸ CNN, “Fortune 500 Food and Drug Stores,”

<http://money.cnn.com/magazines/fortune/fortune500/2011/industries/148/index.html>, Accessed May 12, 2011.

²⁷⁹ Army FY2013 Budget Request, “Exhibit P-1: Weapons and Tracked Combat Vehicles,”

<http://asafm.army.mil/Documents/OfficeDocuments/Budget/BudgetMaterials/FY13/pforms/wtvcv.pdf>.

²⁸⁰ GAO Report 10-561R, “Military Personnel: Military and Civilian Pay Comparisons Present Challenges and Are One of Many Tools in Assessing Compensation,” Government Accountability Office, April 1, 2010, page 15, <http://www.gao.gov/new.items/d10561r.pdf>.

But in a 1993 Patron Demographic Survey (the latest available), purchases by military retirees counted for more than half of all sales at Pentagon run grocery stores. Given that the number of military retirees has increased since 1993, and the number of active duty members has gone down, it is likely that the majority of sales by the commissary are continuing to be made by military retirees.^{281 282}

However, the Defense Commissary Agency's purpose is to enhance readiness by enabling active duty and activated Guard and Reserve troops and their families to focus on mission while deployed and to improve recruiting and retention.²⁸³ Readiness and retention apply to members of the military that are on active duty or currently in the National Guard or Reserves and generally not to military retirees. It is also unlikely that a grocery benefit is a determining factor in a soldier deciding whether or not to re-enlist.

DeCA contends it provides more than two dollars in benefits (through lower costs of groceries) to military members and their families for every one dollar it receives in federal funds.²⁸⁴ However, in the past the Congressional Budget Office (CBO) has questioned DeCA's analysis.²⁸⁵ The conclusion appears to assume members of the military would have purchased the same items at full retail price at other commercial grocery stores rather than comparison shop or otherwise take advantage of any type of lower prices, coupons, frequent shopper programs, or promotions.

DeCA charges for the items it sells at cost plus a five-percent surcharge. This surcharge is intended to offset the costs of new commissaries and maintenance and repair of current commissaries. **However, DeCA employees – and their salaries, federal employees health care, and pension benefits – are funded through congressional appropriations and not from the five-percent surcharge.**^{286 287}

DeCA received approximately \$1.27 billion in congressional appropriations last year and President Obama requested \$1.37 billion – an increase of \$100 million – for fiscal year 2012.²⁸⁸ The Defense Commissary Agency employs nearly 18,000 workers. Again, Defense

²⁸¹ 1993: 1.5 million retirees and 1.6 million on active duty. Department of Defense, Office of the Actuary, "FY2001 Statistical Report," <http://actuary.defense.gov/stat01.pdf>, Accessed May 12, 2011. Center for Defense Information, "2007 Military Almanac," page 53, September 20, 2007.

²⁸² 2009: 2.2 million retirees and 1.4 million on active duty. CRS Report RL34751, "Military Retirement: Background and Recent Developments," July 27, 2010, http://www.crs.gov/pages/Reports.aspx?PRODCODE=RL34751&Source=search#_Toc267992186.

²⁸³ Defense Commissary Agency, "Strategic Plan FY2007 – FY2013," http://www.commissaries.com/documents/insidedeca/strat_plan_2007_2013.pdf, page 5, Accessed May 12, 2011.

²⁸⁴ Ibid.

²⁸⁵ Congressional Budget Office, "The Costs and Benefits of Retail Activities at Military Bases," page 5, October 1997, <http://www.cbo.gov/ftpdocs/1xx/doc158/retail.pdf>.

²⁸⁶ Defense Commissary Agency, "About Us," http://www.commissaries.com/about_us.cfm, Accessed May 10, 2011.

²⁸⁷ USAJOBS, "Federal Employment Information Fact Sheets: Benefits of Working for the Federal Government," <http://www.usajobs.gov/EI/benefits.asp>, Accessed May 10, 2011.

²⁸⁸ Department of Defense Comptroller, "FY2012 President's Budget, Exhibit RF-1 FY2012 President's Budget," February, 2011, pages 84-85. http://comptroller.defense.gov/defbudget/fy2012/fy2012_rfl.pdf

Commissary Agency employees – federal employees with health care and pension benefits – are funded through congressional appropriations and not from the five-percent surcharge.^{289 290}

By getting the Department of Defense out of the grocery business here in the United States, Congress could increase military pay across the board and allow military members to shop at the stores of their choice. This change would also certainly help achieve the original purpose of the commissary benefit: recruitment and retention through higher pay and benefits.

The non-partisan Congressional Budget Office presented an option to eliminate the taxpayer subsidy for the Defense Department's grocery stores and requiring them to operate more like the military's retail stores for budget savings. CBO estimates that prices would be about seven percent higher, or about \$400 per year for the average military family.²⁹¹ DOD could supplement the existing military pay benefit of Basic Allowance for Subsistence (BAS) by this amount and still save \$9.1 billion over ten years for deficit reduction or other defense priorities. The benefit could also be designed to provide more money for military members with families.²⁹²

In an earlier report, the CBO also noted that the Department of Defense "cannot target commissary benefits to those pay grades and skills that it most needs to retain".²⁹³ Given that these payments could be easily changed year-to-year based on the needs of the military, some of the funds could be used instead for targeted enlistment and retention bonuses. Targeted cash bonuses are more cost-effective than increased across-the-board pay in bringing in and keeping talented service members.²⁹⁴

This option to increase soldier pay and phase out the taxpayer subsidy for Pentagon grocery stores could easily be phased in with pilot tests. Fort Myer, an Army base nearest the Pentagon, houses many senior general officers stationed at the Pentagon, and could be the first to lead by example on this common sense measure. This base has its own Department of Defense run grocery store near the Washington neighborhoods of Rosslyn, Clarendon, and Pentagon City less than two miles from at least three major national grocery store chains: Safeway, Costco, and Giant. Of course, under this proposal the on-base grocery store would not close down, it would just lose its taxpayer subsidy, operate like the on-base retail exchanges, and soldiers could then decide where to shop with additional money in their paychecks.

By adopting this option, the Department of Defense could save \$9.1 billion over ten years merely by getting out of the domestic grocery store business.

²⁸⁹ Defense Commissary Agency, "About Us," http://www.commissaries.com/about_us.cfm, Accessed May 10, 2011.

²⁹⁰ USAJOBS, "Federal Employment Information Fact Sheets: Benefits of Working for the Federal Government," <http://www.usajobs.gov/EI/benefits.asp>, Accessed May 10, 2011.

²⁹² CBO Report, "Reducing the Deficit: Spending and Revenue Options," Congressional Budget Options, March 2010, pages 84-85, <http://www.cbo.gov/ftpdocs/120xx/doc12085/03-10-ReducingTheDeficit.pdf>.

²⁹³ Congressional Budget Office, "The Costs and Benefits of Retail Activities at Military Bases," page 4, October 1997, <http://www.cbo.gov/ftpdocs/1xx/doc158/retail.pdf>.

²⁹⁴ Asch, Beth; et. al, "Cash Incentives and Military Enlistment, Attrition, and Reenlistment," Rand Corporation, 2010, page III http://www.rand.org/content/dam/rand/pubs/monographs/2010/RAND_MG950.pdf.

Overhead, Support, and Supply

The U.S. military has approximately 1.4 million service members on active duty.²⁹⁵ The Pentagon also has thousands of staff performing non-defense or administrative duties and jobs. The Pentagon, in fact, “is currently the nation’s largest employer.”²⁹⁶

The Department of Defense spends billions of dollars every year on non-defense related activities. This includes overhead and administration as well as activities that could be performed by civilians or are not even “inherently governmental” in nature.²⁹⁷ To put Pentagon administrative costs into perspective, if “DOD Overhead” was a separate country, it would rank 49th in gross domestic product **when matched up against every other nation in the world.**²⁹⁸

Many of those performing support and supply services are active duty members of the military. More than 340,000 active duty military personnel serve in commercial-type jobs such as supply, transportation, and communications services.²⁹⁹ Some of these troops are deployed to perform these functions in warzones. However, **for those military servicemembers that do not deploy, the Department of Defense is using many of its most valuable and costly employees to perform civilian-type support functions here in the United States or in allied countries such as Germany and England.**

A Pentagon advisory board described this practice as a “poor use of our most expensive personnel—active duty military.”³⁰⁰

The Defense Business Board, staffed by veteran and civilian leaders to provide independent advice to the Secretary of Defense, found “there is a sizeable portion of the active military who are performing what would otherwise be not inherently government work or work that should be more appropriately assigned to DoD civilians. The military are compensated at rates substantially greater than their civilian counterparts but, more importantly, are needed at the tip of the spear.”³⁰¹

²⁹⁵ Office of the Secretary of Defense, “Armed Forces Strength Figures for March 31, 2012,” Department of Defense, <http://siadapp.dmdc.osd.mil/personnel/MILITARY/ms0.pdf>.

²⁹⁶ Josh Michaud, Kellie Moss, and Jen Kates, “U.S. GLOBAL HEALTH POLICY: THE U.S. DEPARTMENT OF DEFENSE AND GLOBAL HEALTH,” Henry J. Kaiser Family Foundation, September 2012; <http://www.kff.org/globalhealth/upload/8358.pdf>.

²⁹⁷ Defense Business Board, “Reducing Overhead and Improving Business Operations: Initial Observations,” July 22, 2010, Slide 10, http://dbb.defense.gov/pdf/DBB_Overhead_final_07_22_Board_Meeting.pdf

²⁹⁸ Defense Business Board, “Reducing Overhead and Improving Business Operations: Initial Observations,” July 22, 2010, Slide 16, http://dbb.defense.gov/pdf/DBB_Overhead_final_07_22_Board_Meeting.pdf

²⁹⁹ Defense Business Board, “Reducing Overhead and Improving Business Operations: Initial Observations,” July 22, 2010, Slide 23, http://dbb.defense.gov/pdf/DBB_Overhead_final_07_22_Board_Meeting.pdf

³⁰⁰ Defense Business Board, “Reducing Overhead and Improving Business Operations: Initial Observations,” July 22, 2010, Slide 26, http://dbb.defense.gov/pdf/DBB_Overhead_final_07_22_Board_Meeting.pdf

³⁰¹ Defense Business Board, “The Members,” Department of Defense, <http://dbb.defense.gov/members.shtml>.

Essentially we are assigning members of the armed forces, who are needed to perform vital national security missions, tasks that could be performed by civilians. These personnel are a vital part of our armed forces and combat missions. They are responsible for tasks parallel to the civilian world such as supply chain, transportation, human resources and communications services and many have been honored for heroic action. They, along with their families, should be thanked for being part of the less than one percent of Americans who have answered the call to serve and to sacrifice on the nation's behalf.

The Defense Business Board recommends strengthening the military by converting some of these military positions who are not deployed to hostile warzones to civilian (not contractor) positions.³⁰²

This proposal would keep three-quarters of the military personnel in civilian-type jobs as military personnel and available for deployment to war. While some of these jobs should remain as a military position, converting a small fraction- one-fourth- of these support personnel to civilian positions through attrition will save billions of dollars over the next decade.

In addition, savings could be made by reducing the number of general and flag officers in the military to ratios at the successful end of the Cold War. At the end of World War II there were more than 2,000 general and flag officers for a 12 million person military force. Today, with around one-sixth of the military personnel, fewer Army brigades and divisions, and with fewer ships and planes, the military still has around 50 percent of the general and flag officers (just under 1,000). Each of these general and flag officers comes with a robust staff of military aides both officer and enlisted as well as civilian administrative support.³⁰³

The Department of Defense could realize budgetary savings by reducing general and flag officers from around 1,000 today to a Cold War ratio of five general officers per 10,000 troops (as opposed to the seven the Pentagon has today).³⁰⁴ This would be a reduction of around 200 general and flag officers, some of which could be placed in the reserves. A conservative estimate could mean a reduction in 800 support personnel costing \$100,000 per year allowing the Department of Defense to save \$800 million over ten years.

"In spite of assertions to the contrary, there are substantial gains yet to be made by making" Defense agencies and field activities "more cost-effective" through better management, according to Defense Business Board.³⁰⁵ The number and scope of these agencies and activities "have outstripped current management and oversight mechanisms" and continue to "grow and spend" with the "continued operation of non-core functions" being a "fundamental problem."

³⁰² Defense Business Board, "Reducing Overhead and Improving Business Operations: Initial Observations," July 22, 2010, http://dbb.defense.gov/pdf/DBB_Overhead_final_07_22_Board_Meeting.pdf

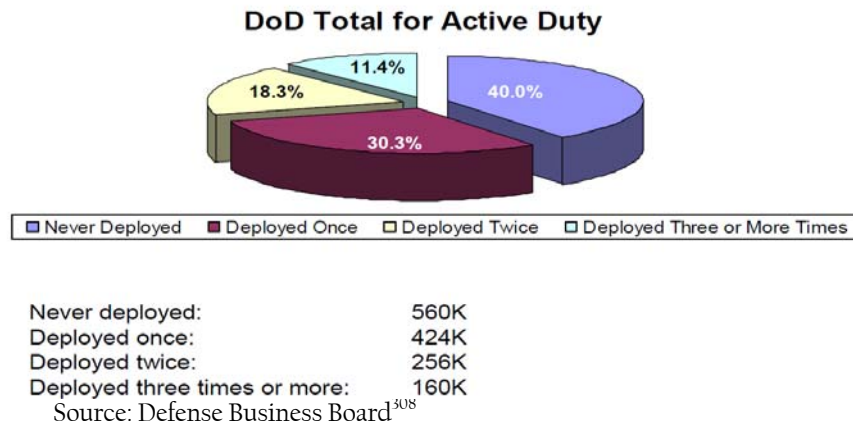
³⁰³ Offenbauer, Priscilla, "General and Flag Officer Authorizations For the Active and Reserve Components: A Comparative and Historical Analysis," Library of Congress and Commission on National Guard and Reserve, http://www.loc.gov/rr/frd/pdf-files/CNGR_General-Flag-Officer-Authorizations.pdf.

³⁰⁴ Testimony of Benjamin Freeman, PhD, Project on Government Oversight, "General and Flag Officer Requirements," Hearing before Senate Armed Services Committee, September 14, 2011, <http://www.pogo.org/pogo-files/testimony/national-security/ns-wds-20110914.html#13>.

³⁰⁵ Defense Business Board, "Reducing Overhead and Improving Business Operations: Initial Observations," July 22, 2010, Slide 29, http://dbb.defense.gov/pdf/DBB_Overhead_final_07_22_Board_Meeting.pdf

The board notes “Congress and DoD have a poor track record in addressing overhead expenses,” and both “must think ‘smarter’ ... not ‘richer’.”³⁰⁶

Adopting this option would do just that by saving more than \$5 billion every year once fully implemented without compromising our nation’s defense in any way.³⁰⁷ Giving adequate time for preparation to make these conversions the Department of Defense could save over \$36 billion over the next ten years without reducing a single Army or Marine enlisted infantry soldier, deployable Navy sailor, or Air Force fighter pilot.



Putting Pentagon Overhead in Perspective:

If “DOD Overhead” was a separate country, it would rank 49th in gross domestic product.³⁰⁹

RANK	COUNTRY	GDP (\$B)*
45	Chile	244
46	Bangladesh	242
47	Singapore	235
48	Portugal	232
49	DoD Overhead	212
50	Israel	205
51	UAE	200

³⁰⁶ Defense Business Board, “Reducing Overhead and Improving Business Operations: Initial Observations,” July 22, 2010, Slide 26, http://dbb.defense.gov/pdf/DBB_Overhead_final_07_22_Board_Meeting.pdf

³⁰⁷ National Commission on Fiscal Responsibility and Reform, “Co-Chairs Proposal – Illustrative List,” Fiscal Commission Website,

http://www.fiscalcommission.gov/sites/fiscalcommission.gov/files/documents/Illustrative_List_11.10.2010.pdf.

³⁰⁸ Defense Business Board, “Reducing Overhead and Improving Business Operations: Initial Observations,” July 22, 2010, Slide 23, http://dbb.defense.gov/pdf/DBB_Overhead_final_07_22_Board_Meeting.pdf.

³⁰⁹ Ibid.

Conclusion

With \$1 trillion being added annually to our \$16 trillion national debt, we can no longer afford to make excuses for not examining *every* corner of the government for savings that could result from streamlining, consolidating, cutting and even eliminating those agencies and programs that are inefficient, duplicative, or unnecessary. This must include the Department of Defense.

The Pentagon and Congress must make hard decisions about how to spend national security resources.

Some may argue at this time of war and recession, we cannot afford to cut our defense budget. The \$67.9 billion of savings proposed in the *Department of Everything* does not cut from the national security of our nation. In fact, spending on the areas outlined in this report is actually diverting resources *away* from defense. Does anyone seriously believe ending DOD support for guessing the locality of a Twitter user based on the use of slang— or having all military children attend the same public school as their neighbors here in the United States will undermine our national security?

Others may claim cutting these initiatives would harm essential medical and scientific research, education, and other important priorities. Yet, *all* of these activities are already being addressed by other, more appropriate federal, state, local, and private entities. The DOD initiatives that have been successful in these areas can and should be consolidated and better coordinated with the efforts being made in the same fields supported by other agencies. It is silly to believe eliminating DOD funding of junkets and motivational speeches for local law enforcement will compromise counterdrug efforts or that canceling resort travel to promote cleaner energy use at the Pentagon will discourage the students from seeking careers in science, technology, engineering and mathematics.

Before being forced to cut active duty troops or delaying modernization of strategic ships and planes, Congress should first eliminate these types of programs, policies, and agencies within the Pentagon that duplicate the missions and initiatives of other government agencies.

More than \$67.9 billion in savings could be produced from the Pentagon budget over the next decade by addressing just these five sides of the Pentagon that have little to do with defense:

- **Non-Military Research and Development.** End research projects that have little or nothing to do with national defense or medical needs related to military service (\$6 billion).
- **Education:** Phase out the Defense Domestic Dependent Elementary and Secondary Schools (DDESS) that educates children of military families here in the United States and end the Science, Technology, Engineering, and Mathematics

(STEM) programs that duplicate the work of the Department of Education and local school districts (**\$10.7 billion**). Reform the Department of Defense Tuition Assistance Program which provides college funding for military members on active duty and duplicates benefits provided by the Department of Veterans Affairs (**\$4.5 billion**).

- **Alternative Energy:** Reduce duplicative alternative energy research by the Department of Defense (**\$700 million**).
- **Grocery Stores.** Provide a pay increase to all military members and allow their families to shop wherever they choose by ending subsidies to Pentagon-run grocery stores and shopping centers (**\$9 billion**).
- **Support and Supply Services.** Reclassify one-fourth of military members performing civilian-type job functions and reducing general and flag officers to Cold War levels (**\$37 billion**).

While defense budgets grew at nearly 10 percent per year over the past decade,³¹⁰ budget realities and the looming threat of automatic cuts to the Pentagon's budget from sequestration require sober and serious solutions that ensure our national defense needs are met while reducing spending on lower priority, unnecessary, failed, and duplicative programs within every department of the federal government—including the Pentagon.

Congress and the Department of Defense must start consolidating duplicative programs and eliminating billions of dollars of Defense programs that have little or nothing to do with defense. The current Pentagon's mentality, shared by much of Congress, that believes it can be a Department of Everything must be changed. **Doing so will make our nation safer by both focusing on actual national security missions at the Pentagon and reducing the growing national security threat of runaway spending and debt.**

³¹⁰ Mindy R. Levit, "The Federal Budget: Issues for FY2011, FY2012, and Beyond," Congressional Research Service, October 13, 2011.