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Statement of

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(Energy, Installations, and Environment)

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Subcommittee on Readiness and Management Support

FY 2017 Department of Defense Budget Request

And Future Years Defense Program for

Energy, Installations, and Environment

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Introduction

Chairman Ayotte, Ranking Member Kaine and distinguished members of the subcommittee: Thank you for the opportunity to present the President's Fiscal Year (FY) 2017 budget request for the Department of Defense programs supporting energy, installations, and the environment.

In my testimony, I will focus first on the budget request. As you will note, the Administration's budget includes \$7.4 billion for Military Construction (including family housing), and \$10.2 billion for Facility Sustainment and Recapitalization. These are both decreases from last year, as the Bipartisan Budget Act of 2015 caps overall defense spending. Although this request allows a reduction in facilities risk due to a slight increase in Sustainment funding by the Services, the Department is still accepting risk in facilities. As this Subcommittee well knows, facilities degrade more slowly than readiness, and in a constrained budget environment, it is responsible to take risk in facilities first.

My testimony will also address the environmental budget. This budget has been relatively stable, and we continue to show progress in both our compliance program, where we've seen a decrease in environmental violations, and in cleanup, where 84% of our 39,000 sites have reached Response Complete. We remain on track to meet our goals of 90% Response Complete in 2018, and 95% in 2021.

As you know, Operational Energy Plans and Programs merged with Installations and Environment office in 2015 to form the Office of Assistant Secretary of Defense for Energy, Installations and Environment (EI&E). EI&E now oversees all energy that is required for training, moving and sustaining military forces and weapons platforms for military operations, as well as energy used on military installations. While the budget request for Military Construction and Environmental Remediation programs includes specific line items, the Department's programs for Operational Energy and Installation Energy are subsumed into other accounts. With that in mind, I will summarize the newly released 2016 *Operational Energy Strategy* and address the budgets for the Department's operational and installation energy portfolio.

In addition to budget, I will also highlight a handful of top priority issues – namely, the Administration's request for BRAC authority, European consolidation efforts, European Reassurance Initiative, the status of the movement of Marines from Okinawa to Guam, an overview of our energy programs, and climate change.

Fiscal Year 2017 Budget Request – Military Construction and Family Housing

The President's FY 2017 budget requests \$7.4 billion for the Military Construction (MilCon) Appropriation—a decrease of approximately \$1.0 billion from the FY 2016 budget request (see Table 1 below). This decrease is directly attributable to the resourcing constraints established by the Bipartisan Budget Agreement and the Department's need to fund higher priority readiness and weapon's modernization program. The request does recognize the Department's need to

invest in facilities that address critical mission requirements and life, health, and safety concerns, while acknowledging the constrained fiscal environment. In addition to new construction needed to bed-down forces returning from overseas bases, this funding will be used to restore and modernize enduring facilities, acquire new facilities where needed, and eliminate those that are excess or obsolete. The FY 2017 MilCon request includes projects that directly support operations and training, maintenance and production, and projects to take care of our people and their families, such as medical treatment facilities, unaccompanied personnel housing, and schools.

As shown by the decrease in this year's budget request, the DoD Components continue to take risk in the MilCon program in order to lessen risk in other operational and training budgets. While the Department's FY 2017 budget request funds critical projects that sustain our warfighting and readiness postures, taking continued risk across our facilities inventory will degrade our facilities and result in the need for significant investment for facility repair and replacement in the future. Our limited MilCon budget for FY 2017 leaves limited room for projects that would improve aging workplaces, and therefore, could adversely impact routine operations and the quality of life for our personnel.

Table 1. MilCon Appropriation Request, FY 2016 versus FY 2017

Account Category	FY 2016 Request (\$ Millions)	FY 2017 Request (\$ Millions)	Change from FY 2016	
			Funding (\$ Millions)	Percent
Military Construction	6,653	5,741	(912)	(14%)
Base Realignment and Closure	251	205	(46)	(18%)
Family Housing	1,413	1,320	(93)	(7%)
Chemical Demilitarization	0	0	0	0%
NATO Security Investment Program	120	178	58	48%
TOTAL	8,437	7,444	(993)	(12%)

Military Construction

The FY 2017 military construction request of \$6.1 billion addresses routine requirements for construction at enduring installations stateside and overseas, and for specific programs such as Base Realignment and Closure and the NATO Security Investment Program. This is a 13 percent decrease from our FY 2016 request, and this level of funding remains significantly less than historic trends prior to the Budget Control Act. In addition, we are targeting MilCon funds to three key areas.

First and foremost, our MilCon request supports the Department's operational missions. MilCon is key to supporting forward deployed missions as well as implementing initiatives such as the Asia-Pacific rebalance, European Infrastructure Consolidation, European Reassurance Initiative,

and cyber mission effectiveness. Our FY 2017 budget request includes \$473 million for 13 F-35A/B/C maintenance, production, training, and support projects to accommodate initial F-35 deliveries; \$194 million to support 8 fuel infrastructure projects; \$62.2 million for a power upgrades utility project in support of the U.S. Marines relocation to Guam; \$260 million for recapitalization of National Security Agency facilities; and \$53.1 million for the third phase of a Joint Intelligence Analysis Complex Consolidation at Royal Air Force Croughton, United Kingdom. The budget request also includes \$470 million to address new capabilities/mission, force structure growth, and antiquated infrastructure for Special Operations Forces; \$176 million for 3 Missile Defense Agency projects, including \$156 million for Phase 1 of the Long Range Discrimination Radar System Complex in Alaska; a \$76 million investment to recapitalize facilities at three Naval Shipyards; and \$124 million for 4 unmanned aerial vehicle operational facilities.

Second, our FY 2017 military construction budget request continues the Department's 10 year plan (which started in FY 2011) to replace and recapitalize more than half of the DoDEA schools. Funding in FY 2017 includes \$246 million to address four schools in poor condition at Dover, Delaware; Kaiserslautern, Germany; Kadena AB, Japan; and RAF Croughton, United Kingdom.

Third, the FY 2017 budget request includes \$304 million for medical facility recapitalization. This includes \$50 million for the first increment of a \$510 million project for the Walter Reed Medical Center Addition/Alteration; \$58.1 million for increment six (of a \$982 million seven increment project) for the Medical Center Replacement at Rhine Ordnance Barracks in Germany; and \$195.9 million for five other smaller medical/dental facilities. All the projects are crucial for our continued delivery of quality health care that our service members and their families deserve whether stationed stateside or during overseas deployments.

Overseas Contingency Operations

The FY 2017 Overseas Contingency Operations budget request includes \$47.9 million for projects supporting the mission in East Africa (Djibouti). The request also includes \$113.6 million in European Reassurance Initiative military construction funding for military construction activities for the Active components of all Military Services, and Defense-Wide Activities supporting military operations in Europe in direct support of NATO, Operation Freedom's Sentinel, and Operation Inherent Resolve. Funds provided would bolster security of U.S. NATO Allies and partner states in Europe and deter aggressive actors in the region by enhancing prepositioning and weapons storage capabilities, improving airfield and support infrastructure, providing 5th generation warfighting capability, and building partnership capacity.

Family and Unaccompanied Housing

A fundamental priority of the Department is to support military personnel and their families to improve their quality of life by ensuring access to suitable, affordable housing. Service members are engaged in the front lines of protecting our national security and they deserve the best

possible living and working conditions. Sustaining the quality of life of our people is crucial to recruitment, retention, readiness and morale.

Our FY 2017 budget request includes \$1.3 billion to fund construction, operation, and maintenance of government-owned and leased family housing worldwide as well as to provide housing referral services to assist military members in renting or buying private sector housing, and oversight of privatized family housing (see Table 2 below). Included in this request is \$356 million for construction and improvements; \$232 million for operations (including housing referral services); \$229 million for maintenance; \$154 million for utilities; and \$349 million for leasing and privatized housing oversight.

This funding request supports over 38,000 government-owned family housing units, almost all of which are on enduring bases in foreign countries now that the Department has privatized the vast majority of our family housing in the United States (over 206,000 units). The Department is also leasing more than 9,000 family housing units where government-owned or privatized housing is not feasible. Our request also includes \$3.3 million to support administration of the Military Housing Privatization Initiative (MHPI) Program as prescribed by the Federal Credit Reform Act of 1990, to ensure the project owners continue to fund future capital repairs and replacements as necessary to provide quality housing for military families and to ensure that these projects remain viable for their 40-50 year lifespan.

In FY 2015, the Department notified Congress of DoD's intent to transfer \$96 million of Navy family housing construction funds into the Department's Family Housing Improvement Fund (FHIF) to execute Hawaii Phase 6 to support Marine Corps housing requirements in Hawaii. Execution of Hawaii Phase 6 brings the Department's total privatized family housing inventory to nearly 202,000 homes.

Table 2. Family Housing Budget Request, FY 2016 versus FY 2017

Account Category	FY 2016 Request (\$ Millions)	FY 2017 Request (\$ Millions)	Change from FY 2016	
			Funding (\$ Millions)	Percent
Family Housing Construction/ Improvements	277	356	79	29%
Family Housing Operations & Maintenance	1,136	961	(175)	(15%)
Family Housing Improvement Fund*	0	3	3	100%
TOTAL	1,413	1,320	93	(7%)

*We made no FY 2016 request for funds to oversee privatized housing because we had sufficient FY 2015 cost savings to cover our FY 2016 expenses.

The Department also continues to encourage the modernization of Unaccompanied Personnel Housing (UPH) to improve privacy and provide greater amenities. In recent years, we have

heavily invested in UPH to support initiatives such as BRAC, global restationing, force structure modernization, and the Navy’s Homeport Ashore initiative. However, this constrained budget request only includes five UPH projects totaling \$161 million, all of which are for transient personnel or trainees such as a \$67 million Recruit Dormitory at Joint Base San Antonio, Texas.

Facilities Sustainment and Recapitalization

In addition to new construction, the Department invests significant funds in maintenance and repair of our existing facilities. Sustainment represents the Department’s single most important investment in the condition of its facilities. It includes regularly scheduled maintenance and repair or replacement of facility components—the periodic, predictable investments that should be made across the service life of a facility to slow its deterioration, optimize the Department’s investment, and save resources over the long term. Proper sustainment slows deterioration, maintains safety, preserves performance over the life of a facility, and helps improve the productivity and quality of life of our personnel.

Table 3. Sustainment and Recapitalization Budget Request, FY 2016 versus FY 2017

Account Category	FY 2016 Request (\$ Millions)	FY 2017 Request (\$ Millions)	Change from FY 2016	
			Funding (\$ Millions)	Percent
Sustainment (O&M)	8,022	7,450	(572)	(7%)
Recapitalization (O&M)	2,563	2,088	(475)	(19%)
TOTAL	10,585	9,538	(1,047)	(10%)

The accounts that fund these activities have taken significant cuts in recent years. For FY 2017, the Department’s budget request includes \$7.4 billion for sustainment and \$2.1 billion for recapitalization (see Table 3 above) in Operations & Maintenance funding only. The combined level of sustainment and recapitalization funding (\$9.5 billion) is a 10 percent decrease from the FY 2016 President’s Budget (PB) request (\$10.6 billion), and reflects an acceptance of significant risk in DoD facilities. In fact, the request supports average DoD-wide sustainment funding level that equates to 74% of the FSM requirement as compared to the Department’s goal to fund sustainment at 90% of modeled requirements.

Recent and ongoing budget constraints have limited investment in facilities sustainment and recapitalization to the point that 11.7 percent of the Department’s facility inventory is in “poor” condition (Facility Condition Index (FCI) between 60 and 79 percent) and another 14.8 percent is in “failing” condition (FCI below 60 percent) based on recent facility condition assessment data. Compared to last year (see Table 4), the Department is seeing more poor facilities moving into failing conditions. Until the out-year sequestration challenges are overcome, the Department will continue to take risk in funding to sustain and recapitalize existing facilities. This will ultimately result in DoD facing larger bills in the out-years to restore or replace facilities that deteriorate prematurely.

Table 4. – Comparison of FY 2014 and FY 2015 Facility Condition Indices

	End of FY 2014 FCI (%)		End of FY 2015 FCI (%)	
	Poor (60-79 %)	Failing (<60%)	Poor (60-79 %)	Failing (<60%)
Army	31.3	10.2	12.8	26.1
Navy	17.4	6.4	15.8	6.4
Air Force	2.6	4.1	5.7	3.9
Washington Headquarters Service	2.2	4.7	2.1	5.8
TOTAL	19.7	7.4	11.7	14.8

Fiscal Year 2017 Budget Request – Environmental Programs

The Department has long made it a priority to protect the environment on our installations, not only to preserve irreplaceable resources for future generations, but to ensure that we have the land, water and airspace we need to sustain military readiness. To achieve this objective, the Department has made a commitment to continuous improvement, pursuit of greater efficiency and adoption of new technology. In the President's FY 2017 budget, we are requesting \$3.4 billion, a slight decrease from FY 2016, to continue the legacy of excellence in our environmental programs.

The table below outlines the entirety of the DoD's environmental program, but I would like to highlight a few key elements where we are demonstrating significant progress – specifically, our environmental restoration program, our efforts to leverage technology to reduce the cost of cleanup, and the Readiness and Environmental Protection Integration (REPI) program.

Table 5: Environmental Program Budget Request, FY 2017 versus FY 2016

Program	FY 2016 Request (\$Millions)	FY 2017 Request (\$Millions)	Change from FY 2016	
			Funding (\$Millions)	Percent
Environmental Restoration	1,107	1,030	-77	-7%
Environmental Compliance	1,389	1,493	103	7%
Environmental Conservation	389	420	31	8%
Pollution Prevention	101	84	-17	-17%

Environmental Technology	200	186	-14	-7%
BRAC Environmental	217	181	-36	-17%
TOTAL	3,405	3,395	-10	-0.3%

Environmental Restoration

We are requesting \$1.2 billion to continue cleanup efforts at remaining Installation Restoration Program (IRP – focused on cleanup of hazardous substances, pollutants, and contaminants) and Military Munitions Response Program (MMRP – focused on the removal of unexploded ordnance and discarded munitions) sites. This includes \$1.0 billion for "Environmental Restoration," which encompasses active installations and Formerly Used Defense Sites (FUDS) locations and \$181 million for "BRAC Environmental." The amount of BRAC Environmental funds requested will be augmented by \$108 million of land sale revenue and prior year, unobligated funds, bringing the total amount of BRAC Environmental funding planned for obligation in FY 2017 to \$289 million. These investments help to ensure DoD continues to make property at BRAC locations safe and environmentally suitable for transfer. We remain engaged with the Military Departments to ensure they are executing plans to spend remaining unobligated balances in the BRAC account.

Table 6: Progress Toward Cleanup Goals

Goal: Achieve Response Complete at 90% and 95% of Active and BRAC IRP and MMRP sites, and FUDS IRP sites, by FY2018 and FY2021, respectively			
	Status as of the end of FY 2015	Projected Status at the end of FY 2018	Projected Status at the end of FY 2021
Army	90%	94%	97%
Navy	80%	86%	92%
Air Force	80%	89%	94%
DLA	86%	97%	97%
FUDS	80%	89%	94%
Total	84%	91%	95%

We are cleaning up sites on our active installations in parallel with those on bases closed in previous BRAC rounds – cleanup is not something that DoD pursues only when a base is closed. In fact, the significant progress we have made over the last 20 years cleaning up contaminated sites on active DoD installations is expected to reduce the residual environmental liability in the disposition of our property made excess through the BRAC process or other efforts.

By the end of 2015, the Department, in cooperation with state agencies and the Environmental Protection Agency, completed cleanup activities at 84 percent of Active and BRAC IRP and

MMRP sites, and FUDS IRP sites, and is now monitoring the results. During FY 2015 alone, the Department completed cleanup at over 870 sites. Of the roughly 39,500 restoration sites, almost 31,500 are now in monitoring status or cleanup completed. We are currently on track to meet our program goals – anticipating complete cleanup at 95 percent of Active and BRAC IRP and MMRP sites, and FUDS IRP sites, by the end of 2021.

Our focus remains on continuous improvement in the restoration program: minimizing overhead; adopting new technologies to reduce cost and accelerate cleanup; refining and standardizing our cost estimating; and improving our relationships with State regulators through increased dialogue. All of these initiatives help ensure that we make the best use of our available resources to complete cleanup.

Environmental Technology

A key part of DoD's approach to meeting its environmental obligations and improving its performance is its pursuit of advances in science and technology. The Department has a long record of success when it comes to developing innovative environmental technologies and getting them transferred out of the laboratory and into actual use on our remediation sites, installations, ranges, depots and other industrial facilities. These same technologies are also now widely used at non-Defense sites helping the nation as a whole.

While the FY 2017 budget request for Environmental Technology overall is \$191 million, our core efforts are conducted and coordinated through two key programs - the Strategic Environmental Research and Development Program (SERDP - focused on basic research) and the Environmental Security Technology Certification Program (ESTCP - which validates more mature technologies to transition them to widespread use). The FY 2017 budget request includes \$65 million for SERDP and \$32 million for ESTCP for environmental technology demonstrations, with an additional \$20 million requested specifically for energy technology demonstrations.

These programs have already achieved demonstrable results and have the potential to reduce the environmental liability and costs of the Department - developing new ways of treating groundwater contamination, reducing the life-cycle costs of multiple weapons systems, and improving natural resource management.

As an example, this past year SERDP-sponsored project to conduct basic research that will develop an environmentally benign Chemical Agent Resistant Coating (CARC), which is critical technology for the protection of military assets. Current CARC coatings contribute approximately 2.3 million pounds of volatile organic compounds (VOCs) and hazardous air pollutants (HAPs) to the environment each year. The new novel powder CARC is absent of solvent, emits nearly zero VOCs, can be recycled, and is compatible with existing CARC systems. In addition, testing to date proves that the exterior durability of this coating is superior to any liquid CARC system, supporting DoD's initiative for corrosion prevention and mitigation. Coating products are currently in transition to Original Equipment Manufacturers, Depots, and the Defense Logistics Agency (DLA).

Looking ahead, our environmental technology investments are focused on the Department's evolving requirements. In the area of Environmental Restoration, we are launching a new three-year initiative to support sustainable range management by researching the environmental impacts of new munitions compounds and we will continue our investments in technologies to address the challenges of contaminated groundwater sites where no good technical solutions are currently available. We are working to understand the behavior of contaminants in fractured bedrock and large dilute plumes, which represent a large fraction of these sites, and to develop treatment and management strategies. We will continue our efforts to develop the science and tools needed to meet the Department's obligations to assess and adapt to climate change. Finally, to transition the important work of improving the sustainability of our industrial operations and reducing life-cycle costs by eliminating toxic and hazardous materials from our production and maintenance processes we are initiating a program to demonstrate that our most hazardous chemicals can be eliminated from a maintenance production line.

Environmental Conservation and Compatible Development

To maintain access to the land, water and airspace needed to support our mission needs, the Department continues to successfully manage the natural resources entrusted to us – including protecting the many threatened and endangered species found on our lands. DoD manages approximately 25 million acres containing many high-quality and unique habitats that provide food and shelter for nearly 520 species-at-risk and over 400 that are federally listed as threatened or endangered species. That is 9 times more species per acre than the Bureau of Land Management, 6 times more per acre than the United States Fish and Wildlife Service (USFWS), 4.5 times more per acre than the Forest Service, and 3.5 times more per acre than the National Park Service. A surprising number of rare species are found only on military lands – including more than 15 listed species and at least 75 species-at-risk.

The FY 2017 budget request for Conservation is \$420 million. The Department invests these funds to manage its imperiled species as well as all of its natural resources in an effort to sustain the high quality lands our service personnel need for testing, training and operational activities, and to maximize the flexibility our servicemen and women need to effectively use those lands. Species endangerment and habitat degradation can and does have direct mission-restriction impacts. That is one reason we work hard to *prevent* species from becoming listed and, if they do become listed, to manage these species and their habitat in ways that sustain the resource and enable our ability to test and train. All of our plans now adequately address these species, and we have successfully and consistently avoided critical habitat designations because our plans adequately address management concerns for species that exist on our lands. Getting ahead of any future listings has been a prime, natural resource objective for the last several years and will remain so in the future.

Readiness and Environmental Protection Integration (REPI) Program

To help ensure DoD sustains its national defense mission and protects species under duress, the Department has developed a strategy that supports conservation beyond installation boundaries. Under this strategy DoD engages with other governmental and non-governmental partners, as well as private landowners, to develop initiatives and agreements for protecting species for the purposes of precluding or mitigating regulatory restrictions on training, testing, and operations on DoD lands. Expanding the scale and options for protecting species on non-DoD land benefits conservation objectives while helping sustain access to, and operational use, of DoD live training and test domains.

This strategic focus is a key element of the Readiness and Environmental Protection Integration (REPI) Program. Under REPI, the Department partners with conservation organizations and state and local governments to preserve buffer land and sensitive habitat near installations and ranges. Preserving these areas allows the Department to avoid more costly alternatives such as workarounds, restricted or unrealistic training approaches, or investments to replace existing test and training capability. Simultaneously, these efforts ease the on-installation species management burden and reduce the possibility of restricted activities, ultimately providing more flexibility for commanders to execute their missions.

Included within the \$420 million for Conservation, \$60 million is directed to the REPI Program. The REPI Program is a cost-effective tool to protect the nation's existing training, testing, and operational capabilities at a time of decreasing resources. In the last 13 years, REPI partnerships have protected more than 437,000 acres of land around 86 installations in 29 states. In addition to the tangible benefits to training, testing, and operations, these efforts have resulted in significant contributions to biodiversity and recovery actions supporting threatened, endangered and candidate species.

The REPI Program supports the warfighter and protects the taxpayer because it multiplies the Department's investments through unique cost-sharing agreements. Even in these difficult economic times, REPI is able to directly leverage the Department's investments at least one-to-one with those of our partners, effectively securing critical buffers around our installations for half-price.

In addition, DoD, along with the Departments of the Interior and Agriculture, continues to advance the Sentinel Landscapes Partnership to protect large landscapes where conservation, working lands, and national defense interests converge — places defined as Sentinel Landscapes. Established in 2013, the Sentinel Landscapes Partnership further strengthens interagency coordination and provides taxpayers with the greatest leverage of their funds by aligning federal programs to advance the mutually-beneficial goals of each agency.

Thus far, three Sentinel Landscapes have been identified around Joint Base Lewis-McChord, Washington; Fort Huachuca, Arizona; and Naval Air Station (NAS) Patuxent River and the Atlantic Test Ranges, Maryland. The pilot Sentinel Landscape project at JBLM influenced the USFWS decision to avoid listing a butterfly species in Washington, Oregon, and California. The USFWS cited the “high level of protection against further losses of habitat or populations” from investments made by Joint Base Lewis-McChord’s REPI partnership, actions that allow significant maneuver areas to remain available and unconstrained for active and intense military

use at JBLM. At Fort Huachuca, NAS Patuxent River and the Atlantic Test Ranges, DoD is working with USFWS, the Natural Resources Conservation Service, the U.S. Forest Service, and a variety of state and private conservation organizations to protect important swaths of special use airspace used for aircraft testing and training, while also benefiting ecologically sensitive watersheds and the installations, wildlife, and working lands dependent on those resources.

Fiscal Year 2017 Budget Request – Energy Programs

Unlike the Department's Military Construction and Environmental Remediation programs, where the budget request includes specific line items, our energy programs are subsumed into other accounts. The following sections describe the Energy portion of the budget request. Further discussion of energy follows in the highlighted issues section.

Operational Energy

In FY 2017, the Department's budget request includes an estimated \$9.8 billion for 93.3 million barrels of fuel. In order to increase warfighting capability and reduce operational risk, the Department's FY 2017 budget request also includes \$2.5 billion for adaptations and improvements in our use of operational energy. Operational energy is the energy used to power aircraft, ships, combat vehicles, and mobile power generation at contingency bases. While there is no explicit budget request for Operational Energy, these investments across multiple accounts and appropriations are intended specifically to improve military capability.

Within this overall request, the Department is requesting \$37.3M in RDT&E funding to support the Operational Energy Capabilities Improvement Fund (OECIF). OECIF provides funding to DoD research programs that improve operational energy performance organized around a specific annual theme or focus area, as well as sustain funding to those programs already underway. The FY 2017 President's Budget will provide funding for new programs, as well as support those programs established in FY14-FY16.

Finally, the Department is requesting \$5.4 million in FY17 to fund the operations of OASD(EI&E) and oversee operational energy activities. Each year, EI&E certifies that the President's Budget is adequate for carrying out the Department's *Operational Energy Strategy*. The full certification report, which will be provided to Congress in the near future, will provide a more comprehensive assessment of the alignment of operational energy initiatives with the goals of the recently released 2016 *Operational Energy Strategy*.

2016 Operational Energy Strategy

Reflecting lessons learned, strategic guidance, and the evolving operational environment, the 2016 *Operational Energy Strategy* is designed to improve our ability to deliver the operational energy needed to deploy and sustain forces in an operational environment characterized by peer competitors, asymmetric insurgents, and unforgiving geography. The strategy identifies the following three objectives:

- Increase Future Warfighting Capability. Foremost, the strategy focuses on increasing warfighter capability through energy-informed force development. In addition to energy Key Performance Perimeters (eKPP) informed by energy supportability analyses that improve the combat effectiveness and supportability of major acquisition programs, the Department will continue to invest in energy innovation that improves the long-term capability of the Department, such as increasing the unrefueled range or endurance of platforms. With this knowledge of inherent energy constraints and risks, the Military Departments will be better able to make energy-informed decisions related to force development and future capabilities.
- Identify and Reduce Logistics and Operational Risks. To effectively reduce logistics risks, the Department will address energy risks in near-term operation plans as well as more exploratory, longer-term concepts of operation. Initiatives that fall into this category seek to mitigate warfighting gaps found in Integrated Priority Lists, OPLANS, and wargames. The Department's focus on risk will ensure future forces are better aligned to mitigate potential threats to operations.
- Enhance Mission Effectiveness of the Current Force. Finally, the strategy will improve the effectiveness of U.S. forces operating around the globe today. To do so, the Department will emphasize improved energy use in operations and training, and enhanced education of operators, logisticians, and system developers. These initiatives may include material and non-material enhancements to day to day operations, as well as adaptations in training, exercises, and professional military education.

In coordination with the Combatant Commands, Military Departments, Joint Staff, and Defense Agencies, my office is overseeing the execution of fifteen targets arrayed across the three objectives. For instance, we are supporting Joint Staff oversight of the energy KPP, facilitating operational energy advisors at the Combatant Commands, and assessing the role of operational energy in war games and operation plan reviews. In addition to the Defense Operational Energy Board, we will use existing requirements, acquisition, programming, and budgeting processes to review Department progress against these targets.

Installation Energy

As with Operational Energy, there is no explicit request in the overall budget for Facilities Energy – utilities expenditures are included in the Base Operations O&M request. Facilities Energy remains our single largest base operating cost and in FY15, we spent \$3.9 billion to heat, cool, and provide electricity to our buildings. To reduce this cost the Department is pursuing energy efficiencies through building improvements, new construction, and third party investments.

The Department's FY 2017 budget request includes approximately \$618 million for investments in conservation and energy efficiency, most of which will be directed to existing buildings. The majority (\$468 million) is in the Military Components' operations and maintenance accounts, to be used for sustainment and recapitalization projects. Such projects typically involve retrofits to incorporate improved lighting, high-efficiency HVAC systems, double-pane windows, energy

management control systems, and new roofs. The remainder (\$150 million) is for the Energy Conservation Investment Program (ECIP), a Military Construction account used to implement energy efficiency, water conservation, and renewable energy projects. Each individual ECIP project has a positive payback (i.e. Savings to Investment Ratio (SIR) > 1.0) and the overall program has a combined SIR greater than 2.0. This means for every dollar we invest in ECIP, we generate more than two dollars in savings.

The Military Component investments include activities that would be considered regular maintenance and budgeted within the O&M accounts for Facilities Sustainment, Restoration, and Maintenance activities. The risk that has been accepted in those accounts will not only result in fewer energy projects, but failing to perform proper maintenance on our buildings will without question have a negative impact on our energy usage. In plain terms, upgrades to air conditioning systems will not reduce energy usage as projected if the roof is leaking or the windows are broken.

In addition to retrofitting existing buildings, we continue to drive efficiency in our new construction. Our new buildings must be constructed using the high-performance sustainable buildings standards issued by my office 2 years ago which include greater energy efficiency requirements.

Additionally, the Department is taking advantage of third-party financing through Energy Savings Performance Contracts (ESPCs) and Utility Energy Service Contracts (UESCs), to implement energy efficiency improvements in our existing buildings. Under these contracts private energy firms or utility companies make energy upgrades to our buildings and are paid back over time using utility bill savings.

Facilities Energy Management

With respect to facilities energy management the Department has made great progress towards improving the energy efficiency of its installations. Since FY09, the Department reduced the energy consumed on our military bases by 10%, avoiding over \$1.2 billion in operating costs.

In addition to using appropriated funding for energy conservation and efficiency initiatives, the Department is continuing to take advantage of third-party financing tools through energy performance based contracts (ESPCs and UESCs) to implement energy efficiency improvements in our existing buildings. While such performance-based contracts have long been part of the Department's energy strategy, the Services have significantly increased the use of ESPCs and UESCs in response to the President's Performance Contracting Challenge (PPCC) originally issued in December 2011 and extended in May 2014. The PPCC challenged federal agencies to award \$4 billion in energy performance based contacts by the end December 2016. The DoD's commitment to the challenge is just over \$2 billion in contracts. To date the Department has awarded \$1.3 billion in ESPCs and UESCs.

Regarding renewable energy, the Department has a goal to deploy 3 gigawatts of renewable energy by FY 2025. Most renewable energy projects we pursue are financed by private developers. DoD's authorities for renewable energy - particularly the ability to sign power purchase agreements of up to 30 years - provide incentives for private firms to fund the projects

themselves, and can also provide a strong business case that they are able to offer DoD lower energy rates than are being paid currently. The DoD does not make any capital investment in these renewable energy projects. When feasible, renewable energy projects are being built with micro-grid-ready applications that can enable the provision of continuous power in the event of a disruption.

As of the end of FY15 the Department has 702 megawatts in renewable energy projects in operation. The Services also have more than 550 megawatts of projects under construction including a 15 MW Solar PV/ 50 MW wind "hybrid" project at Ft Hood, TX and an off-site 210 MW solar PV facility that will supply power to 14 Department of Navy installations in California. Further, there is another 1.3 gigawatts of renewable energy projects in various stages of development; putting the Department well on track towards meeting its 3 gigawatt goal.

Highlighted Issues

Merger of the Energy, Installations, and Environment Organizations

As you know, the FY 2015 National Defense Authorization Act directed the merger of the Assistant Secretary of Defense for Operational Energy Plans and Programs and the Deputy Under Secretary of Defense for Installations and Environment to create the Assistant Secretary of Defense for Energy, Installations and Environment. The ASD (EI&E) is now the principle advisor to the Secretary of Defense for Acquisition, Technology, and Logistics on matters relating to energy, installations, and environment and the principal advisor to the Secretary of Defense and the Deputy Secretary of Defense regarding operational energy plans and programs.

The Department is currently developing the required report on the status of the merger, and will provide that to the Congress later this year. I can tell you that through the merger operational energy functions have benefited from additional resources and collaboration with complementary functions related to installation energy, facilities investment and management, and basing.

Base Realignment and Closure

Given the need to find efficiencies and reexamine how our infrastructure is configured, the Administration is requesting the authority from Congress to conduct a 2019 BRAC round. As indicated in testimony last year, the Department has excess capacity. The Army and Air Force have analyzed their infrastructure and have found that they have 18 percent and 30 percent excess capacity, respectively. We are currently conducting a DoD wide parametric analysis as directed by the FY 16 National Defense Authorization Act, which will likely indicate excess of around 20 percent. This level of excess is not surprising given the fact that in 2004 we found that the Department had 24% excess and BRAC 2005 reduced infrastructure by 3.4% (as measured by plant replacement value).

As we have said, a new BRAC round will be different than BRAC 2005. The new round will be efficiency focused. It will save about \$2 billion a year after implementation; with costs and

savings during the six year implementation being a wash at approximately \$7 billion. Our projection is based on the efficiency rounds of the 1990s.

In addition to being a proven process that yields savings, BRAC has several advantages that we have outlined before in our testimony. I want to highlight a few of these:

- BRAC is comprehensive and thorough - all installations are analyzed using certified data aligned against the strategic imperatives detailed in the 20-year force structure plan;
- The BRAC process is auditible and logical which enables the Commission to conduct an independent review informed by its own analysis and testimony from affected communities and elected officials;
- The Commission has the last say on the Department's recommendations - being fully empowered to alter, reject, or add recommendation;
- The BRAC process has an "All or None" construct which prevents the President and Congress from picking and choosing among the Commission's recommendations; thereby insulating BRAC from politics;
- The BRAC process imposes a legal obligation on the Department to close and realign installations as recommended by the Commission by a date certain that facilitates economic reuse planning by impacted communities and grants the Department the authorities needed to satisfy that legal obligation.

In recognition of your concerns about cost and the amount of time the BRAC Commission has to review our recommendations, the Department's request for BRAC authorization includes four key changes from prior year submissions as well as a handful of administrative and timeline changes. Each of the changes are narrowly tailored to address congressional cost concerns while not altering the fundamental principles of the BRAC process: treating all bases equally; all or none review by both the President and Congress; review by an independent Commission; making military value the priority consideration; and a clear legal obligation to implement all of the recommendations in a time certain together with all the authorities needed to accomplish implementation.

To ensure the next BRAC round is focused on saving money and maximizing efficiency, our legislation adds a requirement for the Secretary of Defense to certify that the BRAC round will have the primary objective of eliminating excess infrastructure to maximize efficiency and reduce cost. Like the existing requirement to certify the need for a BRAC round, this certification occurs at the outset of the BRAC process and is a precondition to moving forward with development of recommendations. Additionally, subject to the requirement to give priority consideration to the military value selection criteria, the legislation now requires the Secretary to emphasize those recommendations that yield net savings within 5 years of completing the recommendation and limits the Secretary's ability to make recommendations that do not yield savings within 20 years. In order to make a recommendation that does not yield savings within 20 years, the Secretary must expressly determine that the military value of such recommendation supports or enhances a critical national security interest of the United States.

Finally, the legislation also now specifically delineates those costs that must be considered when determining the costs associated with a recommendation. As revised, the legislation specifies that the Department must consider costs associated with military construction, information technology, termination of public-private contracts, guarantees, the costs of any other activity of the Department of Defense or any other Federal agency that may be required to assume responsibility for activities at the military installations, and such other factors as the Secretary determines as contributing to the cost of a closure or realignment. Previous versions of the legislation had only specifically mentioned the costs of any other activity of the Department of Defense or any other Federal agency that may be required to assume responsibility for activities at the military installations

Our proposal extends the Commission review period to run from April 15 to October 1 which adds two months to Commission review and requires that Commissioners be named by February 1st which enables the Commission to be up and running for ten weeks before our recommendations come to them. Our revision also requires the Chair of the Commission to certify that the Commission and its staff have the capacity to review the Department's recommendations.

Heretofore, we've addressed every concern raised by Congress. We conducted the European Infrastructure Consolidation to address concerns that we need to look at overseas installations first; we programmed the costs and pledged the next round will reduce excess instead of the 2005 round's more costly "transformation" focus in response to concerns that we could not afford BRAC; and we have demonstrated that excess capacity exists - Army and Air Force testified to 21 and 30 percent. We've updated our DoD-wide (parametric) analysis and will provide it to Congress soon; it indicates over 20 percent excess.

We hope the Department's efforts will result in a real dialog with members of Congress regarding the need for and value of the BRAC process, ultimately resulting in authority for a 2019 BRAC round.

European Infrastructure Consolidation

In response to our recent requests for BRAC authority, Congress made it clear that it wanted DoD to look at reducing our overseas infrastructure first – particularly in Europe. We did so by conducting the European Infrastructure Consolidation (EIC) analysis - the first holistic and joint review of our legacy infrastructure in Europe.

To analyze our European infrastructure we used a process very similar to the proven U.S. BRAC process. We looked at capacity, requirements (including surge), military value, cost, and the diplomatic dynamics involved with each action. As we consolidate our footprint, the infrastructure remaining in place will continue to support our operational requirements and strategic commitments, but we will not need as many support personnel (military, civilian, and host nation employees) to do so.

The 26 approved EIC actions will allow us to create long-term savings by eliminating excess infrastructure without reducing our operational capabilities. In other words, operationally we

will continue to do everything we currently do but at a lower cost. After a one-time investment of approximately \$800 million in Military Construction to implement two major base closures, eight minor site closures, and 16 realignment actions, the Department will realize approximately \$500 million in annual recurring savings.

These actions will be executed over the next several years, but that does not mean that everything will remain static in Europe while these changes occur. There were consolidations made before EIC and there will undoubtedly be future basing actions – especially given the evolving security environment. However, our holistic review and the resultant actions allow us to redirect resources supporting unneeded infrastructure and apply them to higher priorities, thus strengthening our posture in Europe.

Although we continually seek efficiencies as we manage installations worldwide, the Department does not conduct this degree of comprehensive analyses of its infrastructure on a regular basis. That's one of the reasons we have requested BRAC authority from Congress to do a review of our U.S. installations. In this fiscal environment it would be irresponsible of us not to look for such savings.

Rebalance to the Asia-Pacific

Rebasing of Marines from Okinawa to Guam

The movement of thousands of Marines from Okinawa (and elsewhere) to Guam is one of the most significant re-basing action in recent years. We appreciate Congress' support allowing us to move forward on this essential component of our rebalance to the Asia-Pacific region, resulting in a more geographically dispersed, operationally resilient, and politically sustainable posture in the area. As a U.S. territory, Guam offers strategic advantages and operational capabilities that are unique in the region. Presence in Guam is a force multiplier that contributes to a force posture that reassures allies and partners and deters aggression.

Now that the very complex National Environmental Policy Act (NEPA) process (nearly five years of study) is complete, there is a clear path for construction to proceed in earnest. Utilities and site improvements (~\$300 million funded by the GoJ) for the main cantonment area at Finegayan, and a live-fire training range (\$125 million) at Andersen's Northwest Field will be the first projects under the new Record of Decision (ROD). Construction for the Marine Aviation Combat Element (ACE) at the North Ramp of Andersen proceeded earlier because it was covered under the original 2010 ROD; it remains on track.

We understand Congress' concerns regarding both the cost and feasibility of the relocation and we are firmly committed to the principles of operational effectiveness and fiscal responsibility. We remain confident in the estimate of \$8.7 billion for the program, which includes \$3.1 billion provided by the Government of Japan (GoJ) (\$1.152 billion transferred to date). The Department is evaluating this program in advance of each year's budget submission to pursue efficiencies that have the potential to reduce overall cost. For example, the Department's decision to relocate housing to Andersen Air Force Base reduced the requirement for a water works project (at the main cantonment area) saving the Department approximately \$50 million. Additionally, we

continue to provide the necessary oversight, conducting quarterly Deputy Secretary led Guam Oversight Council meetings to address issues related to the program's implementation.

The Marines, in conjunction with the Naval Facilities Engineering Command (NAVFAC), have an established program management organization for construction execution and oversight. NAVFAC is standing up an Officer in Charge of Construction office and anticipates it will be in place by the first quarter of 2017. The Marines continue with planning to meet operational requirements on the ground. This is the largest infrastructure program (~\$9 billion) that has been executed in many years, so it is prudent to have the necessary management structure in place to ensure success.

The Economic Adjustment Committee Implementation Plan (EIP) (submitted to Congress in October 2015) was the last Congressional requirement restricting project execution on Guam. The Plan outlines the five “outside the fence” projects (listed in the table below) associated with the impacts of the build-up on Guam’s civilian infrastructure. Last year’s FY 2016 NDAA provides authorization for moving forward with the water/wastewater projects – but not for the cultural repository and the public health lab projects. Our FY 2017 President’s Budget requests authority for these two projects and the balance of funding (\$87 million).

Table 7: EAC Projects Supporting DoN Record of Decision

Project Title	Project Total (\$Millions)	Previous FY (s) Appropriated (\$Millions)	FY 2017 Request (\$Millions)
Upgrade Wastewater Treatment Plan	139	71	68
Refurbishment sewer line Andersen AF	31	31	0
Repair/expansion Aquifer monitoring system	4	4	0
Public Health Laboratory	32	13	19
Cultural Repository	12	12	0
Total	218	131	87

The cumulative impact of this stationing was carefully evaluated within the environmental analysis process and we determined that water/wastewater, public health, and our obligation to care for artifacts uncovered in our construction need to be addressed. The associated projects total \$218 million, which is a relatively small, but absolutely necessary, portion of this relocation.

Failure to provide authorization for these projects increases the risk of litigation and project delay and will affect DOD’s credibility with the Guam’s populace. Our inability to meet commitments to the Government of Guam will also adversely affect our credibility with the

Government and people of the Commonwealth of Northern Mariana Islands (CNMI) since they have similar concerns, as discussed below.

Commonwealth of Northern Mariana Islands (CNMI) Initiatives

The Department continues to pursue two key military initiatives in CNMI- the CNMI Joint Military Training (CJMT) Complex (a U.S. Pacific Command (PACOM) initiative (led by USMC) to reduce joint training deficiencies in the Western Pacific); and an Air Force Divert and Exercise Field on Tinian.

PACOM requires a Joint Military Training Complex in-theater to meet Department of Defense training requirements in the theater. The Complex will make a key contribution to the readiness of Marines relocating to Guam and provide bilateral and multilateral training opportunities with foreign allies and partners. The Department sought to design the CJMT complex on Tinian and Pagan in a manner that minimizes the impacts on the local communities and provides direct economic and other benefits while meeting PACOM and its Service Components' training requirements.

The training complex includes a series of live-fire Range Training Areas, training courses, maneuver areas, and associated support facilities located in close proximity to each other. The total cost of the complex is ~\$900 million with GoJ contributing \$300 million. In April 2015, the Department of Navy (DoN) released the draft Environmental Impact Statement (DEIS) for the proposed action with an original public comment period of 60 days (extended to 180 days to accommodate requests by the CNMI Governor to give him more time in light of internet problems and damage from Typhoon Soudelor). In response to the over 28,000 comments received in October 2015 the DoN announced its intent to prepare a Revised DEIS to more fully address potential impacts to water, coral, and other natural resources. The DoN now estimates the ROD will be issued in the summer of 2018. This timeline still supports force flow to Guam in 2022.

The Air Force needs to establish a divert capability for up to 12 tankers if access to Andersen Air Force Base is unavailable. The Air Force proposes to construct facilities and infrastructure to support a combination of cargo, tanker, and similar aircraft and associated personnel not only for divert operations, but also to support periodic exercises and disaster relief activities. Efforts to establish this capability are on track for a Record of Decision in mid-April 2016. The Air Force is now pursuing a Tinian-only solution consistent with CNMI's desires.

Building and Maintaining Resilience in the Face of a Changing Climate

Resilience to climate change continues to be a priority for the Department. Both the 2010 and 2014 Quadrennial Defense Reviews (QDRs) discussed the impacts associated with a changing climate that present a threat to DoD's national security mission. We recognize these impacts and their potential threats represent one more risk that we must consider as we make decisions about our installations, infrastructure, weapons systems and, most of all, our people. We have always dealt with the risks associated with extreme weather events and its impacts on our operations and missions. Our challenge today is how to plan for changes in the environment we will be operating from and in.

Even without knowing precisely how or when the climate will change, we know we must build resilience into our policies, programs, and operations in a thoughtful and cost effective way. In January 2016, we issued a DoD Directive on climate change adaptation and resilience that identifies roles and responsibilities across the Department for implementing these strategies over the next ten years.

Specifically, I am focusing on our installations and infrastructure. Sea level is rising and many coastal areas are subsiding or sinking. This impacts the operation and maintenance of our existing installations and infrastructure. As Arctic Sea ice melts and breaks apart, our early warning radar sites are being eroded away at a much greater rate than before. Drought and flooding, which ironically go together, threaten water resources for us and our surrounding communities and exacerbate wildfire issues across the country.

The Military Services have conducted a screening level assessment of all DoD sites world-wide to identify where we are potentially vulnerable to extreme weather events and tidal anomalies today. The information gleaned from this initial look will help to focus reviews of installation footprints, and shape planning for current and future infrastructure.

Given the projected increases in major storms, DoD continues its progress to ensure energy resilience for its military installations. We completed our power resilience review, and are now updating Department-level instructions to include energy resilience requirements. These requirements will ensure that the Department has the ability to prepare for and recover from energy disruptions that impact mission assurance on its military installations.

Our goal is to increase the Department's resilience to the impacts of climate change. To achieve this goal, we are integrating consideration and reduction of climate risks into our already established mission planning and execution.

Financial Improvement & Audit Readiness

In order to effectively manage its financial resources, the Department remains focused on improving financial record keeping and conducting an independent audit of DoD's financial books beginning in FY 2017. This includes not only an audit of the Department's Statement of Budgetary Resources, but also validating the existence and completeness, rights and obligations, and financial valuation of slightly less than 562,000 facilities located at 513 installations worldwide. The results of a more accurate and reliable real property inventory will better inform our decisions and actions in addressing our real property management challenges.

The Department has made significant progress towards the environmental liabilities associated with our cleanup program and disposal of equipment aspects of the financial audit. Last fall we issued clarifying policies through which we are refining the cost estimates associated with those liabilities; thereby giving the Department a better understanding of our future environmental costs and the ability to plan for any required remediation.

Mission Compatibility Evaluation Process

The Department appreciates the legislative changes made in FY 2016 to section 358 of the Ike Skelton National Defense Authorization Act of Fiscal Year 2011. These changes significantly streamlined the Mission Compatibility Evaluation Process, and ensured that DoD's mission capabilities are protected from incompatible energy developments. As a result of congressional direction and our own efforts we are effectively evaluating the mission impact of utility-scale energy projects, while being mindful of the need for a clean energy future. In 2015 the Department reviewed over 3,400 applications for energy projects that were forwarded by the Federal Aviation Administration. The DoD Siting Clearinghouse worked aggressively with the Military Departments, energy project developers, and relevant states to implement affordable and feasible mitigation solutions where DoD missions might have been adversely impacted. No project reviewed in 2015 rose to the level of an unacceptable risk to the national security of the United States, which is the threshold established in Section 358 of the FY 2011 NDAA to object to a project. The Department is prepared for an increased number of renewable energy project developments as newly approved tax credits become available to developers.

Conclusion

Thank you for the opportunity to present the President's FY 2017 budget request for DoD programs supporting installations, energy, and the environment. Our budget situation requires that we take risk in our facilities. No one is happy about that, but we are effectively managing within this budget constrained environment and we appreciate Congress' continued support for our enterprise and look forward to working with you as you consider the FY 2017 budget request.