

# INSTALLATIONS, ENERGY AND ENVIRONMENT STRATEGY 2025

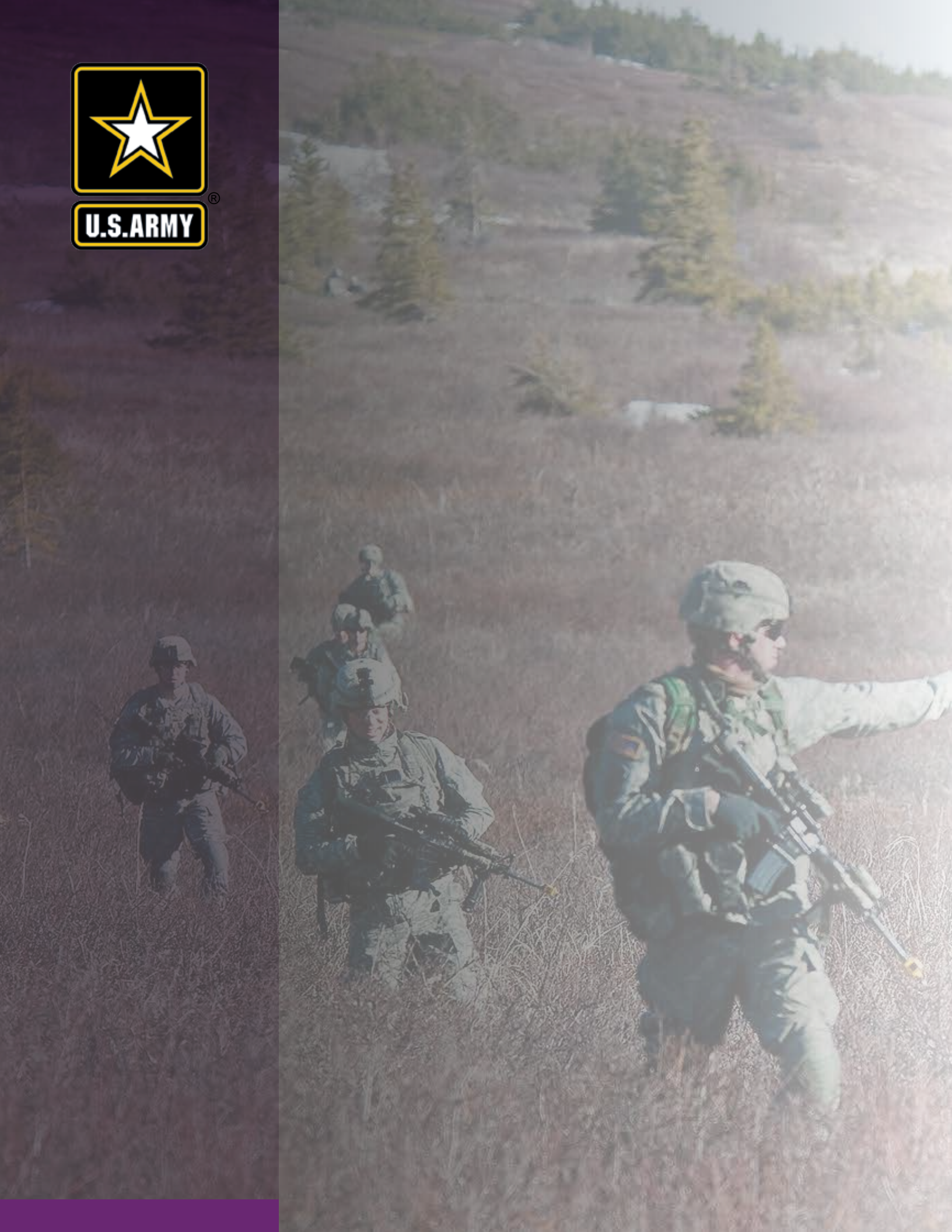


Office of the Assistant Secretary of the Army for Installations, Energy and Environment





**U.S.ARMY**







# Message from the Assistant Secretary of the Army for Installations, Energy and Environment



**KATHERINE HAMMACK**

Assistant Secretary of the Army  
for Installations, Energy and  
Environment

In January 2015, we published the Office of the Assistant Secretary of the Army for Installations, Energy and Environment [OASA (IE&E)], "Installations, Energy and Environment Strategy 2025." Since that time we have continued to refine our goals and objectives, consistent with the Army's changing priorities and resource environment. This OASA (IE&E) Installations, Energy, and Environment Strategy 2025 Version 2 provides an updated set of goals and objectives, that are helping us measure our progress in moving toward our vision for 2025.

As we consider the continuation of shrinking budgets and Army operational priorities for readiness and more deployed forces, the Installation Management Community must continue to seek innovative, timely, and creative ways to operate.

Installations are the Army's platforms for readiness, providing the mission and training areas, facilities, and infrastructure that prepare our Army for its ultimate challenges. They provide essential services for Soldiers, Civilians and Family members in a safe environment. We want to ensure our installations are flexible and adaptive to changes in training strategy and organizational design, and partnered with surrounding communities and industry for services and best practices that save time and resources. We must begin now to shape that future.

During this time of constant and rapid change, it has never been more important to ensure our vision and strategy is well aligned with plans and resources. Through a shared vision and strategic goals, we will work to ensure the Army is ready, resilient, and capable of accomplishing its mission of defending our Nation. This document provides the updated framework for executing the OASA (IE&E) mission and supports top-level strategic objectives through the key business drivers: installations, energy, and environment. This strategy continues to be our guide for continual improvement in support of those we serve and is the focal point for communicating our efforts to key audiences, external stakeholders, Soldiers, Civilians, and their Families.

OASA (IE&E)'s dedicated professionals take great pride in their service and continuously strive to improve the programs and support they provide to the Army. The IE&E team, supporting the Army's greater Installation Management Community, is determined to create better and more positive results and to always seek innovative ways of managing our finite resources. Join me and the IE&E team in ensuring we do all we can to support the courageous men and women who fight our Nation's wars and preserve our freedom.

**ARMY STRONG!**

**KATHERINE HAMMACK**

Assistant Secretary of the Army  
for Installations, Energy and Environment

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# Mission and Vision

## Mission

The Assistant Secretary of the Army for Installations, Energy and Environment establishes policy, provides strategic direction and supervises all matters pertaining to infrastructure, Army installations and contingency bases, energy, and environmental programs to enable global Army operations.

## Vision

Enhance Army mission effectiveness and resilience in a prudent, efficient, and forward-thinking manner.

**Values** provide guidelines for behavior within our organization and establish the framework for our culture. Our core values are the Army Values:

**Loyalty** – to bear true faith and allegiance to the Constitution, the Army, and Soldiers

**Duty** – to fulfill our obligations

**Respect** – to treat others with dignity and respect while expecting others to do the same

**Selfless Service** – to place the welfare of the Nation, Army, and others before our own

**Honor** – to live up to all of the Army values

**Integrity** – to do what is right, legally and morally

**Personal Courage** – to face fear, danger, or adversity

## Purpose

The Office of the Assistant Secretary of the Army for Installations, Energy and Environment Strategy 2025, Version 2, refines

the Army's vision for installations, energy, and environment, reflecting updates to the initial strategy document published in January 2015. This strategy aligns to overarching National, Department of Defense, and Army strategies. It guides and shapes current and future actions while providing the strategic guidance and framework to bring the vision to fruition.

## Scope

The strategy covers FY17–FY25 and will continue to be updated as required to ensure relevance and currency with the Army's planning and resourcing efforts. It pertains to all installations on which Soldiers, Civilians and Families within the Army work and live. This is the mechanism through which we plan to inform and engage our stakeholders and partners around the globe.

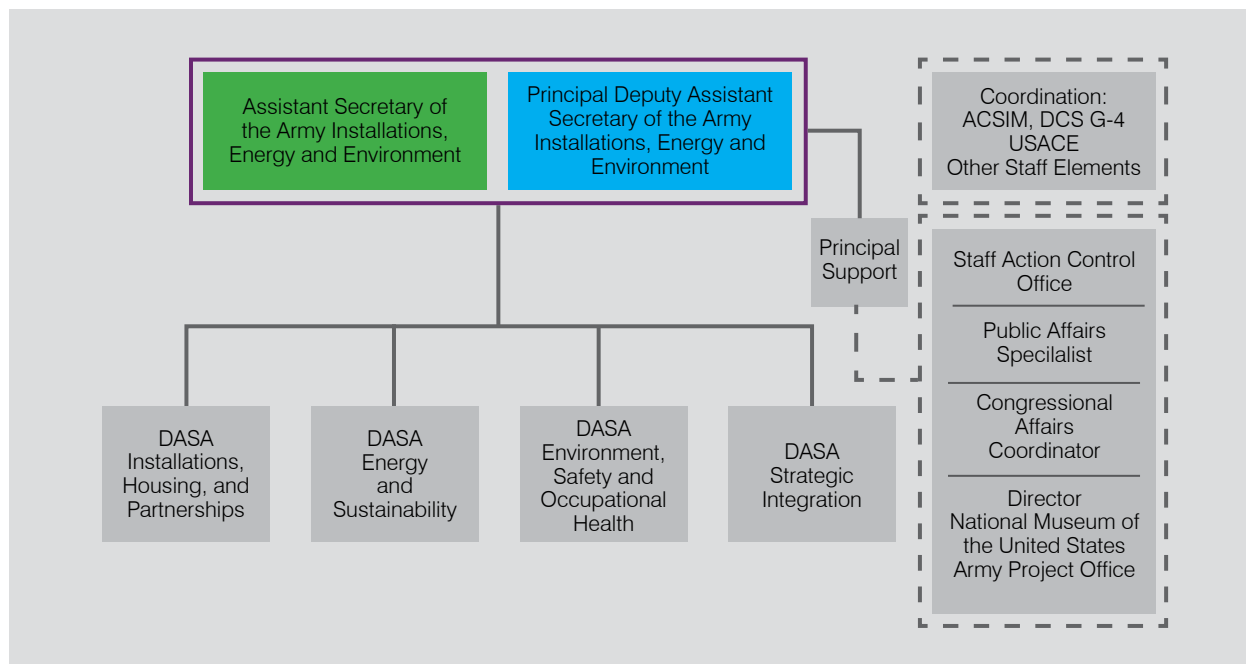
## Responsibilities and Governance

The Assistant Secretary of the Army for Installations, Energy and Environment [ASA (IE&E)] is the principal adviser to the Secretary of the Army on matters related to Army installations, their suitability for stationing, climate change, energy and water security and sustainability, and the Army's impact on the environment, safety and occupational health. The OASA (IE&E) is responsible for setting strategic direction and ensuring efforts related to Army real estate are executed consistent with law, regulation, and policy. These responsibilities include providing strategic direction for the Planning, Programming, Budgeting and Execution process within the IE&E domain, and coordinating and integrating that direction with partner organizations, officials and stakeholders.

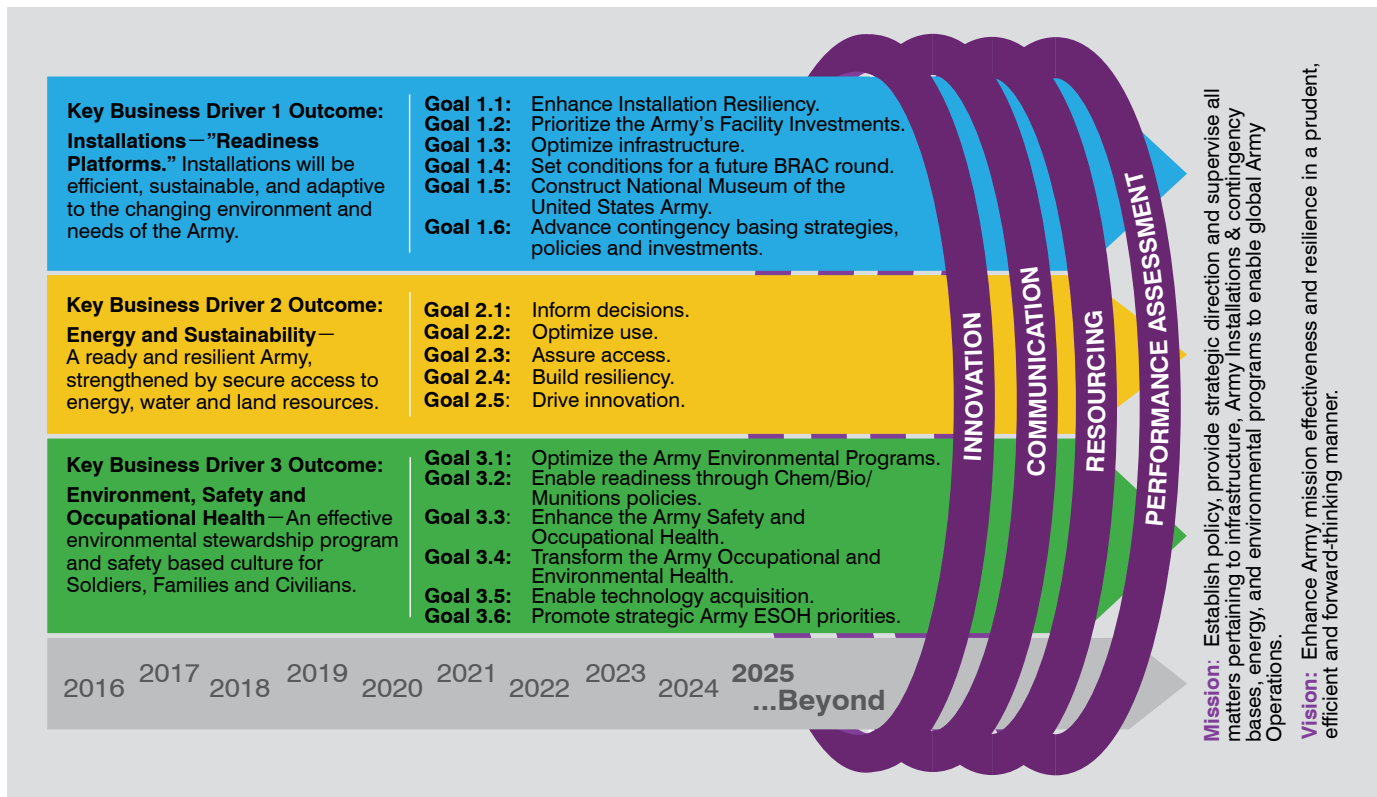
# Installation Management Governance

		Guidance/ Supervision	Customer Focus	Fiscal	Role & Responsibilities	Metrics
ASA(IE&E)	Policy	Strategic Policy, Plans, Programs	Spot Check	POM, Next POM, Long Term Goals	Strategic Direction	Long-term Trends with SA, Congress
ACSIM/DCS, G4/USACE	Program	Program Implementation	Army Trends and Issues	POM Plus Next POM	ARSTAF Operations Programs	Programmatic Trends and Missions
ACOM/ASCC/ DRU/CMD/ ARNG/USAR	Execution	Program Execution	Regional Trends and Issues	Budget Year and BES	Execution to ACOMs, ASCCs, DRUs	Mission Compliance
Senior CDR Garrison CDR	Delivery	Direct and Focused	Personal and Local	Budget Year	Delivery to Senior Commander	ISS, CLS, ISR, ICE

## Organization



# OASA (IE&E) Strategic Design



## Strategic Environment

The best word to describe our strategic environment, is "uncertainty." General David Perkins, Commanding General, Training and Doctrine Command, asserts: "The future operational environment will be complex, which we define as unknown, unpredictable, and constantly changing. We don't try to predict the future for that reason. Instead, we try to describe the future in ways that account for broad trends instead of specific outcomes that are dependent upon variables we cannot control or even imagine right now. As Secretary Gates and others have said before, we have a perfect record of being wrong about predicting the future. The Army we designed and built to fight the Soviet Union never actually did that, because in creating a force able to defeat them we actually changed the future by altering their potential behavior. Preparing for the future exerts an effect similar to the Heisenberg Principle in physics, which says that the very act of measuring something changes it. We therefore need an Army

prepared to conduct the full range of military operations against enemies with capabilities we don't know about right now, anywhere in the world. That Army must be able to fight as part of a coalition that doesn't exist now in places it hasn't been before, which means it will be a very different Army than we optimized to fight one kind of enemy in Europe as part of NATO during the Cold War."

We continue to face budgetary uncertainty. The Bipartisan Budget Act of 2016 provides the Army some relief from Budget Control Act spending caps through FY 2017. However, we are still dealing with lack of fiscal predictability, which we expect to continue in the future. In FY 2018 we face a new administration and the potential resumption of sequestration-level spending caps. As the Army considers the future operating environment, we must be prepared to prevent conflict, shape the security environment to facilitate national objectives and ultimately defeat adversaries across the



full range of military operations. To enable the Army to do this, the Installations' community must provide the Army with the foundational platforms of infrastructure and service capabilities it needs to win the nation's wars.

During 2016, the Army redesigned its force generation process to support the needs of a contingency force that is globally responsive and regionally engaged, and to enable the Army's operating concept to "Win in a Complex World." The Army's new Force Generation concept is to maintain Sustainable Readiness (SR). The SR model will build and preserve the highest possible unit and service-level readiness, a critical capability for the Army to meet the demands of both operational plans and unforeseen contingencies. The Army's vision is to use SR to enable Army forces to deploy rapidly, and conduct Unified Land Operations (ULO) as part of a Joint Force that can win in a complex world.

The Army is incorporating newer strategic concepts and programs such as cyber operations, robotics, unmanned capabilities, and other technologies that will enable us to counter emerging threats now and into the future. We must ensure the Army's installation readiness platforms are healthy and agile enough to resiliently support these new concepts and capabilities.

## Key Terms of the Strategic Design:

**Key Business Drivers (KBD)** are OASA (IE&E)'s essential contributions to the Army. They encompass the processes, initiatives, information, and talent that enable our communities to accomplish their missions. These drivers are the guiding force in executing OASA (IE&E)'s strategy and are the key factors and influences that propel our organization's success.

**Goals** focus on the efforts and actions we will actively be involved in to reach our vision and accomplish our mission. These goals are long-term organizational ideals that enable

conversion of our mission statement into more specific plans and projects. They set the direction for success and are used by leadership to guide decision-making.

**Objectives** target specific efforts which can be qualitatively or quantitatively measured under each goal to evaluate trends and status in achieving our goals and vision.

**Outcomes** are the results or culmination of the organizational, procedural, or external changes that move us forward to our desired goals.

**Innovation** is a critical enabler to our success. It is the process of translating an idea into a product or service that creates value. To be called an innovation, an idea must be replicable at an economical cost and must satisfy a specific need. Innovation involves deliberate application of information, imagination and initiative in deriving greater values from resources. It includes processes by which new ideas are generated and converted into useful products. While innovation is critical to our success, the rate of innovation is the catalyst that will exponentially increase our success in supporting the Army's mission.

## Communication and Collaboration

increases visibility of our challenges and successes; reaffirms our priorities; and generates support from policy makers, stakeholders, and partners. We must deploy our strategic messages vertically and horizontally so that all at each echelon understand what it is we are trying to do. We must also work constructively with other DoD services (Marine Corps, Navy, and Air Force) and the private sector, to maximize partnerships to address challenges. Army Research Laboratory (ARL) is a leading organization in partnering, adopting the concept of community networking called Collaborative Technology Alliances (CTAs). The CTA effect is a collaborative research environment between Army Transformation technologies that includes other service labs, DoD agencies, U.S. Government agencies, and



the private sector in select technology areas, working together to address Army challenges.

**Resourcing** – Our mission has not changed fundamentally, but the resources to accomplish our mission have been significantly reduced over the past few years. To achieve the same mission with reduced means and keep pace with increased requirements in many areas, we must dramatically address the ways we operate, identify alternate service delivery paths, eliminate redundancies, achieve high return on investments, and target our resources to meet high priorities. We will leverage the Installation Management Board of Directors (IMBOD) to review services and service delivery standards. The resourcing of IE&E priorities will continue to be informed by Army guidance and decisions conveyed in documents such as the Army Planning Priorities Guidance and the Installations Program Evaluation Group (II PEG) guidance and priorities list. The Planning, Programming, Budgeting, and Execution process is the venue for documenting and resourcing Army requirements, resulting in the Program Objective Memorandum (POM). Effective use of the POM process is critical to resourcing success and puts the Army on

solid ground when defending its budget before Office of the Secretary of Defense and the U.S. Congress.

**Performance Management** is a critical component of our strategic process as we adapt, operate, address our challenges and communicate our successes. It tells us how well we are doing toward reaching our vision, mission, and objectives and what adjustments, if any, we must make. OASA (IE&E) in collaboration with its Army partners will conduct holistic and recurring reviews that assess our plans, initiatives, and processes with the goal of improving our overall effectiveness and efficiency. The intent is to use existing metrics as practicable and establish new metrics only where significant gaps are identified. We will maximize the use the Army's Strategic Management System (SMS); and leverage existing forums such as the IMBOD to communicate and review performance. Through this process, we demonstrate transparency and accountability to our stakeholders and build stronger programs that meet the organizational mission.



*Historic Old Guard Barracks and Soldiers: SPC Dale Holadia, PFC Joshua Garrison, PFC Dallas King, and PV2 Dalton Johns, on Joint Base Myer Henderson Hall. Soldiers are members of the 1/3 and 4/3 Infantry Regiments, part of The Old Guard. (Photo Credit: Steven Rodriguez, OASA (IE&E))*



## Key Business Driver 1:

# Installations

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Well-run installations provide for Families, and that provides Soldiers with the confidence to do their combat mission. It's really a direct and causal contributor to the readiness of our force.

**General Mark A. Milley**  
**Chief of Staff of the Army**

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Installations are platforms of readiness that serve as the foundation and centerpiece of the Army's strategic priorities. These platforms support the Army's ability to remain a highly trained, effective, expeditionary, and campaign-quality force today and in the future. By providing worldwide policy, programming and oversight of the Secretary of the Army's Title 10 US Code responsibilities in the areas of real estate, military construction, engineering, housing, and base realignments and closures, OASA (IE&E) ensures success of the Army's readiness platforms. To accomplish this, OASA (IE&E) leverages numerous initiatives to optimize current capabilities and resources. At the center of these efforts are Base Realignment and Closure (BRAC) stationing analysis, the Army Facility Investment Strategy (FIS), Residential Communities Initiatives (RCI), and Privatized Army Lodging (PAL).

BRAC is the congressionally authorized process DoD has used to reorganize its base structure to more efficiently and effectively support our forces, increase operational readiness and facilitate new ways of doing business. The Army has successfully executed five previous rounds of BRAC: 1988, 1991, 1993, 1995, and 2005. The 1988, 1991, 1993, and 1995 BRAC rounds are producing \$943 million in net annual recurring savings since the recommendations were implemented. BRAC 2005 is producing \$1 billion in net annual recurring savings since its implementation in September 2011. The Army requires additional BRAC authorization to take unnecessary facilities out of the funding stream. This will allow the Army to apply these resources toward readiness and other priorities.

As the Army works to align end strength with current and future resources, we must take advantage of the opportunity to improve readiness while making the best use of our existing and planned facilities. While DoD has not yet been given the authority to execute another round of BRAC inside the United States, it is expected to be



authorized in the near term as it is the best and proven way to address excess and shortfalls in facility requirements in a cost-effective and fair manner. Setting conditions for a future BRAC round is critical. It involves more than data calls and periodic congressional engagement. The BRAC program is comprehensive – and involves most if not all of the Installation Community team’s efforts. From data base policy and intricate management of data accuracy to ongoing engagements with multiple stakeholders at all echelons of government and industry, proper condition-setting for a successful BRAC is paramount.

In addition to reducing and realigning functions more efficiently, the Army continues to dispose of excess property so it can be put to more productive re-use in our communities. The previous five BRAC rounds determined as excess over 296,000 acres of property. The Army is utilizing the tens of millions of dollars in proceeds from negotiated leases and sales of this property to defray the Army’s costs for environmental clean-up and caretaker expenses. Every dollar earned from sales and leases of excess BRAC property is a dollar that does not have to be programmed and is therefore available to meet other important Army priorities like military construction, facility sustainment, and base operations support.

Another way the Army is optimizing its facilities usage is through the Army Facility Investment Strategy (FIS). FIS is the Army’s enterprise approach across the Active and Reserve components to establish guidelines to sustain needed facilities; dispose of excess facilities; improve the quality of those that are retained; and to only build-out critical facility shortfalls. This strategy encompasses numerous resource streams and programs for success to include Sustainment, Restoration and Modernization, Reduce the Footprint, Facilities Reduction, Military Construction (MILCON), and Unspecified Minor Military Construction, Army programs.

*(Photo Credit: Billie Bryant LeTourneau, Graphic Artist and Photographer for the National Guard Bureau)*

To uphold the Army’s commitment to making our installations safe, attractive, and modern communities for our Soldiers and their Families to live, the Army instituted the Residential Communities Initiative (RCI) – one of the Army’s first major public-private partnerships. With its establishment, the Army became the first service to meet the Office of the Secretary of Defense mandate to complete privatization by 2010. Through RCI, the Army has been able to create world-class residential communities by leveraging scarce funds, private sector expertise, creativity, and innovation. To date, RCI is comprised of 44 installations, 34 projects and over 86,000 homes equating to 98% of the Army’s family housing inventory in the United States.

Another proven public-private partnership is the Privatized Army Lodging (PAL) program. PAL is a partnership between the Army and private industry to improve the condition of on-post lodging facilities and to provide for their long-term sustainment. This partnership has enhanced the Army’s ability to improve the quality of transient lodging facilities throughout the continental United States, Alaska, Hawaii and Puerto Rico. By leveraging private capital, the Army has been able to overcome \$1B+ in revitalization backlog; provide for long-term sustainment of facilities; and offer quality lodging at a discounted cost.



*Building is part of the LEED Gold certified National Guard Bureau in Arlington, VA. The green roof provides outdoor space and design included sustainable features, utility redesign and underground storm water systems.*



In summary, the Army's successful execution of BRAC, FIS, RCI, and PAL are essential to our long term commitment to providing safe, attractive, and modern communities for our Soldiers and Families to work, live and train. These programs, in conjunction with many other initiatives, leverage and translate into facility and infrastructure investments and strategic partnerships, good stewardship of resources, and streamlined processes that enable our installations to be the Army's platforms of readiness. To complement these successful programs, and find the efficiencies we need to meet the needs of tomorrow's Army, the following goals are established:

### **Installations – Key Business Driver 1 Outcome:**

**“Readiness Platforms.”** Sustainable installations that support missions of the transformed Army with land, facilities, and infrastructure providing excellent quality support for Soldiers and their Families. Installations will be more efficient, sustainable, and adaptive to the changing environment and needs of the Army.

**GOAL 1.1:** Enhance Installation Resiliency. Establish policy, provide strategic direction, plan, program and implement all matters pertaining to infrastructure sustainment, utility upgrades, and leverage authorities for intergovernmental support agreements codified in Title 10 U.S.C. 2679.

**Objective 1.1.1:** Provide strategic quality RCI program oversight.

**Objective 1.1.2:** Evaluate, effectively plan, prepare, provide strategic direction and guidance, implementation and oversight of Inter-Governmental Support Agreements (IGSAs) and Partnerships.

**Objective 1.1.3:** Evaluate, effectively plan, prepare, and provide strategic direction and guidance, and implementation of Utilities Privatization (UP).

**Objective 1.1.4:** Provide for quality Soldier Housing Management and Services.

**Objective 1.1.5:** Provide quality Family Housing Management and Services.

**Objective 1.1.6:** Provide quality IT Services.

**Objective 1.1.7:** Provide quality Security Services.

**Objective 1.1.8:** Provide and deliver quality Logistics Services.

**GOAL 1.2:** Prioritize the Army's Facility Investments. Achieve the right balance of funding for maintaining needed facilities and eliminating excess, as reflected in accurate real property accountability records. Fully utilize the related resource streams available for success, to include Sustainment, R&M, Facilities' Reduction, Military Construction (MILCON), Unspecified Minor Military Construction and Army programs.

**Objective 1.2.1:** Improve Current Condition of Mission Facilities that Support Readiness.

**Objective 1.2.2:** Improve Current Condition of Unaccompanied Housing Assets.

**Objective 1.2.3:** Improve Current Condition of Family Housing Assets.

**Objective 1.2.4:** Repurpose Facilities no longer required for original purpose.

**Objective 1.2.5:** Dispose of Excess Facilities via Demolition.

**Objective 1.2.6:** Dispose of Relocatable Buildings (acquired as personal property).

**Objective 1.2.7:** Build Out Critical Army Shortfalls (R&M, MILCON).

**GOAL 1.3:** Optimize infrastructure. The ability to assess an organization's infrastructure across capabilities using various tools and models is imperative. The Army's current Analytical Process includes: Capacity Analysis, Military/Economic Value Analysis, and Scenario Development.

**Objective 1.3.1:** Align infrastructure with major force structure decisions.

**Objective 1.3.2:** Develop a Standard Operating Procedure (SOP) that documents the process for large-scale infrastructure analysis and evaluation.

**Objective 1.3.3:** Identify, develop, and communicate infrastructure consolidation strategies.

**Objective 1.3.4:** During the course of each FY, achieve at least 90% completion of the European Infrastructure Consolidation (EIC) Approved Actions List for the year of execution.

**Objective 1.3.5:** Increase Stakeholder Dialogue for actions to reduce infrastructure by planning, advising, and directing at least two quality Communications efforts per year.

**GOAL 1.4:** Set conditions for a future BRAC round. Provide the capability to plan for, prepare for, and ultimately execute a Base Realignment and Closure (BRAC). Setting conditions for a future BRAC round is critical. From data base policy and intricate management of data accuracy to ongoing engagements with multiple stakeholders at all echelons of Government and industry, proper condition-setting for a successful BRAC is paramount. It also establishes policies on behalf of the ASA (IE&E). It builds the teams that produce the headquarters' work, and it engages at the operational level for consistency and accuracy.

**Objective 1.4.1:** Publish OASA (IE&E) and OACSIM approved BRAC data requirements policy guidance.

**Objective 1.4.2:** Ensure accuracy of databases of record (RPLANS, HQIIS, GFEBS, ASIP).

**Objective 1.4.3:** Develop a BRAC EXORD.

**Objective 1.4.4:** Develop and achieve 100% of DASA(IH&P) approved property conveyance goals.

**Objective 1.4.5:** Negotiate and obtain 100% of reasonable fair market value consideration for excess BRAC property.

**Objective 1.4.6:** Increase quantity of strategic engagements with community support organizations related to setting the conditions for future BRAC round.

**GOAL 1.5:** Provide oversight and decision authority for all aspects of the National Museum of the United States Army.

**Objective 1.5.1:** Complete all required critical tasks necessary to successfully complete the MCA Project within established timeline & budget.

**Objective 1.5.2:** Oversee completion of Museum Center Construction elements in order to open NMUSA NLT CY 2019.

**Objective 1.5.3:** Complete Exhibit Fabrication and Installation within timelines and budget in order to open NMUSA by CY 2019.

**Objective 1.5.4:** Prior to opening, complete all planning for Operations and Programs necessary to operate NMUSA.

**GOAL 1.6:** Advance contingency basing strategies, policies and investments to enhance the Army's ability to provide scalable capabilities.

**Objective 1.6.1:** Ensure mission continuity by improving operational effectiveness and efficiency at contingency bases.

**Objective 1.6.2:** Integrate contingency base design principles that incorporate local materials, reduce energy and water requirements, reduce waste streams, and minimize environmental impacts.

**Objective 1.6.3:** Develop training and manning policies and strategies for contingency bases.

**Objective 1.6.4:** Develop policy and doctrine for transition of Contingency Bases to Enduring Bases.

## Key Business Driver 2:

# Energy and Sustainability

Today's Army cannot take for granted the availability of abundant, affordable, and accessible resources (energy, water and land). Historically, the Army was confident in its ability to supply the power Soldiers need in the field, the availability of fuel and water to support overseas base camps operations and vehicles, the security of the off-post power sources supplying installations on American soil, and the land needed on which to train Soldiers. Access to energy, water and land resources is an operational necessity for mission accomplishment because it is a foundational enabler for all military capabilities.

Energy security and sustainability are critical Army priorities that address operational imperatives; quality of life for our Soldiers, Army Civilians and Family members; legislative requirements; and fiscal demands. On the battlefield, on installations, and politically, energy security and sustainability are recognized as both force multipliers and vulnerabilities that can be exploited.

OASA (IE&E) provides the strategic leadership, policy guidance, program oversight and outreach for energy, water and sustainability throughout the Army enterprise. The vision for the Army's energy security and sustainability efforts is a ready and resilient Army, strengthened by secure access to energy, water, and land resources and executed to preserve future choice in a rapidly changing world. This will contribute to ensuring the Army is a strong, flexible, and mobile force that is housed, trained, and maintained on resilient installations able to project power, unimpeded by disruptions to domestic utilities, or land use constraints. When deployed, Department of Defense forces will accomplish their missions while making optimal use of available resources with the lowest possible logistics footprint and in collaboration with local communities.



*Maj. Eddie Strimel (left), the Field Assistance in Science and Technology advisor assigned to U.S. Army Africa, discusses the Rucksack Enhanced Portable Power System (REPPS) with a Dutch Soldier and U.S. Marine at Central Accord 16 in Libreville, Gabon. (Photo Credit: U.S. Army photo)*



## Energy and Sustainability – Key Business Driver 2 Outcome:

Provide a ready and resilient Army, strengthened by secure access to energy, water, and land resources in order to preserve future choice in a rapidly changing world.

**GOAL 2.1:** Inform decisions. Leverage Army culture to use resources wisely, improve mission effectiveness, and preserve future choice.

**Objective 2.1.1:** Incorporate resource sustainability in plans and processes. Ensure that resource considerations, including sustainability, security, integrated design, and total life-cycle cost, are incorporated into plans, business processes, materiel management, and acquisition strategies at all levels.

**Objective 2.1.2:** Educate and train personnel across the enterprise. Integrate resiliency and sustainability principles in training and leader development to support an adaptive and innovative force.

**Objective 2.1.3:** Lead by example. Leverage the Army culture to shape resource-informed behavior by our Soldiers, Civilians, and Family members.

**GOAL 2.2:** Optimize Use. Minimize demand and Increase both efficiency and recovery to maximize resource and mission effectiveness for systems, installations, and operations.

**Objective 2.2.1:** Decrease resource demand. Minimize demand for energy, water, and land resources in the design, manufacture, and operation of systems, aircraft, vehicles, and equipment, along with the installations and operating locations that support them.

**Objective 2.2.2:** Increase resource efficiency. Increase the productivity of Army energy, water, and land use.

**Objective 2.2.3:** Support resource recovery. Implement systems and processes that improve energy, water, and land utilization, including life-cycle material management.

**GOAL 2.3:** Assure access. Provide reliable access to energy, water and land resources, and protect delivery mechanisms to mission-essential functions and applications, both domestically and to contingency bases during operational deployments.

**Objective 2.3.1:** Diversify and expand resource supply. Secure access to multiple energy and water sources, including renewable and alternative options, to improve resource availability.

**Objective 2.3.2:** Maximize flexibility in system design and use. Employ systems that are designed to provide multiple sources/ pathways or are capable of being applied in alternative ways.

**Objective 2.3.3:** Reduce vulnerability and risks. Upgrade physical and cyber protection to reduce risk and increase security for resource supply, storage, and distribution pathways, industrial control systems, supply chain, key testing facilities, and training lands.

**Sustainability** is not an individual program; rather it is a strategy that improves our ability to organize, equip, train, and deploy our Soldiers as part of the Joint Force. Sustainability is focused on the mission, both in an operational and installation environment, to preserve future operational flexibility.

**Energy Security** is having assured access to reliable supplies of Energy and the ability to protect and deliver sufficient Energy to meet mission essential requirements. (National Defense Authorization Act for Fiscal Year 2012, [Sec. 2821 (a)(3)(A)])

**GOAL 2.4:** Build resiliency. Advance the capability for systems, installations, personnel and units to respond to unforeseen disruptions and quickly recover while continuing critical activities.

**Objective 2.4.1:** Maintain continuity of operations. Implement integrated and distributed technologies and procedures to ensure critical systems remain operational in the face of disruptive events.

**Objective 2.4.2:** Foster adaptability. Ensure Army operations can quickly adjust in response to disruptions in land availability, energy and water supplies, and supply chain functions.

**Objective 2.4.3:** Adapt to uncertain changing conditions. Develop comprehensive energy, water, and land management practices, to include materiel and acquisition decisions that can adjust to evolving conditions such as climate change and increased need for Defense Support to Civil Authorities.

**GOAL 2.5:** Drive innovation. Identify new concepts; develop, test, and field new processes and technologies; and institutionalize and communicate best practices to maximize resource effectiveness.

**Objective 2.5.1:** Leverage expertise. Deploy the Army's science, technology, engineering, operations, and environmental expertise to increase resource-effective solutions..

**Objective 2.5.2:** Expand collaboration. Expand opportunities to work with industry, academia, other federal agencies, state/local governments, non-governmental organizations, and local communities to develop sustainable and resilient solutions.

**Objective 2.5.3:** Continuously improve. Implement continuous process improvement approaches in management and use of energy, water, and land resources.



A bird's eye view shows the 42-acre solar array located at White Sands Missile Range that helped save over \$2 million dollars in energy costs. The solar array officially began producing energy in December 2012 and has since provided energy-saving costs of six figures every year. (Photo Credit: Adriana Salas, ATEC)







## Key Business Driver 3:

# Environment, Safety and Occupational Health

The Army has long made it a priority to protect the environment on installations, not only to preserve valuable resources for future generations, but to also ensure that we have the land, water and airspace needed to sustain military readiness. As a major landowner, a consumer of resources and a manager of human enterprises, the Army is bound to comply with federal, state, and local laws that protect human health and the environment. In order to do this, OASA (IE&E) provides policy, programming and oversight of the Army's Environment, Safety and Occupational Health (ESOH) compliance, cleanup, and natural, cultural, and Native American resource programs; provides recommendations to milestone decision authorities on Army materiel regarding ESOH concerns; and executes the Army's arms control program as well as several Lead agent responsibilities. The Army's ESOH programs ensure that the footprint left from past activities is responsibly addressed, while simultaneously providing a stronger foothold from which to move forward.

The DoD recognizes its responsibility to protect the public from the potential hazards associated with military operations, both past and present. The Army, as well as other military departments, implements restoration (clean up) programs to restore contaminated property and property that contains military munitions, such as unexploded ordnance (UXO) or discarded military munitions, to a condition that is protective of human health and the environment, and sustains mission capability. The Army Restoration Program complies with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Resource Conservation and Recovery Act (RCRA), when required, and other applicable federal statutes in its cleanup of environmental contamination and military munitions from past Army activities. The Army has established a number of programs to address the cleanup of environmental contamination and the full range of munitions issues including detection, remediation, and long-term monitoring.

Of concern is the presence of military munitions, particularly unexploded ordnance (UXO), that may pose a significant explosive hazard to the public. Throughout history, our ability to maintain a well-trained military force has required the use of military munitions during live-fire training and testing and the demilitarization of excess, obsolete or unserviceable munitions. These munitions-related activities have often resulted in the presence of military munitions in areas currently or formerly used by the military. Given the potential explosive hazards posed by the presence of military munitions, the Army has implemented a robust education and outreach program.

The Army's 3R s (Recognize, Retreat, Report) explosives safety program is designed to educate military personnel and civilians alike about the potential hazards associated with munitions and the actions to take should they encounter or suspect they have encountered a munition. The 3Rs message is simple and easy to remember. (**Recognize** - when you may have encountered a munition and that munitions are dangerous; **Retreat** – do not approach, touch, move or disturb it, but carefully move away; **Report** – call 911 and advise local law enforcement what you saw and where you saw it.) See <http://www.denix.osd.mil/uxo/>.

There are numerous entities throughout the DoD, the federal government and non-governmental communities that require technologies for detection and neutralization of explosive hazards. The DoD Unexploded Ordnance Center of Excellence (UXOCOE) is the only “federated” effort within DoD that provides real-time electronic access to current information on materiel solutions for the counter-explosive hazards program. UXOCOE serves as the DoD's clearinghouse for the coordination of research and engineering technologies that have application to the

detection and neutralization of explosives hazards to acquire user required technology in a cost effective and efficient manner while reducing the potential for duplication of effort.

Army force readiness depends on the availability of both realistic and accessible training and testing areas and on continued operation of our industrial base for war-fighting materiel production. In order to maintain access to training and testing lands, Army environmental quality programs ensure conservation of natural resources including threatened and endangered species, and cultural resources to include consultation with Federally-recognized Indian tribes and Native Hawaiian organizations. Army environmental quality programs also ensure responsible compliance with federal, state and local air, water and waste requirements in support of garrison operations and our industrial base. The Army's objective is to reduce enforcement actions and our metric is to keep our enforcement action rate at 10% or less. The Army's current low rate of environmental enforcement actions in the context of declining program resources demonstrates the effectiveness of our environmental professionals.



*SPC Edward Meng, an environmental health technician from San Lorenzo, CA, and 1LT Sean Sullivan, the Chief of Environmental Health from Corpus Christi, TX, check a mosquito trap on Fort Huachuca, AZ, 9 Sep 2015.*

The Army's people are its most valuable resource. Army Safety and Occupational Health (SOH) initiatives ensure the Army, its Soldiers, Civilians, and their Family members are educated and encouraged to employ risk management in their on-duty and off-duty activities and to foster a safe and healthy working and living environment. Soldiers, Families and Civilians must incorporate safety and occupational health practices throughout the enterprise to preserve war fighting capabilities and enhance the force by providing a safe and healthy environment in which to live, work, and train.

The Army operates in a complex world. As it and the mission continue to evolve, new technologies are needed and desired. Environmental, safety, and occupation health technology initiatives advance efforts in deployed operations, munitions management, weapons systems and platforms, built and natural infrastructure, and installation restoration. The ESOH technology program identifies areas of collaboration and technology transfer, identifies research and development requirements, and provides a comprehensive set of gaps in an effort to develop mitigation strategies that address eliminate, or minimize ESOH issues while improving mission performance.

### Environment, Safety and Occupational Health – Key Business

**Driver 3 Outcome:** Maintain an effective environmental stewardship program and a safety-based culture for Soldiers, their Families, Civilians, contractors, and communities surrounding Army installations

**GOAL 3.1:** Optimize the Army Environmental Programs (AEP).

**Objective 3.1.1:** Transition Army and BRAC restoration timelines and milestones to account for reduced funding.

**Objective 3.1.2:** Maintain communication with federal and state stakeholders to ensure that DoD activities and information are transmitted in an accurate and timely manner.

**Objective 3.1.3:** Limit environmental restrictions that impact military access to training and testing areas.

**Objective 3.1.4:** Reduce new environmental Enforcement Actions from regulatory agencies.

**GOAL 3.2:** Enable readiness through Chem/Bio/Munitions policies, and programs.

**Objective 3.2.1:** Implement an Army-wide 3Rs Explosives Safety Program.

**Objective 3.2.2:** Implement the Recovered Chemical Warfare Material Program.

**Objective 3.2.3:** Enable DoD to leverage counter-explosive hazards technology efforts within other federal, academic, and industrial organizations.

**Objective 3.2.4:** Enhance explosives safety management program.

**GOAL 3.3:** Enhance the Army Safety and Occupational Health (SOH) program.

**Objective 3.3.1:** Improve mishap tracking and reporting through Army Safety and occupational Health Management System in support of the annual report to Department of Labor.

**Objective 3.3.2:** Characterize and prioritize SOH risk structure to minimize loss and protect from injuries, illness, and damage to equipment/facilities.

**Objective 3.3.3:** Implement an enterprise-wide information management system that will support an Army-wide safety and occupational health program.





*Burrowing Owl Habitat and its guardian at Parks Reserve Forces Training Area, Dublin, California. (Photo Credit: Michael Strauss)*



*Army Archeological Field Work: Makua Military Reservation, Oahu, HI. (Photo Credit: US Army Garrison Hawaii)*



*Camp San Luis Obispo - protects the habitat of the California red-legged frog. (Photo Credit: California National Guard)*

**Objective 3.3.4:** Implement a multi-generational transition plan to manage execution of Army wide Quality Work Environment (QWE) assessments.

**Objective 3.3.5:** Transition to a modern Army safety and occupational health program.

**GOAL 3.4:** Transform the Army Occupational and Environmental Health (OEH) program.

**Objective 3.4.1:** Align Army OEH program with DoDI 6055.01 requirements.

**Objective 3.4.2:** Identify Army requirements to ensure successful implementation of the Individual Longitudinal Exposure Record.

**Objective 3.4.3:** Increase the Army's ability to identify and assess significant long-term health risks from past environmental exposures.

**Objective 3.4.4:** Increase Defense Occupational and Environmental Health Readiness System-Industrial Hygiene (DOEHRS-IH) usage to document and share OEH information across the Army.

**GOAL 3.5:** Enable technology acquisition.

**Objective 3.5.1:** Identify ESOH technology shortfalls and integrate requirements into the Army's Environmental Quality Technology (EQT) program.

**Objective 3.5.2:** Increase ESOH considerations early in materiel acquisition programs.

**Objective 3.5.3:** Foster a spirit of innovation within the Army's EQT program and encourage cross-pillar and cross-service collaboration.

**Objective 3.5.4:** Evaluate regulatory impact on availability/use of chemicals.

**GOAL 3.6:** Promote strategic Army ESOH priorities.

**Objective 3.6.1:** Integrate ESOH priorities into strategic wargaming exercises.

**Objective 3.6.2:** Increase quantity of strategic engagements with ESOH stakeholders.

# Conclusion

During his address to the Senate Armed Services Committee of the 114th Congress on the Posture of the United States Army on 7 April 2016, the Secretary of the Army, Acting Secretary Patrick J. Murphy, stated, “Before the Army can significantly increase readiness, there must be an infrastructure to support Army manning, training, equipping, and leader development. Army readiness occurs on Army installations – where Soldiers live, work, and train. Installations provide the platform where the Army focuses on its fundamental task – readiness.” Although we do not know what our Nation will ask of the Army in the future, we do know that change, both strategic and fiscal, is, and will continue to be, a reality. To ensure the Army is ready to respond to that call, OASA (IE&E) will pursue new and innovative ways to manage smaller budgets while still providing the capabilities the Army needs. The Installation Management community is a diverse workforce of talented and committed professionals with many varied skills that can implement change effectively.

## Glossary (Terms and Acronyms)

### Section I: Terms

**3Rs:** The Army established a Safety Education Program to inform Soldiers and the public of the dangers associated with munitions and what to do should they suspect they have encountered one. The 3Rs Program teaches Soldiers, Families and the public to protect themselves:

**Recognize:** When they may have encountered a munition and that munitions are dangerous.

**Retreat:** Do not touch, move or disturb it, but carefully leave the area.

**Report:** Report what they saw and where they saw it to their chain of command if in combat, or to local law enforcement.

**Budget Control Act of 2011 (BCA)** was enacted into law on August 2, 2011. The BCA set caps on discretionary spending for FY12 – FY21 and created the Joint Select Committee on deficit reduction (often referred to as the Super Committee). The BCA instructed the Super Committee to develop proposals that would save \$1.5 trillion over ten years. It mandated that if the Super Committee failed to propose at least \$1.2 trillion in savings over ten years, automatic spending cuts, called

sequestration, would occur in January 2013. Sequestration would be applied equally to defense and nondefense spending.

**Contingency Bases** are evolving locations that support military operations by deployed units and provide the necessary support and services for sustained operations. These locations protect forces and serve as a base to project combat power. They support one or more units and their equipment, as well as support multi-service activities.

**II PEG:** The Installations Program Evaluation Group (PEG) mission is to build an effective and efficient base support resource program for all active, reserve, National Guard and RDT&E installations. The II PEG programs resources for installations (facilities, environment, services, and information technology) and other Army-wide support.

**National Defense Authorization Act 2013, Section 331, Public-Private Partnerships** encourages a Service Secretary to enter into an intergovernmental support agreement with a State or local government for the purposes of providing, receiving, or sharing installation-support

services when it is determined that the agreement will enhance mission effectiveness, create efficiencies, or create economies of scale, including a reduction in cost.

**Net Zero:** Contributes to the Army strategy for sustainability and energy security. It is a holistic strategy that builds upon long-standing sustainable practices and incorporates emerging best practices in buildings, infrastructure and communities to manage energy, water, and waste at Army installations.

The Army's concept for Net Zero recognizes that more sustainable Army communities are more mission capable, resilient and compatible with local community needs.

**Installation Management Board of Directors (IMBOD):** The IMBOD will serve as the executive body that discusses installation management issues with land holding commands, Installation Management Community members, and our Stakeholder organizations.

## Section II: Acronyms

**AAR:** After Action Review

**ACOM:** Army Command

**ACSIM:** Assistant Chief of Staff for Installation Management

**ARNG:** Army National Guard

**ARSTAF:** Army Staff

**ASCC:** Army Service Component Commands

**ASIP:** Army Stationing and Installation Plan (Army Force Structure Database of populations on Army installations worldwide)

**BES:** Budget Estimate Submission

**BRAC:** Base Realignment and Closure

**CDR:** Commander

**CLS:** Common Level of Support

**CMD:** Command

**CONUS:** Continental/Contiguous United States

**DA:** Department of the Army

**DASA:** Deputy Assistant Secretary of the Army

**DCS:** Deputy Chief of Staff

**DoD:** Department of Defense

**DoDI:** Department of Defense Instructions

**DOE:** Department of Energy

**DRU:** Direct Reporting Unit

**EPA:** Environmental Protection Agency

**FIS:** Facility Investment Strategy

**GFEBS:** General Fund Enterprise Business System (A Web-enabled Army resource planning system)

**HQIIS:** Headquarters Installation Information System

**ICE:** Interactive Customer Evaluation

**IE&E:** Installations, Energy, and Environment

**IMCOM:** Installation Management Command

**ISR:** Installation Status Report

**ISS:** Installation Service Standards

**MILCON or MCA:** Military Construction Army (Appropriation)

**MDEP:** Management Decision Package

**MTOE:** Modified Table of Organization and Equipment

**NMUSA:** National Museum of the United States Army

**OCONUS:** Outside the Contiguous United States

**OEH:** Occupational and Environmental Health

**OEI:** Office of Energy Initiatives

**OSD:** Office of the Secretary of Defense

**PDASA:** Principal Deputy Assistant Secretary of the Army

**POM:** Program Objective Memorandum

**R&M:** Restoration and Modernization

**RPLANS:** Real Property Planning and Analysis System

**SA:** Secretary of the Army

**USACE:** United States Army Corps of Engineers

**USAR:** United States Army Reserve



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## Front Cover Credits

Soldier (Photo Credit: Author SGT Russell Gilchrest (Copyright - Public Domain))

Sergeant Major Housing, Joint Base Meyer Henderson Hall  
(Photo Credit: LTC Connie Latiolais, OASA (IE&E))

Section of an Army large-scale, 18 MW solar energy project at Fort Huachuca, AZ.  
(Photo Credit: OEI Staff, OASA (IE&E))

Trees/Creek (Photo Credit: Thinkstock.com. Permitted for use with permission from the license holder)

## Inside Back Cover Credit

Soldiers in the field making their way through Alaska's Chugach Mountain Range during an air assault training exercise (Photo Credit: Senior Airman Christopher Gross, U.S. Air Force)

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